DP9-008

HEAVY GEAR™

AIRCRAFT & AERIAL WARFARE

TACTICAL AIR SUPPORT

A TACTICAL RULE SUPPLEMENT FOR THE HEAVY GEAR UNIVERSE

TACTICAL SUPPORT: AIRCRAFT & AERIAL WARFARE DIRECTED by Pierre Ouellette STARRING Élie Charest, Marc-Alexandre Vézina and Jean Carrières SCREENPLAY Pierre Ouellette BASED ON A GAME by Dream Pod 9 BASED ON A STORY by Pierre Ouellette PRODUCER Jean Carrières CINEMATOGRAPHER Marc-Alexandre Vézina FILM EDITOR Brian Faughnan MERCHANDISING Robert Dubois COMPUTER GRAPHICS & SPECIAL EFFECTS Ghislain Barbe, Normand Bilodeau, Jeff Fortier and Pierre Ouellette SOUNDTRACK by YFA

DREAM POD 9

AIRCRAFT & AERIAL WARFARE

HEAVY GEAR

"BASE, THIS IS COMMANDER ENRIKE — CODE RED! REQUIRE AIR SUPPORT!"

Enrike switched off his radio and quickly maneuvered his Headhunter Gear away from his present location, zig-zagging through the rocky terrain in search of better cover. Undoubtedly, his transmission had given away his position and enemy artillery was about to swamp the area with suppression fire. His odds were bad.

The terrain was flat enough but rough, making it difficult for his SMS to perform at peak efficiency. He reached for the side control panels and punched a few buttons, switching his Gear to walker mode, top speed. Despite the gimballed suspension of the cockpit and the Gear's efforts to compensate for the uneven terrain, he felt himself uncomfortably rocked back and forth. A quick check on his sensors confirmed his fear — spotted. Six blips appeared on his tail and were closing in on him. He was alone, his team destroyed, with nowhere to hide.

More blips appeared on his sensors, this time ahead of him, closing in fast. His heart skipped a beat, then he realized the IFF signal was friendly. Air support. He slowed down his Gear, spun it around and kept it jogging backwards, his autocannon ready. Whatever survived the strike he could handle for sure — if anything did . . .

What would be an aircraft pilot without his aircraft? The Tactical Support: Aircraft & Aerial Warfare manual, the first book in the Tactical Support series, covers everything not included in the rulebook, from air war tactical rules (movement, special maneuvers, altitude) to dogfighting (one-on-one aircraft combat). It also includes all the necessary aircraft design and maintenance rules, new weapons, new perks and flaws as well as twenty sample designs from the North, the South and the Badlands. Lastly, the book includes stock NPCs that can be used to populate air bases.

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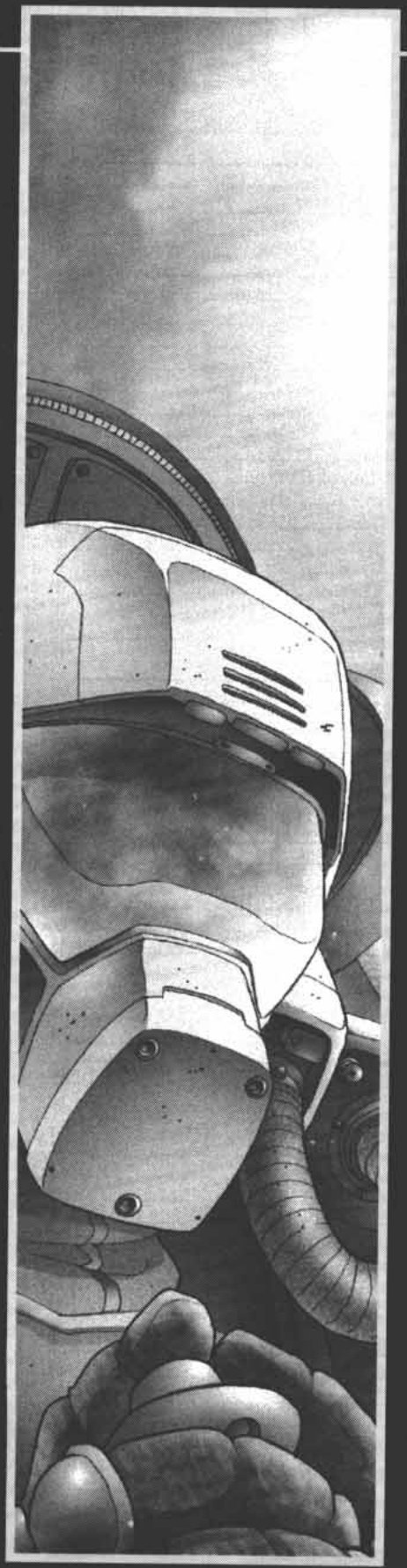

HEAVY GEAR

TACTICAL AIR SUPPORT

Tactical Air Support — Behind the Scenes

Air power is a tricky element when designing a game setting like Terra Nova and the rest of the Heavy Gear universe. Heavy Gear recounts stories of adventure, warfare and personal struggle, encouraging the use of surgical, high altitude strategic strikes defeats that purpose and makes it difficult to tell the tales of those who suffer the price of war. Even in purely tactical games, a sudden "death from above" can end a fun scenario in a heartbeat.

Consequently, the challenge in writing the Tactical Air Support rulebook was to establish a realistic and cutting edge air combat system while still leaving room for human storytelling and believable ground tactical engagements. Tactical Air Support is more than a simple rules expansion, our goal has always been to give Heavy Gear players the system and setting tools they need to power their own imaginations. That philosophy continues here.

One of our main weapons in meeting this challenge was the weather on Terra Nova. Huge tempests regularly whip the planet and smaller storms appear without warning, severely limiting the flexibility and reliability of air power. Ground units that depend on aircraft for fire support can be left dangerously exposed in case of bad weather, and pilots regularly face life and death struggles against nothing more than powerful winds.

As on Earth, humans on Terra Nova look to the heavens as a place of wonder and hope. However, the Terranovan sky is a harsh mistress, sending flyers crashing to the ground with but a slap of her fickle hand. Those who tempt her anger are a daring lot. They may serve an important tactical role, but they dare venture into dangerous skies for their own reasons. Some call pilots fools, others know them to be heroes.

Look up, take a deep breath, and hang on. The ride is about to begin . . .

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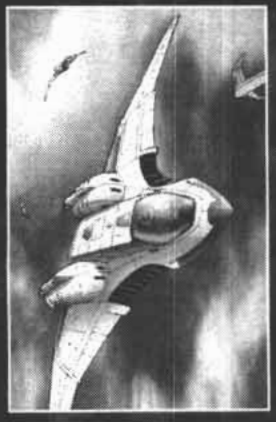

Dedicated to Manfred von Richthofen,
the spirit of the sky.

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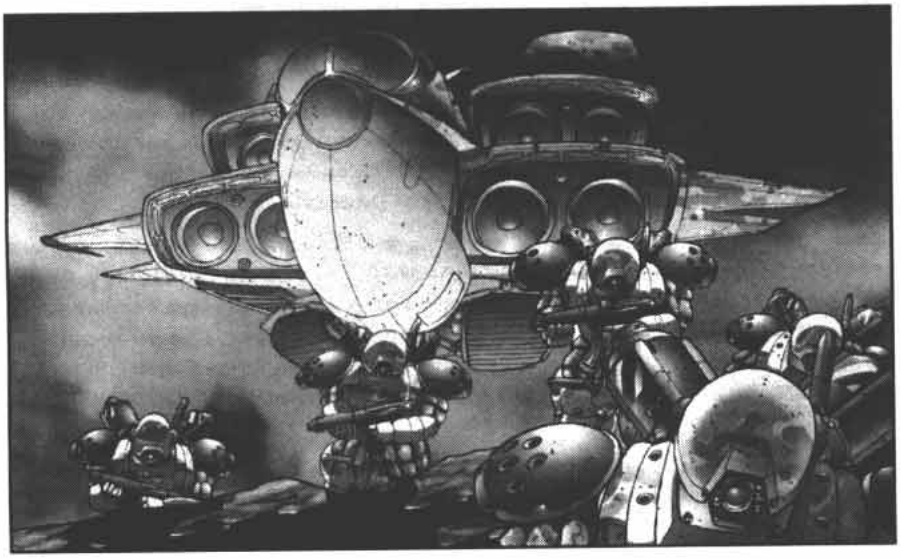

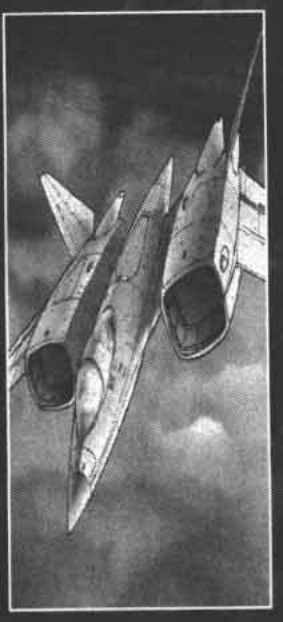

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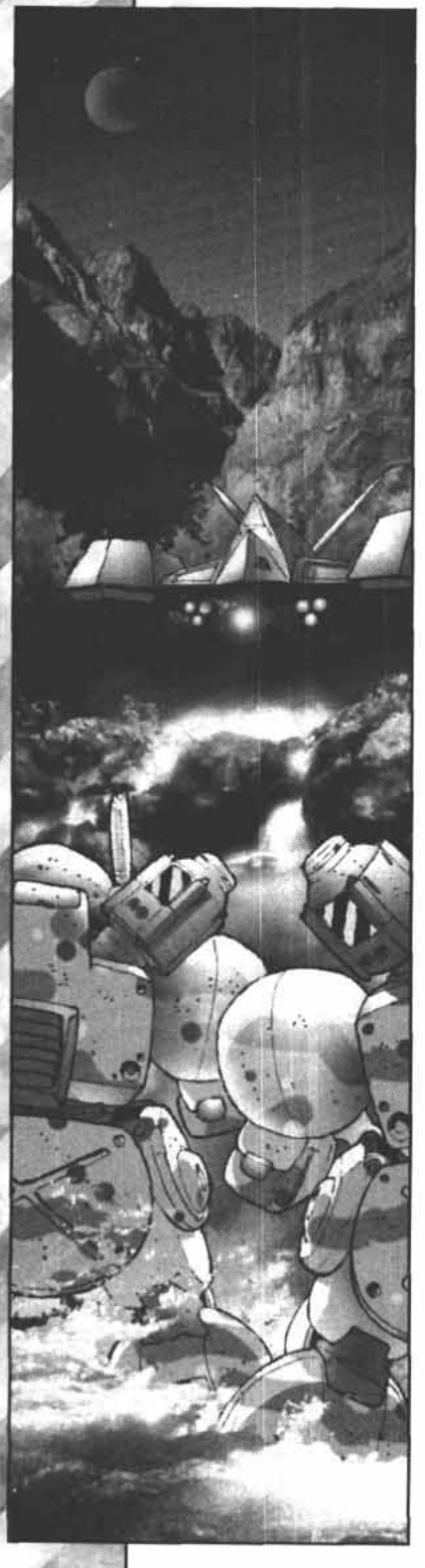
DARK ANGEL



The two battered *Jägers*, knee-deep in the mud, stood motionless as the thunder of Southern fighter planes blasted through the air above their concealed position. In her Gear, Captain Wastings held her breath as though she might be heard by the enemy flying high above the trees. Her sensors registered the near-constant pulses of search radar on maximum power above them. The thunder gradually died down, and soon all that was left were the sounds of the jungle night: nocturnal birds and the hot wind blowing though the trees, gently rustling the damp leaves.

"Do you think they're giving up, Cap'n?" said Sergeant Pim, his *Jäger*'s right manipulator resting lightly on the shoulder of the other war machine. The vibrations of his voice were being transmitted through the skin of his vehicle, directly to his commander's onboard computer. In hostile territory, it was always safer to avoid even the tiniest radio emissions, and the entire region was now as hostile as it gets. The sergeant's voice was broken and raspy, but hopeful.

"Probably not, but as long as they keep searching the other way, we're safe. How are you doing with your Gear?" With hollow sucking sounds, the two machines rose up from the mud.

"Not bad, ma'am. It's even more like piloting a *Hunter* than I thought. I'm getting low on fuel, though." So was she. The mountain range was still more than eighty klicks away, too far away for the Gears. They would either have to find more fuel or go on foot for a couple of hours. Wastings frowned — no matter what they chose to do, they wouldn't reach the mountains before dawn.

"Captain? I thought I heard...," but there was nothing more than the sounds of the night. "...Never mind, I'm going crazy."

"There's a stream we have to cross up ahead," said the Captain as she checked her map. "Maybe that's what you heard."

The two Gears ambled forward until they reached the stream, really a small river. Carefully, the Captain waded in, trying to find the safest way across. Her sensors aimed towards the riverbed, she did not notice how the wind suddenly changed pitch and direction. She only noticed when the nocturnal birds stopped screaming.

"Captain..." The strangled voice barely came through the intercom. Pim was ignoring radio silence — a very bad sign. She looked towards her companion, who merely pointed beyond her. Hair rising on the back of her neck, she slid the yaw control sideways, rotating her Gear around.

A hundred meters in front of her, hovering in near-complete silence, was a jet-black hopper, sculpted in the telltale angles of stealth technology. Gun ports open, hunter-killer guided missiles suspended from deployed ordinance racks, it hung just above the water's surface, motionless, like an angel of death. Its forward laser turret was deployed and the targeting beam was aimed squarely at the head of her machine. A message came through the Gears' intercoms:

"Put down your weapons and come out of your Gears. Don't try to do anything else. You won't survive it."

The chase was over.

1.1 AIRCRAFT IN THE 62ND CENTURY

The development of aircraft completely changed the rules previously acquired over millennia of ground warfare. Armies no longer had to smash through enemy fortifications or outmaneuver enemy divisions, they could simply land troops behind the front. Likewise, cities and factories were now a preferred target as bombers flew high above defensive positions to rain death upon the civilian population. Air superiority became of paramount importance, and new types of aircraft and weaponry were constantly being designed to meet the technological advances of neighboring countries.

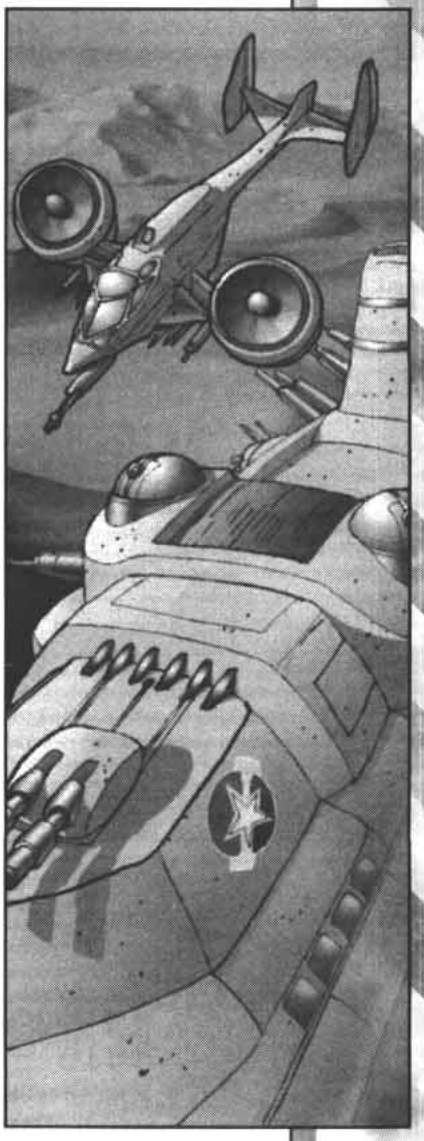
Much of this changed by the early 21st century. The advent of powerful energy weapons, such as high energy lasers and particle accelerators, brought an effective end to the concept of "air superiority." If a target could be detected and locked-on, it could be hit at the speed of light, and no aircraft of that era could carry enough armor to survive long enough to be effective. Laser turrets were, unfortunately, too large and energy-hungry to be mounted on combat vehicles, but they made cities and rear areas safe from enemy aircraft.

Although the development of stealth systems restored some of the balance, it wasn't enough, and the term "air superiority" became so meaningless that it was replaced by "air support." Most military flyers became slow, yet agile, vehicles, well hidden from enemy sensors by complex stealth devices and/or flying low to the ground. The actual fighting was once more the realm of the armored vehicle, heavily armed and well-protected, capable of exploiting breaches in the enemy's defenses.

When Mankind went to the stars to colonize new worlds, they brought aircraft with them to help explore the surrounding lands. Gliders soared in the thin atmosphere of Mars, and later over the newly colonized worlds outside the solar system. Terra Nova also received its share of aircraft, though the early explorers were quick to discover the dangers of flying over the sands and jungles of their new home.

Long-range aircraft are virtually unknown on Terra Nova, simply because the weather is too unpredictable and dangerous. Short flights between cities in close proximity are common, but long voyages, especially across the Badlands, pit aircraft against strong, heat-generated convection winds, not to mention the occasional tempest. In general, ground travel is safer and much more efficient. One notable exception to this rule is the widespread use of floaters, lighter-than-air craft. Because they do not rely on their fuel supply to remain aloft, floaters can afford to take long detours to avoid storm fronts and other atmospheric disturbances. Furthermore, their low overhead (compared to other aircraft) make them cost-effective for hauling cargo between the scattered communities of the Badlands.

Still, the military forces of the planet cannot ignore the advantages of aircraft, and consequently field several types. Grunts on the ground usually only see support and transport aircraft, though a few choppers and hoppers (vectored thrust aerodynes) are used for close support and anti-vehicular duties. Rarest of all are the fast and agile air superiority fighters.



1.1.1 CONTENTS

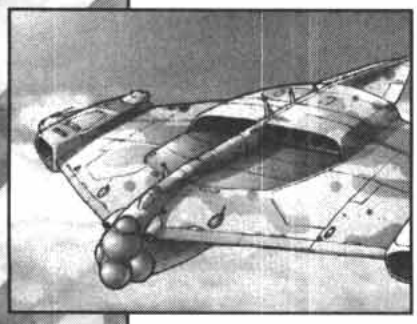
The *Tactical Air Support* rulebook is divided into several chapters, each covering a specific aspect of the aircraft-related rules.

The second chapter, *Air War Tactical Rules*, contains the basic combat rules for aircraft in Silhouette. It covers movement, special maneuvers, altitude and other important elements. The third chapter, *Dogfighting Rules*, should be used for combat between small numbers of aircraft, such as fighters engaging one another. The Dogfighting rules are more detailed than the usual Air War rules and include additional maneuvers to give the proper feel of aerial combat between fighter jocks.

The fourth chapter outlines the optional rules that cover situations that are normally outside the scope of the tactical combat game, but might be required for some specific scenarios, or to add more realism.

The fifth chapter covers everything that is required to design and maintain aircraft in the Heavy Gear universe, including sixteen new perks and flaws that specifically relate to aircraft. Following that are twenty aircraft designs, eight adventure seeds, twenty-five character archetypes, several new pieces of personal and vehicular equipment and the organizational breakdown of the air forces of the North, the South and the Badlands (in this case, the Paxton Air Service).

AIR WAR TACTICAL RULES



With the exception of the change in Movement Point values and the addition of altitude, aerial combat is played out in the same manner as ground-level tactical combat. Note that the following rules can also be used for space combat if the style of the campaign is more cinematic than realistic.

There are two scales of aerial combat: Air War scale and Dogfighting scale. Air War scale is ideal for representing large numbers of aircraft or to simulate ground support missions. Dogfighting scale, on the other hand, is more detailed and fast paced: it is best used for a small number of aircraft, or for aircraft performing specific fire-support missions. This chapter describes the rules of Air War combat.

2.1 CHANGE OF SCALE

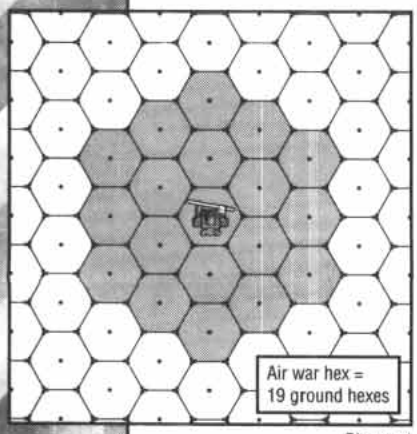


Diagram 1

Air War scale hexes are 250 meters across, five times the standard tactical hex. Air War scale combat rounds, however, represent 30 seconds of real time, just like the normal tactical combat rounds. Because of this, Air War MP scores are not the same as tactical MP scores: one Air War MP represents a speed of approximately 30 kph.

For hybrid games that combine Air War with ground tactical combat, a good solution is to use two maps: one for ground forces and one for aircraft (include a miniature version of the ground map within the air map). In effect, the two maps represent roughly the same battlefield (though the Air War map will cover a larger area). To account for the difference in scale, number the hexes individually on the Air War map and correspondingly number the ground hexes in groups of nineteen, as shown here.

It is possible to combine both aircraft and ground units on the same map, but this requires an unusually large playing surface, which is bound to be impractical. Multiply an aircraft's Combat and Top speed values, as well as its Turn Radius (see page 9), by a factor of five (x5) to get the corresponding values in tactical hexes.

2.2 MOVEMENT AND AIR EFFECTS

Movement in the Air War Tactical Rules follows exactly the same procedures and rules as ground movement, with a couple of exceptions to represent the peculiarities of atmospheric flight. Unless otherwise mentioned, assume that all tactical rules from Chapter 4 of the rulebook are valid when applied to aircraft.

2.2.1 ALTITUDE

Pilots must keep track of their altitude level. One altitude level is equal to one level of elevation (250 m). Climbing one altitude level costs 3 MP and dropping one altitude level costs 1 MP. Aircraft must stay one altitude level above the ground or crash (see *2.2.5 Crash Landing*, page 8).

One exception to this rule is landing. When an aircraft lands, it must end its movement at Stall speed, on terrain with a Ground MP cost of no more than 1 (rougher terrain will result in a crash landing). Aircraft with the Improved Off-road Ability can land on Rough ground. On the following round, the aircraft switches to its Ground movement mode (Top speed), if any.

Always record an aircraft's altitude every round after moving it. Its current altitude level can either be written down on a piece of scrap paper, or one or more 10 or 20-sided dice can be placed next to the unit on the map board, the correct number facing up.

Some aircraft have the Maximum Angle of Attack flaw, which forces them to move a certain number of hexes before climbing one hex. Aircraft without this flaw can climb almost straight up if they want, spending up to half their MPs in a single hex.

NOTE

Since most aircraft fly at considerable altitudes, the terrain effects of the hexes below them become irrelevant — all hexes cost one MP to move through. Likewise, the terrain obscurement effects are ignored when dealing with aircraft, unless the aircraft is attacking a ground target. If the target is within a hex with Obscurement, the Obscurement value of that hex counts. Aircraft with the NOE ability may hide behind (but not in) hexes with terrain that cause Obscurement — for example, helicopters will often hide behind woods before executing a "pop-up" attack. High ground, such as mountains and tall hills, can also block the line of sight between two aircraft.

2.2.2 STALLING

Most aircraft are given a Stall Speed attribute. This attribute indicates the *minimum* speed at which an aircraft must fly to avoid stalling, i.e. losing altitude due to reduced lift. If the aircraft is moving below this safety limit at the end of any movement, the plane begins to stall. VTOLs (Stall Speed of zero) can hover at no MP cost and are considered stationary for die modifier purposes.

A stall is like a fall, except that it is possible to regain control. In a fall, an aircraft — including a VTOL — is reduced to zero MP ***due to Structure hits*** (no movement possible) and plummets to the ground. Every round the craft stalls or falls, it loses an increasing number of altitude levels, as indicated on the table below.

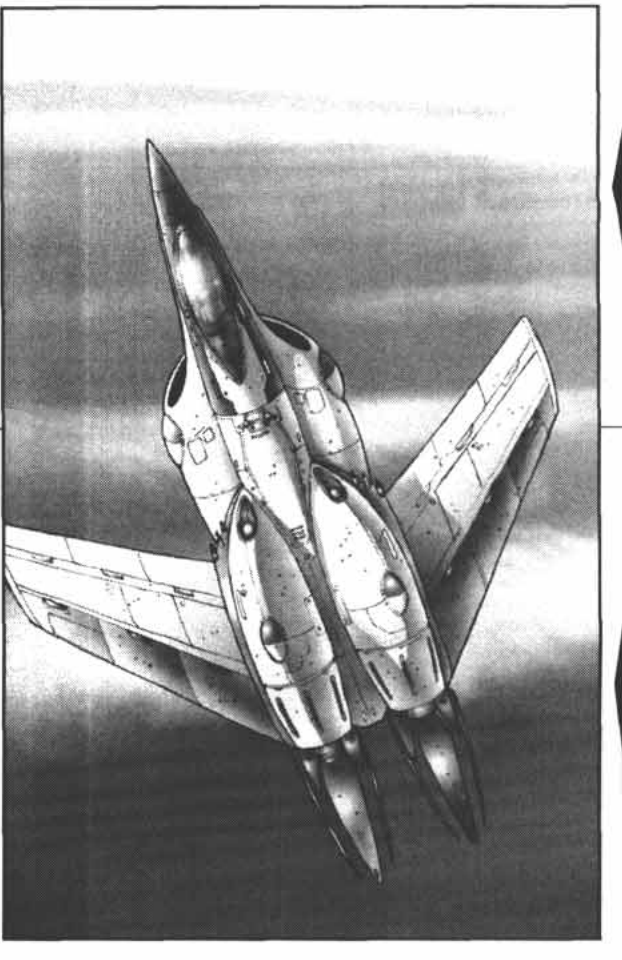
To pull out of a stall, a pilot must first wait until the number of altitude levels lost per round is equal to or higher than his aircraft's Stall Speed, then make a Piloting roll against a threshold of 6. If the pilot's Margin of Success is 2 or higher, he can select his craft's heading when he pulls out of the stall; otherwise, determine it randomly with a roll of the die. If the die roll does not succeed, the pilot can make another attempt once he has again lost a number of altitude levels equal to or higher than his aircraft's Stall speed. This will continue until the aircraft has lost the maximum number of altitude levels for that turn (see Altitude Loss table below). Note that a more detailed version of this table is used for Dogfighting combat (see next chapter).

ALTITUDE LOSS TABLE

# of Rounds	Drop
1	18
2	32
3	36
4+	36

# of Rounds *is the number of rounds the aircraft has remained stalled.*

Drop *is the maximum possible number of 250m altitude levels lost during the round. The maximum total altitude loss is 36 levels per round.*



STALL SPEED EXAMPLE

Aircraft Alpha is flying at an altitude of 28 (6751-7000 meters). It has a Stall Speed of 9, but only moved 8 hexes in the last round. The plane stalls and begins to lose altitude. The pilot attempts to regain control, but the plane first loses 9 altitude levels. Using his Piloting skill, the pilot rolls a 4, which is not enough against the threshold of 6. The plane sinks even further, another 9 altitude levels. The pilot makes another attempt, which fails again. The total altitude loss for the round is 18, which is equal to the maximum possible number of altitude levels lost during the first round, so the plane's stall will continue only in the next round.

The next round, the plane sinks another 9 altitude levels, for a total altitude loss of 27 hexes. The pilot prays and make another attempt, rolling a 7. The Margin of Success of one brings the plane out of the stall in a random direction, a mere (28 - 27 = 1 hex =) 250 meters above the ground. The plane can start moving normally in the next round.

2.2.3 GLIDING

It is possible for a fixed-wing aircraft to keep on flying even if its engines no longer exert any thrust: otherwise known as gliding. This can occur when all Movement Points are lost *due to Movement hits*, in which case the initial gliding speed is the speed from the last round. Each round a plane glides, it must lose any combination of 2 points of either speed (in MPs) or altitude. Should the aircraft's speed fall below its Stall Speed, it will immediately stall and lose altitude levels accordingly. Gliding aircraft can use the diving maneuver to gain speed (see *2.2.4 Diving*, below).

Planes that can reach supersonic speeds (i.e. with Top speeds of 40 or more) are not very good at gliding. Each round they spend gliding they must lose any combination of 3 points of speed or altitude, with a minimum altitude level loss of one. Planes with the Glider perk, on the other hand, only lose one altitude level or MP of speed per combat round.

2.2.4 DIVING

A good way to rapidly lose altitude, a full dive is nonetheless a dangerous maneuver, as there is always the risk of being unable to pull out. Understandably, dives are best handled at high altitudes.

To dive, the aircraft must spend a number of MPs equal to at least its Combat speed. The plane loses altitude levels equal to its MPs, *plus* a number of altitude levels equal to half the MPs spent. At the beginning of the following round, the pilot may attempt to pull out of the dive. Pulling out requires a Piloting roll, modified by the aircraft's Maneuver bonus, versus a threshold of 4.

A failed Piloting test means that the aircraft cannot pull out this round and begins to fall as if it were stalling. The aircraft will first lose a number of altitude levels equal to half the MPs it originally spent in beginning the dive, plus those normally lost due to stalling, until the pilot can pull out of this uncontrolled fall (Piloting vs. 6). If the aircraft's altitude drops below ground level in that hex, the plane crashes and is completely destroyed.

A fumble on the pull-out roll requires another roll, this time on the Aircraft Control Loss Table; apply the indicated effects in addition to the normal effects of a failed Piloting roll, unless they're redundant or contradictory.

The pilot of an aircraft pulling out of a dive can choose any facing he wants; see *2.2.2 Stalling* to determine the aircraft's heading if it has stalled during the maneuver. The speed of an aircraft pulling out of a dive is equal to the amount of altitude levels dropped in the last round of the dive.

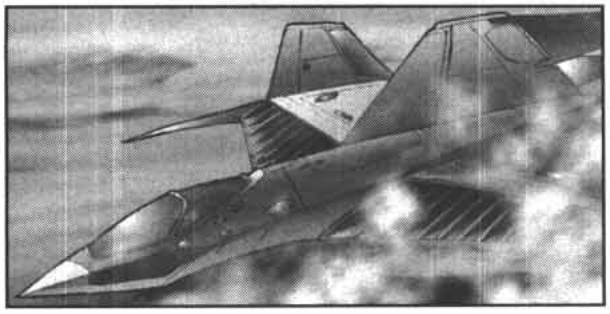
2.2.5 FALLING

Generally, anything falling out of the sky will be destroyed on impact. If a specific amount of damage is required, use the ground tactical combat rules (**Heavy Gear** rulebook, *6.2.2 Falling*, p. 106), with the following modifications: any fall from one Air War elevation level (250m) or less counts as a fall from five (5) ground tactical elevation levels for the purpose of calculating damage.

• Crash Landing

Whenever an aircraft is forced to land on Rough terrain (or worse), or no longer has landing gear (Ground movement system destroyed), it is said to be crash landing. Treat a crash landing as a fall, replacing the number of elevation levels fallen by half the landing speed of the aircraft (in MPs — usually the Stall speed) rounded up.

Some (or all) of the damage can be avoided by the pilot. A Piloting roll (with any applicable modifier) must be made against a threshold equal to the cost in Ground MPs of the surface he is landing on. The Margin of Success of that roll is subtracted from the die roll used to determine crash landing damage. If the total is equal to zero or less, the damage is equal to the aircraft's size.



CRASH LANDING EXAMPLE

Aircraft Alpha (Armor 13, Size 9, Stall Speed 8) is about to crash land on Rough terrain (Ground MP cost of 2). The pilot attempts a smooth belly landing. Using his Piloting skill, he rolls a 7, for a MoS of 5. The Gamemaster rolls two dice for the crash-landing damage and obtains a total of 6, subtracts the pilot's MoS of 5, for a final result of 1. This is multiplied by the aircraft's Size (9) and half the aircraft's speed in MPs, rounded up (4), for a total of 36 damage points. Fortunately, the plane's Overkill score is 39 and the pilot gets to walk away from this one... shaken, but alive.

2.2.6 TURNING

Aircraft in the Air War scale use the normal tactical rules for turning, with one exception: only an aircraft with VTOL capabiliity can change its facing by more than one hexside per hex moved. Non-VTOL aircraft with negative maneuver bonuses must travel straight ahead one more hex per negative maneuver point before turning one hexside. The forward movement (in hexes) required before turning is called the "turn radius."

DIAGRAM 2: TURNING

Aircraft A has a Maneuver rating of 0: it can change its facing by one (and only one) hexside for every hex moved (a turn radius of 1). Aircraft B has a Maneuver rating of -1: it must travel two hexes before changing its facing by one hexside (a turn radius of 2). Aircraft C has a Maneuver rating of -2: it must travel three hexes before changing its facing by one hexside (a turn radius of 3).

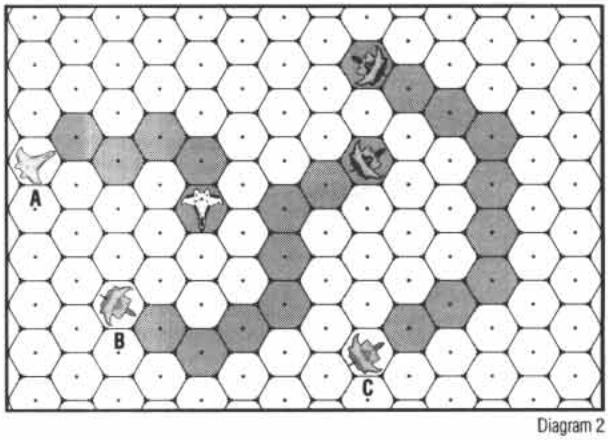


Diagram 2

NOTE

Aircraft moving at speeds below 6 have their turn radius reduced by 1 (if the turn radius is equal to 0, treat the aircraft as VTOL for maneuvering purposes). Aircraft moving at speeds greater than 20 have their turn radius increased by 1.

- **Tight Turns**

Aircraft can try to make turns tighter than their Turn Radius will allow, but in doing so they automatically have to roll on the Aircraft Control Loss Table (see p.10), adding one for every point the actual Turn Radius is tighter than the aircraft's normal Turn Radius.

Aircraft can also use the sideslip maneuver, in which the plane moves to a hex situated forward and 60° to the right or left, without changing headings. See diagram 3 for an example.

DIAGRAM 3: SIDESLIP

The aircraft in this diagram executes a sideslip to the right. The plane moves to a hex situated forward and 60° to the right or left of the original hex, without changing heading or overall speed. This simulates the fact that the aircraft is "sliding" on the air pressure under its wings (or under the fuselage for a helicopter, hover vehicle or floater). The aircraft may lose a bit of altitude, but what are a few meters when compared to the 250-meter altitude level? Therefore, it is assumed that an aircraft sideslipping does not lose any altitude.

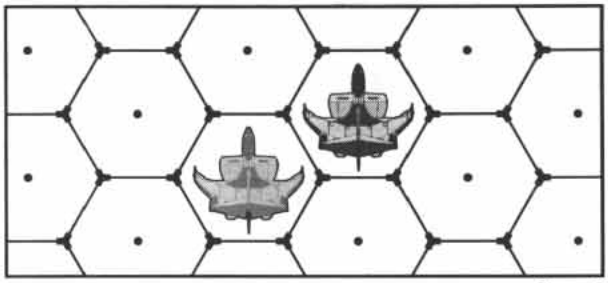


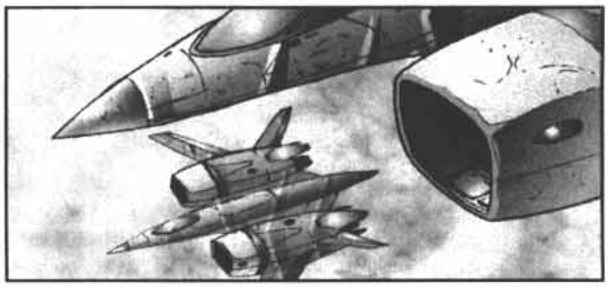
Diagram 3

2.2.7 STACKING

Since aerial combat hexes are in three dimensions instead of two, they have a lot more room than ground hexes, so stacking becomes less of an issue — in Air War scale, up to 150 Size points may be stacked in one hex.

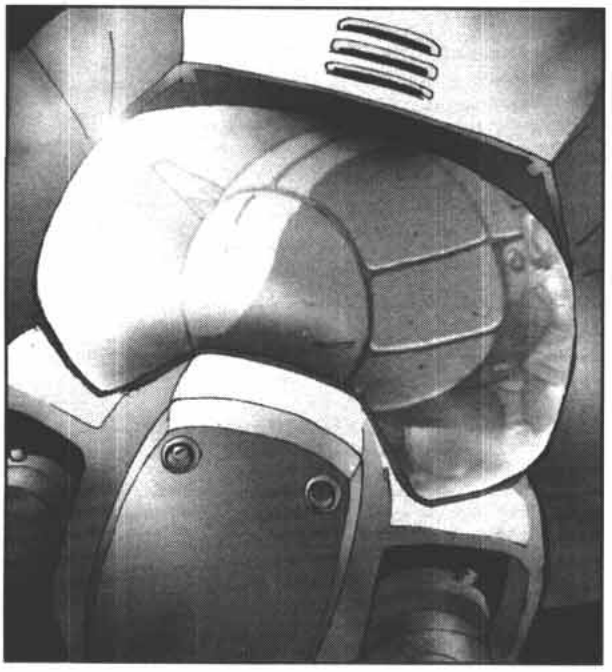
STACKING EXAMPLE

The picture at left shows two Southern *Quetzal* fighter-bombers flying in close formation. Since *Quetzals* are Size 10 vehicles, a single 250-meter hex can be occupied by fifteen such aircraft, although it could conceivably hold many more. After all, a *Quetzal* is not that big, volume-wise. However, one must keep in mind that some maneuvering room is required to execute even the simplest turns, if only for safety reasons. Not all pilots, military or civilian, are trained in close formation aerobatic flying.



2.3 LOSS OF CONTROL

Loss of control is a more dangerous situation than one would expect. While it is true that there is not much up there to collide with, a pilot who loses control of his aircraft can find himself in a dire situation nonetheless. There are many causes of control loss, from bad weather (see *Optional Rules*, p.20) to bad piloting, and the aircraft could suffer structural damage, or even worse, spin out of control in a deadly fall. Whenever a pilot fails during a delicate maneuver (as indicated in the maneuver's text), or *fumbles any Piloting roll*, he must roll one die and check the result on the following Aircraft Control Loss Table. Specific maneuvers will, and rules may, modify the roll, otherwise the result is taken straight.



AIRCRAFT CONTROL LOSS TABLE

Die roll	Effect
1	Nothing more than a good scare. (Pilot loses 1 action.)
2	Aircraft Sideslips, as per maneuver. Roll randomly for left or right.
3	Aircraft Skids (turns one hexside, but keeps going in the same direction) for a number of hexes equal to the roll of one die. Roll randomly for left or right if necessary. If the aircraft runs out of MPs during the skid, it must make them up by beginning the next movement phase with the remainder of the skid.
4	Aircraft suffers Light Structural Damage.
5	Aircraft loses a number of altitude levels equal to the roll of one die.
6-7	Aircraft Stalls.
8-9	Aircraft suffers Light Structural Damage and Stalls.
10	Aircraft suffers Heavy Structural Damage.
11	Aircraft Suffers Heavy Structural Damage and Stalls.
12+	Aircraft falls into an uncontrollable spin. It suffers Heavy Structural Damage and will plummet to the ground and crash unless the pilot makes a Piloting roll vs. a threshold of 10.

2.4 AERIAL ATTACKS

Aerial combat is similar to ground combat and uses the same general rules and modifiers. There are, however, a few adjustments to be made to take into account the differences in scale and medium (Air War hexes are 250 meters wide and combat occurs in three dimensions with little cover and fast-reacting vehicles).

In addition to the usual direct fire engagements, air combat makes a new attack form possible: bombing. While bombing can be inaccurate, modern ordinance is equipped with guidance systems that make lock-on bombs as precise as any other weapon. This section explains the various modifications to the rules for dealing with aerial combat and ground attacks.

2.4.1 MODIFIERS: RANGE

All modifiers remain the same as in the ground tactical scale (**Heavy Gear** rulebook, p.93), but the effect of the range modifiers changes due to the switch from tactical scale (50-meter hexes) to Air War scale (250-meter hexes).

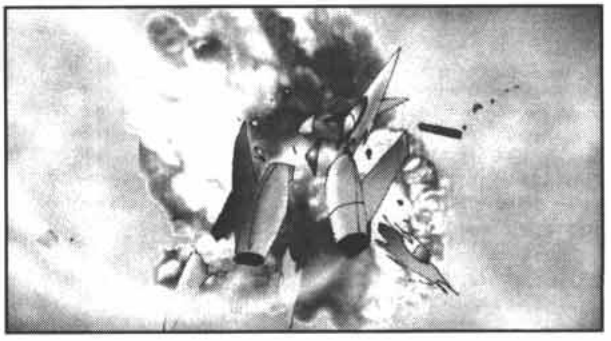
Aircraft have a clearer field of fire than their ground-pounding cousins — there is nothing to hide behind in the sky. As a result, although they carry comparable weapons, aircraft can use their full potential and hit a target much further away. In Air War scale, all weapon ranges are multiplied by five when dealing with other flying vehicles. Thus, a Light Autocannon (Base Range 2, listed range 800 m, p. 134 rulebook) can hit targets up to 4000 meters away without penalty when used in aerial combat, though its range stats remain the same for game purposes, i.e. 2/4/8/16.

2.4.2 PHYSICAL ATTACKS: RAMMING

Physical combat between aircraft is extremely rare. The only form of physical attack available is Ramming. Substitute the following table for the normal impact speed modifier table to compensate for the change in scale. The impact speed is determined using the usual table (see rulebook, p. 95). Note that ramming another aircraft requires that both aircraft be in the same hex and *at the same altitude level* (see 2.2.1 *Altitude*, p.6); in addition, the defending pilot automatically gets a +1 on his defense roll (it's easier to dodge in three dimensions).

AIR WAR IMPACT SPEED MODIFIERS

Impact Speed	Damage Modifier
0	-2
1	0
2	+1
3	+2
4-19	+3
20-199	+4
200+	+5



2.4.3 WEAPON FIRE

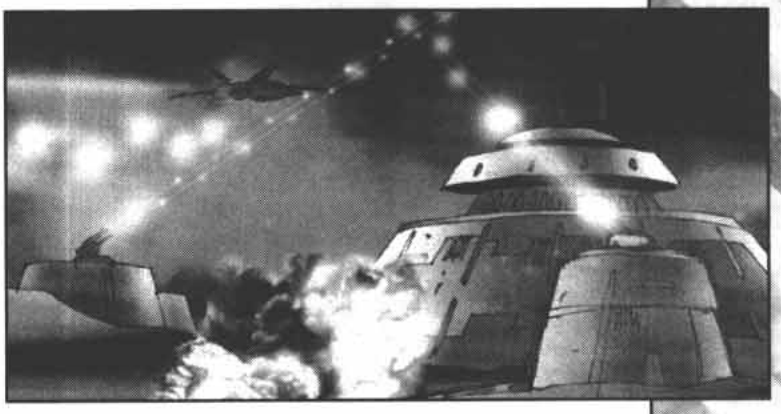
All Air War offensive maneuvers are ranged attacks, since close combat in the air is somewhat impractical (ramming excepted, but it is not a recommended attack procedure). Air War weapon fire is worked out exactly according to the standard tactical rules, with the following modifications.

• Area Effect Weapons

In Air War scale, all area effect diameters are divided by five (rounded off, with a minimum of 0), i.e. a weapon with a tactical AE of 2 would have an Air War scale AE of 0. Weapons with a tactical area effect of 0 lose that effect when used in Air War combat, since the explosion can be easily avoided in the large hex. Area effects are used as normal when playing a game using the Dogfighting Scale (see page 14).

• Saturation Fire

Saturation fire affects one Air War scale hex for every five tactical scale hexes that would normally be affected. More than one unit can contribute to this effect (i.e., several ground vehicles could throw up a wall of flak to hit an aircraft). All other saturation fire rules apply normally. Note that saturation fire effects are applied as normal when playing a game using the Dogfighting Scale (see page 14).

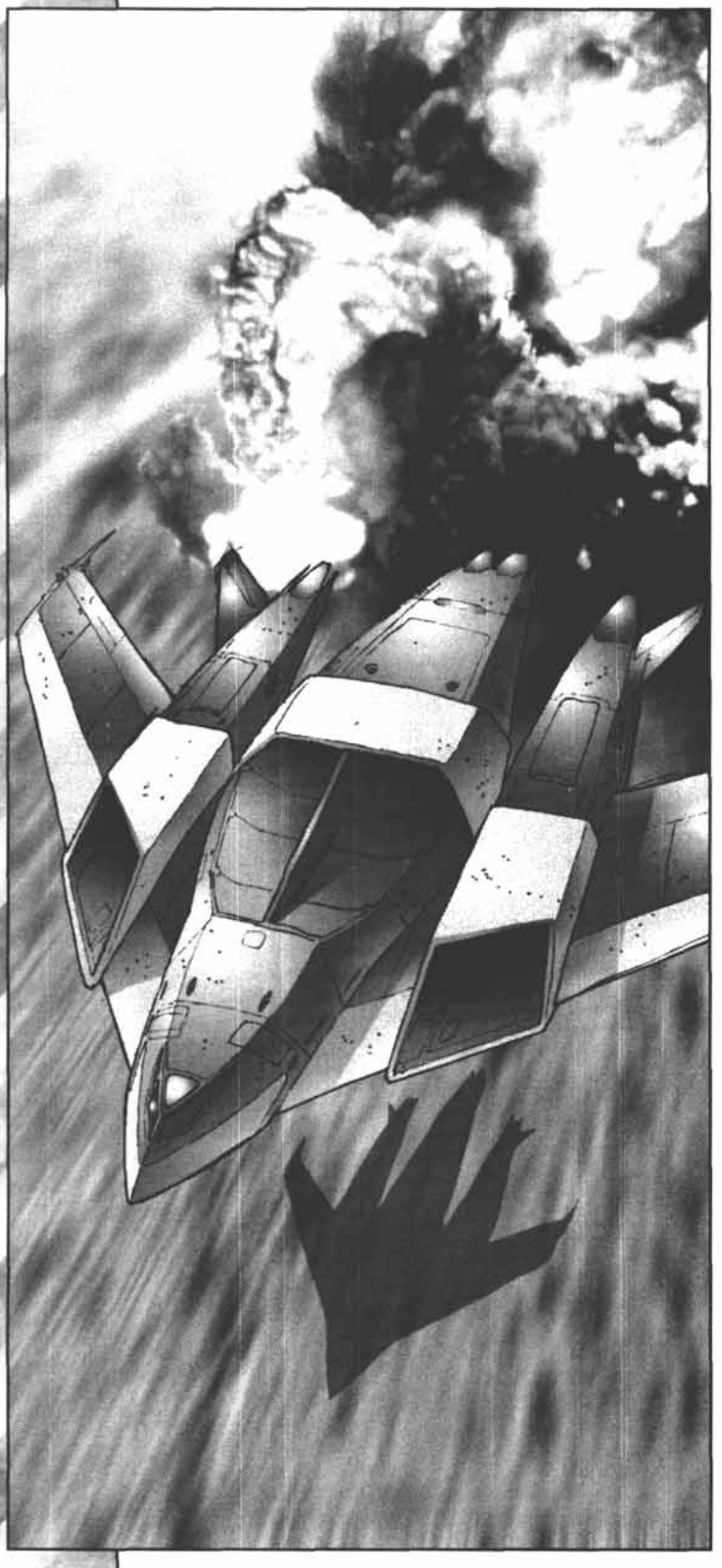


2.4.4 BOMBING

One of the main strengths of air power is the ability to bomb ground targets. Bombs fall into two broad categories: air-to-ground missiles and ordinary bombs. Air-to-ground missiles follow the same rules as normal guided weapons.

Ordinary bombs are simply dropped from an aircraft, and where they fall depends on the aircraft's velocity, altitude and the method of bombing. There are three such methods: normal bombing, carpet-bombing and dive-bombing. Bomb attacks must be declared and calculated during the bombing unit's *movement* phase, but are resolved during the *action* phase. The bomb *drops* when the plane moves, and *hits* after it has finished moving.

A Gunnery roll is still required to see if the target was hit. If the roll fails, the bomb falls one hex away from the target for every *two* points of MoF, either short or long (even MoF = long, odd MoF = short). If a fumble is rolled, the bomb did not explode or it hit way off-target (because of high winds, bent fins, collision with a flying critter, etc.)



• Normal Bombing

In normal bombing, the target hex is determined by the speed and altitude of the aircraft *when it dropped* the bomb, as well as its direction. For speed, use the number of hexes moved during the preceding round. Bombs follow the same direction vector as the plane that dropped them. To find out how far the target hex is from the dropping hex, consult the Bombing Distance Table on the next page. The pilot must thus choose the trajectory, speed and release time that will take the bomb to the desired target hex.

Note that guided bombs, whether or not they are directed by an allied target designator, can modify their target hex by one in any direction. Depending on the aircraft's altitude, the bomb may or may not hit in the same round it was dropped on; roll for the attack in the action phase of the combat round indicated by the Bombing Distance Table. A bomb gets to attack even if the airplane was destroyed after releasing it (though if the target designator was aboard the plane, the bomb loses the benefit of guidance, obviously).

• Carpet-Bombing

A tactic used for the mass destruction of urban and rural regions, carpet-bombing consists of dropping very large quantities of bombs over a given area. To carpet-bomb a target, a plane must have a bomb rack with a ROF greater than zero. Determining the target hex is done the same way as for normal bombing, except that the bombs cannot be guided (this rarely matters as accuracy is not the issue in carpet-bombing). The bombardier can choose to either saturate hexes (using the normal saturation rules) or spread out the attack over the largest possible area. Bombs are considered as rockets for ammunition expenditure purposes, i.e. 8 bombs per point of ROF used, with a minimum of 4 bombs to saturate an hex. See *Saturation Fire* on page 97 of the rulebook.

If spreading the attack over multiple hexes, the different hexes targeted are determined in the same way as for individual bombs, using the Bombing Distance Table and aircraft direction for every hex the aircraft moves and drops bombs at the same time (up to a maximum number of bombs equal to the bomb rack's ROF per bombing action spent by the crew).

• Dive-Bombing

Dive-bombing uses a different principle than other types of bombing. The aircraft actually plunges towards the target to drop the bomb, pulling up at the last moment. The target hex can thus be chosen more easily: the bombing aircraft can pick either the hex in which he's diving, or the one right in front of it (front being the direction of pull out). The procedure, however, is not without risk.

First, the aircraft must fall into a dive and spend at least one round diving. On any subsequent round of diving, the aircraft declares its attack and target hex at the beginning of its movement phase. It then tries to pull out of the dive, as per the normal Diving rules (see *2.2.4 Diving*, p.8). The attack, as usual, is resolved during the player's action phase. Bombs dropped during a dive gain a +1 accuracy per round spent diving as they are easier to place on target. The bombs can also be guided by a target designator as usual.

Dive-bombing can also reduce the attack delay for the bomb, as it starts with a higher vertical velocity than if it were simply dropped. Subtract one altitude level at the time of the release of the bomb for each altitude level descended in the diving round(s) prior to the drop, then consult the Delay row on the Bombing Distance Table: if the total is 0 or less, the bomb impacts immediately.

BOMBING DISTANCE TABLE

Speed / Alt.	1	2	3	4	5	6-7	8-10	11-15	16-20	21-30	31+
1	0	0	0	0	1	1	1	1	1	1	1
2	0	1	1	1	1	1	2	2	2	3	3
3	1	1	1	1	2	2	2	3	3	4	4
4	1	1	2	2	2	2	3	4	4	5	6
5	1	2	2	2	3	3	4	4	5	6	7
6-7	2	2	3	3	3	4	5	6	7	8	9
8-10	2	3	4	4	5	5	6	8	9	11	13
11-15	3	4	5	6	7	8	9	11	13	15	18
16-20	4	6	7	8	9	11	13	15	18	21	25
21-30	6	8	10	12	13	15	18	21	25	29	35
31+	8	12	14	16	18	21	25	30	35	41	49
Delay	0	0	0	0	0	0	0	0	1	1	2

Speed *is equal to the number of (horizontal) hexes the aircraft moved in the preceding round.*

Alt. *is the aircraft's altitude level (in 250 m hexes).*

Delay *is the delay in combat rounds before the attack is actually resolved.*

DIAGRAMS 4 & 5: BOMB ATTACK

In a combined Air War/ground battle scenario, Bomber Alpha plans to bomb Command and Control center Beta (and Heavy Gear Gamma at the same time) this round. The pilot has carefully placed his aircraft at a good altitude (level 8, somewhere between 1751-2000 meters) with the correct velocity (the aircraft moved 10 hexes in the preceding round). The two sides roll for initiative. C&C center Beta and Heavy Gear Gamma win, and choose to let Bomber Alpha move first.

After moving two hexes (to point 1), the player controlling Bomber Alpha announces that it is dropping a single Heavy Bomb (DM x20). Looking at the Bombing Distance table with the speed and altitude of the bomber gives an impact point located 6 hexes in front of the current position of the bomber, a mere one hex away from the target. Since this is a guided bomb, Alpha can move the impact point by one hex and directly target the C&C center's hex (see diagram 4 at right).

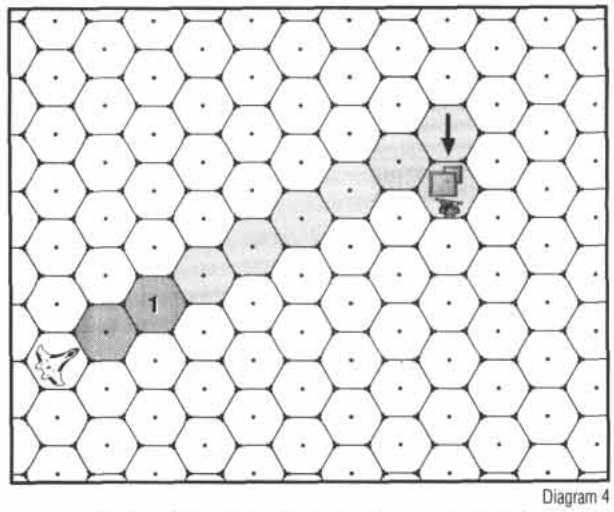


Diagram 4

Bomber Alpha then finishes its move, veering towards another target. The player controlling Heavy Gear Gamma sees the danger coming and moves to get out of the target hex (remember, each Air War hex is equal to five tactical hexes). During the Action phase, Heavy Gear Gamma can attempt to retaliate against the bomber, provided it has the means to do so. The bombardier in Bomber Alpha spends an action dropping the bomb in the Movement phase. The bombardier then spends another action and uses the plane's onboard target designator to illuminate the impact point. Since there is no attack delay at an altitude of 8, he immediately rolls his Gunnery skill to see how close he got to the main target: he gets a 6, all modifiers included. Note that even if the plane was destroyed by Gamma, the bombardier would still have rolled to hit, since the bomb was released before Gamma's strike.

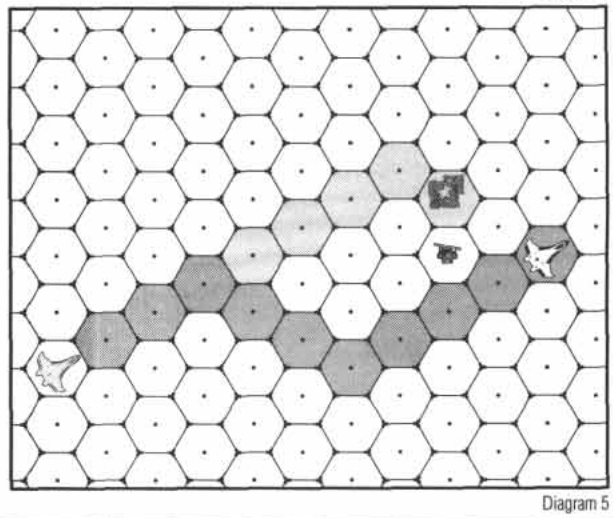
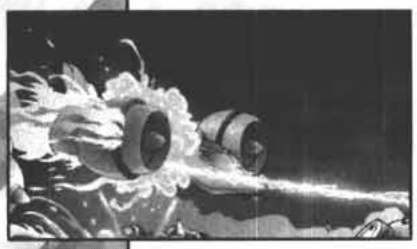


Diagram 5

Buildings do not dodge attacks and as such get no defense rolls (count as zero). The Margin of Success is thus 6 and the total damage is (6x20) =120 points of damage. Its damage point total exceeded, the Command and Control center bursts into a giant, glowing ball of orange flame (see diagram 5).

DOGFIGHTING RULES



For fast and furious action involving small numbers of aircraft, players may opt to use the Dogfighting rules instead of the "regular" Air War combat rules. The Dogfighting Scale uses a compressed time frame of six seconds per turn (equal to the ground-based Skirmish Scale and the Roleplaying Scale). To keep aircraft speeds constant, the hexes are reduced to fifty meters. This section details the rule changes for this more precise scale of combat. Unless otherwise noted, the rules remain the same as in Air War or ground-level Tactical combat.

3.1 CHANGE OF SCALE

Dogfighting-scale hexes are 50 m across (standard tactical scale hexes); similarly, Dogfighting altitude levels are 50 m high. Dogfighting-scale combat rounds represent 6 seconds of real time. Dogfighting MP scores are identical to Air War scale MP scores, i.e. one Dogfighting MP represents a speed of approximately 30 kph.

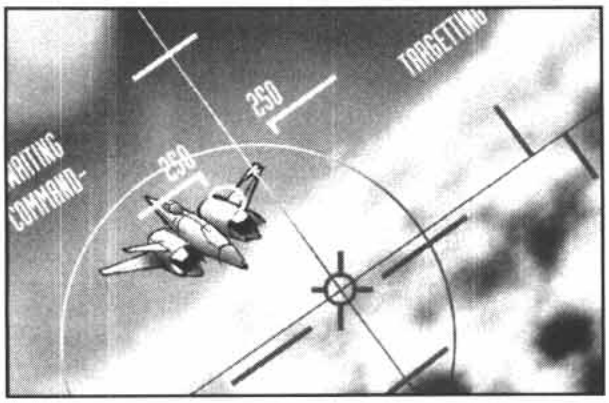
3.2 THE COMBAT ROUND

All combat procedures in the Dogfighting scale are the same as those in the ground tactical scale save for the Initiative Phase. Aircraft are usually grouped in combat groups of two vehicles (leader and wingman).

3.2.1 INITIATIVE

Initiative proceeds as usual, except when there are a total of four or less aircraft in the fight. In this case, it is assumed that the aircraft are independent as opposed to being part of a coordinated formation. Therefore, instead of rolling initiative for each side, players roll initiative for each aircraft separately. Any ties are rerolled. These individual initiative rolls are Piloting skill rolls, not Leadership skill rolls. Both Maneuver rating and speed modifiers for Combat and Top Speed apply to the Piloting skill roll.

Multiple initiative is treated in a particular way: during the movement phase, the person with the highest initiative roll (Player A) can decide to move first, or after any other unit has moved. Same goes for attacks or other actions. This is called "Opportunity Initiative." The second highest initiative (Player B) can also move or act at any time *except* before or after Player A if the latter decides to go first or last, respectively. Same goes for Player C (the third highest initiative): he can move or act at any time *except* before or after Player A or B if they want to move before or after him. In any case, where two players want to go at the same time, the one with the highest initiative roll has priority. The player with the lowest initiative doesn't get much choice: he moves and acts when the others allow him to.



OPPORTUNITY INITIATIVE EXAMPLE

Four units (A, B, C, and D, respectively) are rolling for initiative, and win in that order. During the movement phase, player A has the option to go first if he wants, but elects to wait, and so does B. C decides to move right away. D, who has no option but to wait for his turn, asks A or B if they want to move before him. Neither does, so D has to move now. It is then B's turn to move, *unless* A wants to cut in before him. He doesn't, and moves after B.

During the action phase, things go a little differently. A, who is the first to speak, decides to postpone his action. B goes right ahead and acts, followed immediately by A, who cuts in before the other players. C decides to delay his action, forcing D to act before him. Finally, C is the last to act.

3.3 NUMBER OF ACTIONS

In Dogfighting-scale combat, players still have the same number of actions per round as in tactical combat. They are permitted **one** additional action with a -1 modifier on all their rolls. Because of the short time span involved, it is impossible to get more.

For the same reason, the scope of what an action includes has been reduced. For example, in the Air War/tactical scale, maneuvering an aircraft costs zero actions and firing a weapon costs one action. In the Dogfighting scale, some aircraft maneuvers require one action, and aiming and firing a weapon require an action each (see further).

As a general rule, most complete acts in the Dogfighting scale require two actions. The first action spent represents the preparations made (e.g. acquiring a target, programming active sensors). The second action represents the actual completion of the act (e.g. firing the weapon at a target, performing the sensor scan). Usually, the second action can be performed many times in a row without requiring the first act to be repeated. For example, once an aircraft has acquired a target, it can fire upon it repeatedly until it either loses sight of it or switches to another (see *Target Acquisition*).

The following are common actions in Dogfighting-scale combat.

• Maneuvering

Aircraft can use a wide variety of special maneuvers and piloting tricks to either attack or defend. Most if not all of these require a lot more attention from the pilot than regular flying. See the section on Movement, on the next page, for the action costs of specific maneuvers.

• Shifting into Top Speed

Instead of simply declaring a change from Combat Speed to Top Speed or vice versa after a completed movement, in Dogfighting-scale combat this change requires the expenditure of an action (the change still takes place after the movement).

• Target Acquisition

Before attacking an opponent, an aircraft can use one action to acquire it as a target (also see *Panic Attack* below). A unit may only acquire a limited number of targets. The maximum number of targets that can be acquired simultaneously is equal to the unit's total number of actions per round.

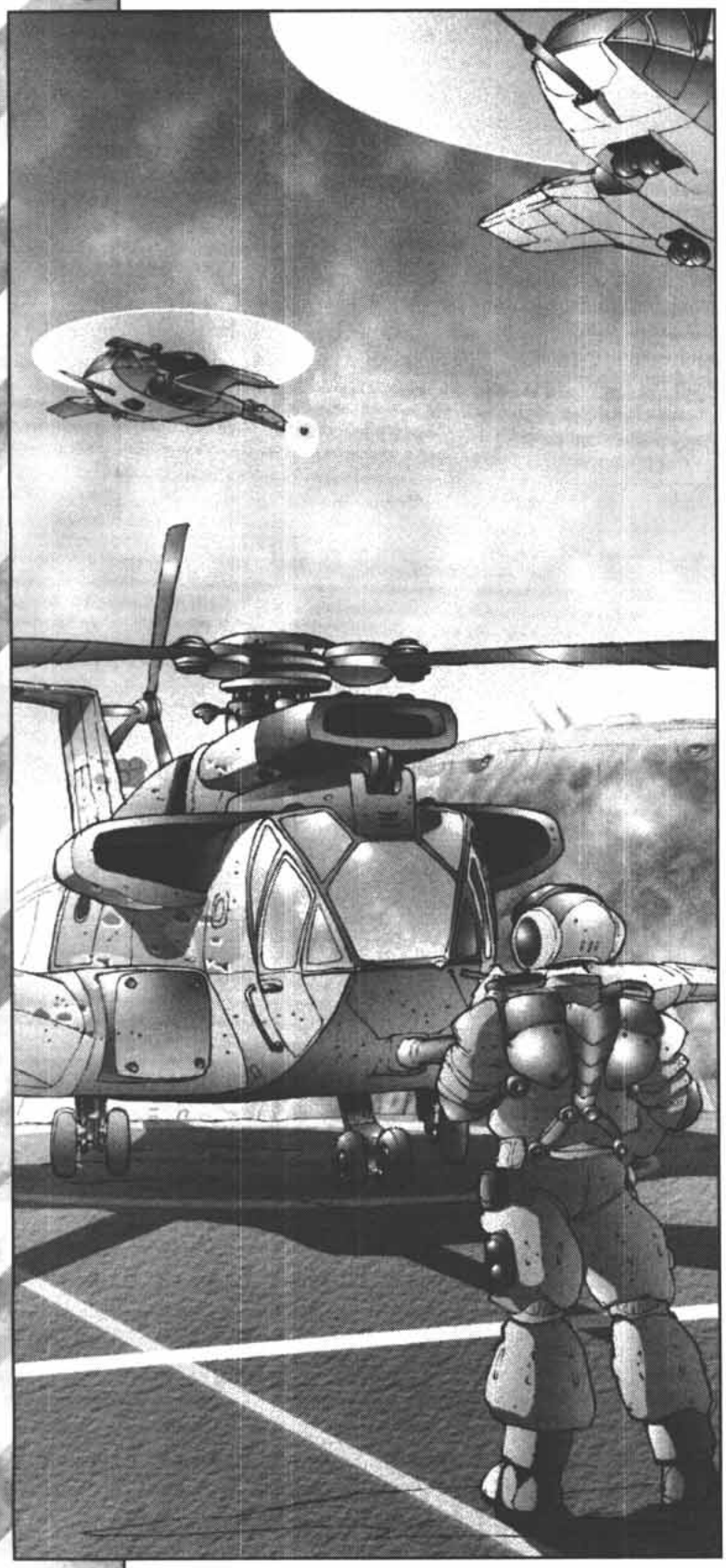
It is also possible to acquire a target by "tailing" it over several rounds. To tail an opponent, one must end the round in the target's rear defense arc. If the attacker is still tailing the defender in the next round, an opposed Piloting check is made between the two pilots. If the tailing unit succeeds, the target is acquired. For each subsequent round where the target is tailed but not acquired, add +1 to the attacker's roll to acquire the target.

• Standard Attack

After performing target acquisition, an aircraft may attack the target with one weapon or set of linked weapons, as usual. Damage is applied immediately as each weapon hits.

• Panic Attack

A panic attack consists of an attack performed without first acquiring the target. Panic attacks suffer a -2 penalty on their attack rolls. If a unit performs three panic attacks (successful or not) against a target without ever losing line of sight, the target is automatically acquired.



• Activating Auxiliary System

Before using any auxiliary system, such as ECM or active sensors, an aircraft crew must spend one action preparing the system for use. No rolls are made during this action; it succeeds automatically. A system need only be prepared once for all future use, provided it is used in consecutive rounds. If the system is not used for a complete round, it must be prepared again at the cost of another action.

• Using Auxiliary System

Once an auxiliary system has been prepared, an aircraft's crew must expend one action to use it. If the system requires a roll of some sort, it is performed when the action is expended. An auxiliary system may be used multiple combat rounds in a row. If a round goes by without the system being used, the crew must expend one action to prepare it again the next time.

• Preparing to Embark/Disembark

One action is required for a vehicle crew outside their aircraft to prepare to embark (if at all possible) or for a vehicle crew inside their vehicle to prepare to disembark. This action covers the various ingress preparations such as lining up for entry, opening hatches and access doors, etc. Crew preparing to leave the vehicle must likewise release their security harnesses and move into position by the doors. This action is most often used prior to dropping paratroopers.

• Embarking/Disembarking

Once a vehicle's crew has prepared to embark or disembark, up to ten crew members or passengers may enter or exit the vehicle per action expended, provided the situation allows it. This action covers various activities such as entering the crew compartment or cockpit, settling down, reaching for straps and belts, etc. The action also covers the release of paratroopers and airdropped equipment (one action is required per 6 Size points dropped).

• Warm-Up/Shutdown

Since Dogfighting scale turns are so short, the actual act of starting up an aircraft's engine, or shutting it down, requires a full action. In most combat situations, all aircraft will already be flying with their engines started, but in some scenarios, an aircraft's crew could begin on the ground, inside or outside their aircraft.

In such cases, treat the crew as an infantry squad one level lower than their crew level (e.g. Veteran crew becomes Qualified infantry), often with fewer members than usual (break down the crew in units of ten). They are armed with pistols (Accuracy 0, ROF 0, Damage 1, Range 1 hex). In the case of a large crew, one in five crewmen is equipped with a rifle or a shotgun (treat as a standard infantry rifle).

• Landing and Take-Off

Landing and take-off are treated the same way as they are in the Air War game scale, with one exception: both landing and taking off require two actions: one to prepare for the maneuver and another action to actually land/takeoff. All other rules remain unchanged, though purists may want to follow the plane through all the phases of switching movement modes and the acceleration and deceleration related to taking off and landing.

3.4 MOVEMENT AND AIR EFFECTS

Aircraft move in the same manner as they do in a normal Air War/tactical game, with one major exception: they move individually, not as part of a combat group. Maneuvers are treated differently from those in the Air War scale, as detailed below.

3.4.1 STALLING

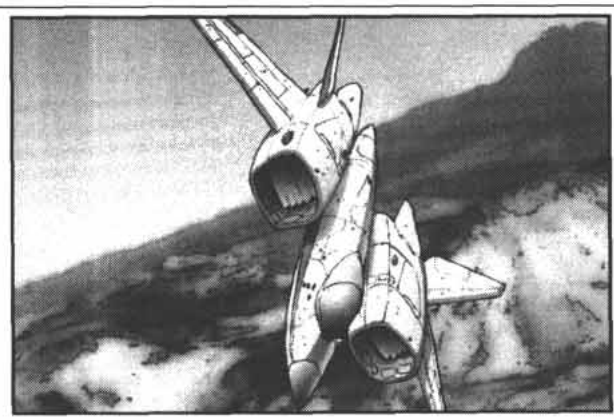
Keep the same rules for stalling in Dogfighting combat as in the Air War scale, using the alternate table below for altitude loss.

ALTITUDE LOSS TABLE

# of Rounds	Drop
1	4
2	10
3	18
4	24
5	32
6+	36

***# of Rounds** is the # of rounds the aircraft has stalled.*

***Drop** is the number of 50 m altitude levels lost during the turn. Maximum number of altitude levels lost in one turn is 36.*



3.4.2 DIVING

As in the Air War scale, you can use the Diving maneuver (see *Diving*, p.8) to rapidly lose altitude. Use the Air War rules, though diving requires an action in Dogfighting games.

3.4.3 FALLING

In the Dogfighting scale, treat falls as you normally would in any tactical game [damage received = two dice x aircraft size x elevation levels fallen] up to a maximum elevation level of 6. Use the normal Air War rules for crash landing.

3.4.4 TURNING

In Dogfighting scale, non-VTOL aircraft use different rules for maneuvering: the number of hex facing changes they can make in one round is still restricted by their turn radius, but the turn radius is determined by dividing an aircraft's Combat or Top speed (for combat or Top speed turning radiuses, respectively) by three *plus* the aircraft's maneuver bonus (minimum divisor of one). This value — rounded down — gives the number of hexes an aircraft must move before *safely* turning one hexside.

Aircraft can make tighter turns than their safe turn radius will allow. These tighter Combat and Top Speed Turn Radius are three values which represent 3/4, 2/3 and 1/2 (rounded to the nearest number) of the safe turn radius, respectively. During play, reduce the Combat speed Turn radiuses by two (2) (with a minimum of one) if the plane is moving at half its Combat Speed or less.

Making tighter turns is risky, though: the increased G-forces can force Piloting and FIT tests on the pilot. Use the table on the next page to determine what a pilot must do to keep control of his plane and if the turning maneuver requires an action or not. If two turn radiuses are the same after rounding fractions to the nearest integer, use the higher threshold of the two listed when rolling Piloting or FIT tests. For example, if both the 2/3 and the 1/2 come up the same number, use the thresholds listed for the 1/2 turn radius for both.

A failed Piloting test means that the pilot must roll on the Aircraft Control Loss Table (see p.10), adding one per point of Margin of Failure. A failed FIT test means that the pilot is stunned for 1 round from the black-out. On a fumble, the pilot temporarily loses consciousness and is considered stunned for 1d+1 rounds (in such cases, the aircraft follows its current trajectory). The FIT test is taken only if the Piloting test is passed.

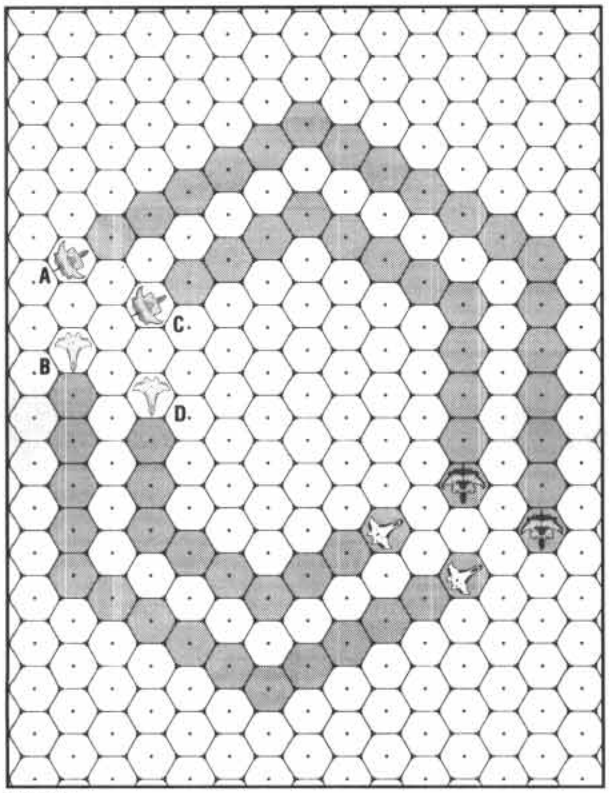


Diagram 6

TURN RADIUS CONTROL TABLE

Turn Radius	Piloting	FIT	Requires Action?
Safe	–	–	No
3/4 of Safe	4	–	No
2/3 of Safe	5	4	Yes
1/2 of Safe	7	6	Yes

*Use the **Turn Radius** row that is equal to or lower than the tightness of the current turn. Use the corresponding values for Combat and Top speed, as explained in the text.*

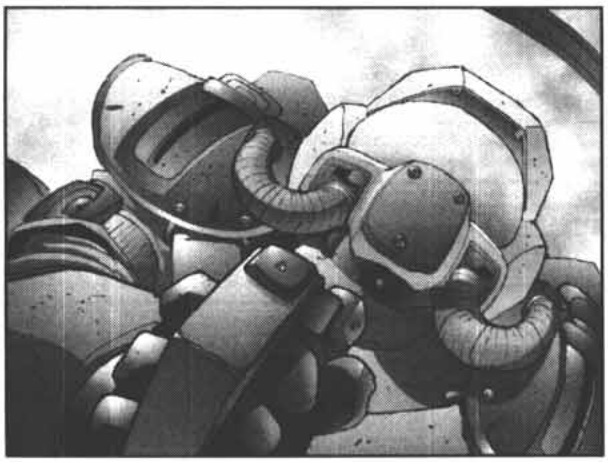
***Piloting** gives the threshold against which the pilot must test his Aircraft Pilot skill.*

***FIT** gives the threshold against which the pilot must make his Fitness roll.*

***Requires Action?** dictates if the maneuver requires an action from the pilot.*

DIAGRAM 6: TURN RADIUS

This shows the different combat turn radiuses for a plane with a Combat speed of 20 and a Maneuver bonus of 0. A is the normal, safe turn radius: MP/(3+bonus) or 6. B is the second safest turn radius, with a value of 5 (3/4 of 6, rounded up). C is more difficult, with a value of 4 (two-thirds the safe turn radius). Finally, the tightest and most difficult turn radius is D, with a value of 3 (half the safe turn radius).



TURN RADIUS EXAMPLE

Wu Jonz, ace aircraft pilot, is testing his new light fighter plane. It has a Combat speed of 16 MPs and a Maneuver bonus of -1. Flying high above the ground, Wu decides to test the plane's turning ability. The normal turn radius for the plane is 16/(3 plus -1), or 8. It is safe to a make a one-hexside facing change for every 8 hexes of straight movement. Of course, safe ain't Wu, so he tries to turn after only 6 hexes, which is 3/4 of the safe turn radius. The table calls for an Aircraft Pilot roll vs. 4. Wu passes the test, but still isn't satisfied with the plane's maneuverability. He decides to push the aircraft to its limits and makes a turn with a radius of 4, the minimum allowed (1/2 the safe turn radius). For this maneuver he must spend one action. The table calls for a Piloting roll vs. 7 and a FIT roll vs. 6. Wu misses the first roll by 3: he turns, but must roll on the Aircraft Control Loss Table. Since he missed the Piloting roll, he doesn't need to make the FIT roll.

• Sideslipping

The Dogfighting Sideslip is identical to the Air War Sideslip: the craft moves to one of the two hexes on either side of the hex directly in front of it, without changing its heading. See Air War section *2.2.6 Turning* (p. 9) for an explanatory diagram. Sideslipping in the Dogfighting scale requires an action.

• Rolling

An aircraft rolls when it rotates around its main axis, keeping a more or less straight heading. Rolling does not affect movement *per se*, as only the aircraft's attitude really changes. It does, however, add a +1 bonus to evading enemy fire and a -1 penalty to any attacks made by the rolling craft. Rolling requires one action with a difficulty threshold of 4 against the Piloting skill. On a failure, roll on the Aircraft Control Loss Table. Only fixed-wing aircraft can execute a roll.

• Looping

There are two kinds of loops: a Full Loop and a Half Loop (also known as an Immelmann). In a Full Loop, the craft more or less ends the maneuver where it started, keeping approximately the same heading. In a Half Loop, the craft keeps on going straight at the top of the loop (or the bottom, for an inverse loop), thus executing a reverse turn. All loops require one (Half Loop), or two (Full Loop) actions.

The tightness of a loop depends on how many MPs the player spends. For a Full Loop, the minimum number is the turn radius x 6; the difficulty threshold is the turn radius +1 (minimum 3; *double* the threshold for rotary-wing aircraft; lighter-than-air craft *cannot* perform loops). The aircraft ends its movement in the same hex it started from, or any of the surrounding hexes and at a) the same altitude level, b) one above, or c) one below.

A Half Loop has the same difficulty threshold, though the minimum number of MPs is less (selected turn radius x 3). As above, the craft ends its movement in either the hex it started from or any surrounding hex, but the heading is changed by 180°, and altitude must be increased (or decreased, for inverse Loops) by an amount equal to *at least* the selected turn radius x 1.5 and up to twice that, as desired.

A pilot who fails his roll during a Loop must roll on the Aircraft Control Loss Table (see p.10) adding 1 for a Half Loop, 2 for a Full Loop and 3 for any kind of Inverse Loop.

3.4.5 STACKING

In Dogfighting games, up to 30 size points can safely occupy the same hex at each altitude level.

3.5 AERIAL ATTACKS

In Dogfighting games, the rules are treated the same way as in normal (i.e. ground-level) tactical combat save for one change and a few additions. Note: weapon ranges remain the same as in the Air War scale.

3.5.1 PHYSICAL ATTACKS: RAMMING

Ramming is the only physical attack available in the Dogfighting scale. As in Air War, both aircraft must be in the same hex and at the same altitude level, although in this case the ground-level scale is used and the defender does not get a bonus.

3.5.2 POP-UP ATTACKS

VTOLs and vehicles with jump capacity can execute a maneuver referred to as a "pop-up attack." These units can use land features on the battlefield to hide behind and shield themselves from enemy fire, "popping up" briefly to spot or attack. This affects the attacker's accuracy, but since it greatly reduces the vehicle's exposure to enemy fire its chances of being hit are minimal.

A pop-up attack is declared during the movement phase. The proper amount of MPs to bring the attacking vehicle out of hiding, to the chosen attack point and back under cover must be spent. It might be helpful to place a counter in the hex where the attack is declared, to serve as a reminder. In the action phase, the attacker rolls as if his vehicle were at the location where it declared the pop-up attack, regardless of its current position. The attack is at -1 to hit because it is a hurried shot.

The target can shoot back at any time in the same round as the pop-up attack, at a penalty of -3, even though the attacker has since disappeared behind cover. This represents the snap-shot of the defender seeing the attacker popping up and reacting to it.

3.5.3 BOMBING

Bombing follows the same rules as in the Air War scale, with one exception: bombing delays due to altitude. Substitute the following for the Delay line in the Bombing Distance Table:

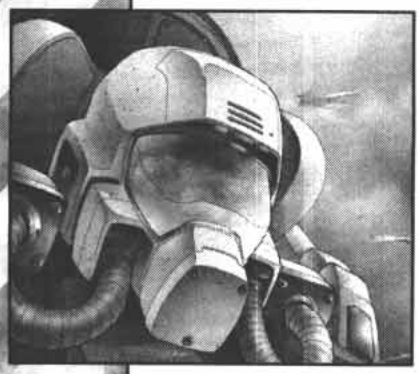
BOMBING DISTANCE TABLE

Altitude	1	2	3	4	5	6-7	8-10	11-15	16-20	21-30	31+
Delay	0	0	0	1	1	1	1	2	2	2	3

***Altitude** is the aircraft's altitude level (in 50m increments).*

***Delay** is the delay in combat rounds before the attack is actually resolved.*

OPTIONAL RULES



These are optional rules that can be used with any game, be it an Air War or Dogfighting combat scenario or a straight roleplaying session. These rules cover special considerations such as weather effects, airdrops — of both man and cargo — and airlifting operations. With these rules, it is now possible to drop troops into a battle during anything from a light drizzle to a torrential downpour, or from a pleasant breeze to the terrible tempests of the Badlands.

Because of the extra complexity brought into play, the optional rules may slow down play a little, but using them can breathe new life into an old scenario. Some or all of the following rules may be used if, and only if, all the players agree to use them *before* the game begins.

4.1 WEATHER

Players who want to add a little extra realism to their game may want to use some or all of the optional rules below. They give the simplified game effects of common weather phenomena, such as wind, clouds and rain.

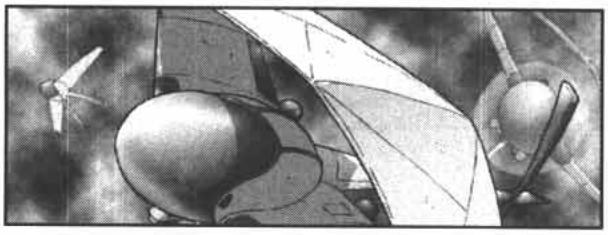
4.1.1 WIND

A strong wind will affect the flight of any given aerial object and make flying harder for small, lightweight aircraft — increasing the chances of a mishap or fumble. Wind is described with two parameters: Force and Direction. Direction is self-explanatory and is represented by a simple vector that is assumed to be consistent throughout the game map. The force of the wind is calculated in 30 kph increments — identical, in essence, to aircraft MPs.

Wind Force one (5 on the Beaufort scale) is equivalent to a good draft: flight with ultra-light craft (size 3 or less) and lighter-than-air craft will be difficult, but not impossible (add 2 to the difficulty of any maneuver).

Wind Force two (7 on the Beaufort scale) indicates a strong wind: flight with ultra-light and lighter-than-air craft will be nearly impossible (add 4 to the difficulty of any maneuver). VTOL aircraft pilots subtract 1 from their skill.

A typical storm has Wind Force 3 (10 on the Beaufort scale): subtract 1 from the Piloting skill for fixed-wing aircraft; for VTOL craft the penalty is 2 levels. Higher WF levels indicate hurricane-force winds: for each WF level above 3, increase the skill penalty by 1, and call for rolls on any maneuver other than moving straight ahead.



RANDOM WIND FORCE TABLE

Die Roll	Wind Force
1-3	No wind
4	Wind Force One
5	Wind Force Two
6	Wind Force Three

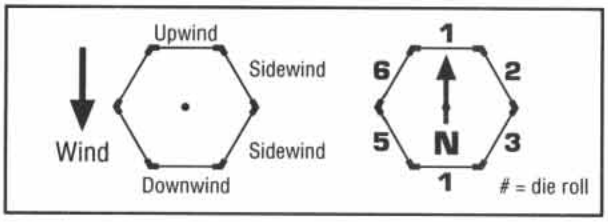


DIAGRAM 7: RANDOM WIND DIRECTION

In addition to making flight more difficult, wind also affects an aircraft's overall movement. At the end of the movement phase of any aircraft, move it downwind an additional number of hexes equal to the Wind Force. Do the same for any normal or carpet-bomb trajectory, counting the appropriate number of hexes for every round the bomb spends falling.

4.1.2 CLOUDS

While clouds have little effect on an aircraft's movement, they do provide an important source of visual obscurement. Depending on the level of detail you wish for, you can determine that the entire map is covered by a thick layer of clouds, or that there are only specific "cloud" areas. In the latter case, cut the shape of the clouds out of paper or cardboard, place them on the map and give them upper and lower limits in elevation levels. Any plane that goes "over" these clouds inside their limits is considered obscured. For added realism, use the wind rules and move the clouds by a corresponding number of hexes in the direction of the wind at the end of each turn.

Different types of clouds have different Obscurement values, from 1 (light clouds) to 3 (heavy storm clouds). This is for passive (visual) detection only; clouds have no effect on Active Sensor detection, or attacks based on such detection.

4.1.3 RAIN

Rain has an effect similar to clouds, and mainly causes visual obscurement. Light rain does not affect visual detection within 4 hexes (Air War scale; Dogfighting: 20 hexes). Beyond that it has an Obscurement value of 1. Medium rain has an Obscurement value of 1 and heavy rain has an Obscurement value of 2. For Active scanning, rain has no effect, except if the rain is actually an electrical thunderstorm; in which case, heavy rain has an Obscurement of 1 for Active Detection. Heavy rain can also affect an aircraft's flight: apply a -1 penalty to all Piloting skill rolls, -2 for lighter-than-air craft.

4.1.4 SANDSTORMS

Most common in the Badlands, sandstorms can be *very* dangerous for flying aircraft as powerful winds send tons of sand twisting into the air. Like windstorms, sandstorms are given a Wind Factor, which affects movement by a certain number of hexes each turn. This "wind," however, is very fickle and constantly changes direction. Roll 1 die to determine the wind direction each turn, *for each aircraft.*

Sandstorms are more devastating than windstorms of equivalent strength: treat a sandstorm as being one (1) Wind Factor higher for determining Piloting roll penalties and effects on small craft. Sandstorms have an obscurement value of 3. Fortunately, sandstorms usually have relatively low ceilings: around 1,500 meters for small storms (elevation levels: 6 for Air War, 30 for Dogfighting) and up to 2,500 meters (10 for Air War, 50 for Dogfighting) for big ones. Larger ones are possible, but uncommon.

The most devastating sandstorms of all are called tempests. Tempests are winds of Force 4 or 5 that can throw hundreds of tons of sand into the air. Ultra-light and lighter-than-air craft are automatically destroyed if caught within such a storm because of their flimsy structure. Tempests are otherwise handled the same way as sandstorms.

4.2 AIRDROPPING

Airdropping is another common military and civilian use for aircraft. Large aircraft can drop paratroopers, Gears, vehicles, food, propaganda, etc., practically anywhere you can see the sky.

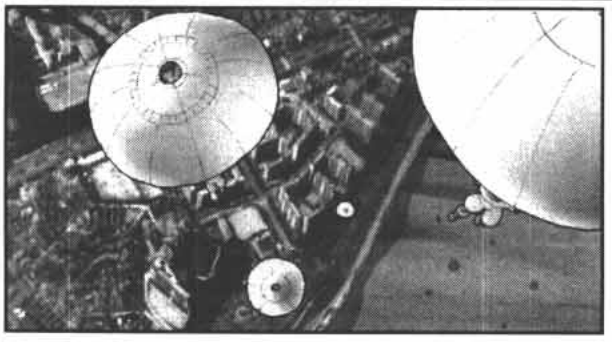
4.2.1 PARATROOPERS

Paratrooper squads are special infantry units trained in the Parachuting skill (see below). Equipped with steerable parachutes (paragliders), paratroopers can drop from any height between 250 to 10,000 meters (altitude levels: Air War 2 to 40, Dogfighting 6 to 200) from aircraft flying at a speed of no greater than 20 MPs.

A paratrooper unit can choose to land anywhere within a landing area whose radius is equal to the aircraft's altitude level. A Parachuting skill roll versus a threshold equal to one-half of the altitude level (round up; maximum 9) is required to land in a precise hex; otherwise, the Margin of Failure indicates how far the trooper(s) landed from their intended target, in hexes (direction is always downwind). Any collision(s) with an obstacle present in the hex is worked out immediately.

The time required for the drop is equal to the sum of the altitude levels dropped and the number of hexes between the drop hex and the landing hex, divided by two, in rounds. It takes one round for a landed paratrooper to get ready for battle, and usually one more to rendezvous with the rest of his squad.

If wind rules are used, there are a few restrictions on parachuting. Parachuting is not possible with a Wind Force greater than 2; even then, a Wind Force of 2 will doom the paratrooper to death if he fumbles his Parachuting skill roll. A Wind Force of 1 or 2 will modify a paratrooper's possible landing area as follows: a Wind Force of 1 will halve the landing radius upwind and double it downwind (effectively changing the normally round landing area into an ellipse). Landing at an angle to the wind (*aligned with an* hex side), either fore or aft, will reduce the landing radius by 1/3 or leave it unchanged, respectively. With a Wind Force of 2, the radius upwind is reduced to zero, downwind it is tripled. The fore radius is reduced by 2/3, while the aft radius is halved.



NEW SKILL: PARACHUTING (AGI)

Complexity:	Simple
Specializations:	High Wind, High Altitude, Night-time
Often Possessed By:	Skydivers, Paratroopers, Pilots

Parachuting allows the character to use and control a parachute or similar device and to correctly absorb the landing impact. The Parachuting skill includes the ability to prepare and pack parachutes and to make minor repairs. The skill also includes how to estimate wind speed and evaluate weather patterns that might affect the drop.

4.2.2 CARGO

In addition to paratroopers, an aircraft equipped with a rear ramp or other special drop bay can drop a variety of cargo. The difference is, cargo is dropped with unsteerable parachutes (see *Vehicle Parachute Kit*, p. 92) that fall straight down (unless there is a wind, see further). Cargo is assumed to have a "Parachuting skill" of 1 for deviation purposes. Maximum speed and height is the same as for troopers, though a minimum height of 750 meters (altitude level: Air War 4, Dogfighting 16) is required for the parachutes to open. After landing, vehicles are operational in a number of Air War or Tactical rounds equal to twice their Size (half the Size for airdroppable walker vehicles).

Using the wind rules will move the landing site of airdropped cargo. For every two levels of altitude dropped, move the landing site one hex for each level of Wind Force, in the windward direction. Thus, cargo dropped from 2,000 meters (altitude level 8) in wind with a force of 1 will land 4 hexes downwind from the drop hex, plus any deviation that might take place.

Cargo can also be dropped using a procedure known as Very Low Altitude Extraction, in which the aircraft flies very close to the ground (altitude level 1) and simply drops the cargo on the ground from its rear ramp. The cargo is yanked away by one or more "drogue" chutes, which slow it down and lessen the impact. The rest of the shock is absorbed by a special pallet placed under the vehicle (see *VLAE kit*, p.92). The aircraft's flying speed must not exceed 8 or the item dropped will suffer damage as a normal crash. Characters aboard a vehicle during such a drop must make a Fitness roll versus a threshold equal to twice the aircraft's speed. If missed, use the Margin of Failure to calculate damage, taking the Size of the vehicle as the damage multiplier.

4.3 AIRLIFTING

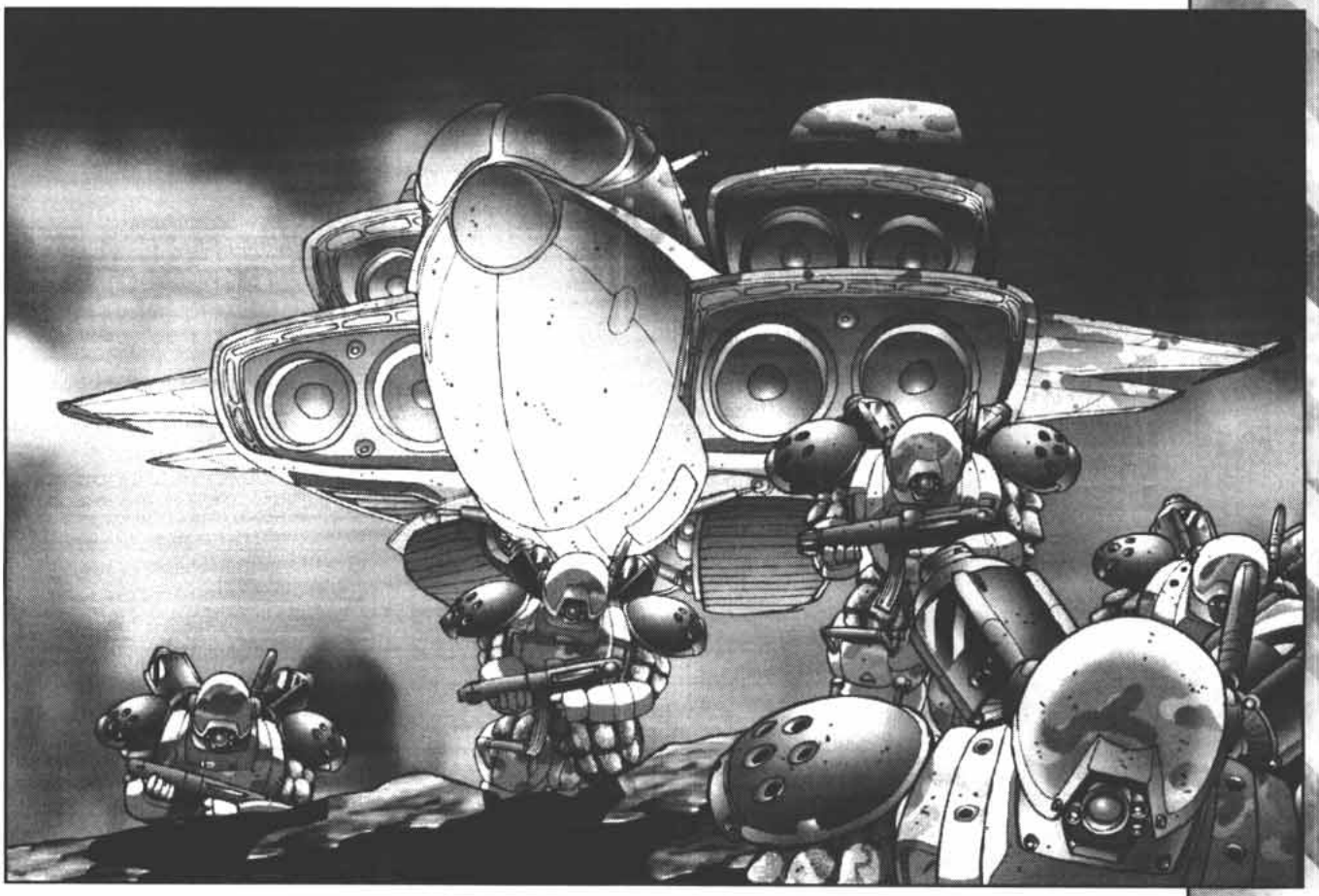
For most aircraft, airlifting requires landing, opening cargo doors and getting people, vehicles and other materiel in as fast as possible before taking off again. This can take quite some time (at least one round to land, one Air War round for an infantry squad/single vehicle to get in, at least one round to take off, etc.). Some VTOL vehicles, however, have the Airlift Winch perk, which enables them to pick up personnel and equipment without ever having to land. This is ideal for campaigns on rough terrain where it is difficult, if not impossible, to land and there would be no other practical way to retrieve a squad in trouble.

To accomplish the Airlift, the vehicle must remain stationary over the hex where the person/items to be picked up are situated; every two Air War rounds the plane can pick up one infantry squad or a single vehicle. Then the aircraft simply flies away. As usual, multiply time values by five for the Dogfighting scale.

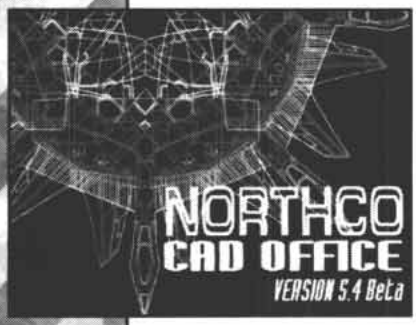
4.3.1 VTOL CARGO CAPACITY

VTOLs (flying vehicles with a Stall Speed of 0) are often equipped with internal cargo bays. Many also routinely carry cargo suspended under their main body: such external cargo is called a "slung load." For game simplicity, all VTOL vehicles are assumed to be capable of lifting a slung load — large pieces are attached to hardpoints via strong cables, while smaller items are placed in large suspended nets.

A slung load is considered "towed" by the VTOL for game purposes. Unlike other vehicles, a VTOL's maximum lifting capacity (in kilograms) is equal to *half* the vehicle's mass due to the VTOL movement mode's limitations. VTOL vehicles can lift up to half their maximum lifting capacity (i.e., a quarter of their total mass) without a reduction in speed. Vehicles lifting between half and three-fourths of their total capacity are limited to Combat Speed, and loads from three-fourth to full lifting capacity reduce the speed to half Combat Speed until the load is dropped. Dropping a load costs one action.



AIRCRAFT CONSTRUCTION RULES



This chapter contains the modifications required to adapt the Heavy Gear *Vehicle Construction Rules* (page 118 of the rulebook) to design all types of aircraft. Very little changes or additions need to be made, as most aspects of aircraft construction are already included in the basic rules. For the sake of simplicity, the steps that remain unchanged are not repeated here.

The main difference is the addition of a new movement mode, predictably called Flight. Flight is used for all manner of aircraft, no matter what method they use to fly: plane, helicopter, hopper, etc. Instead, the introduction of the Stall Speed stats and some new specialized perks and flaws serve to individualize each design.

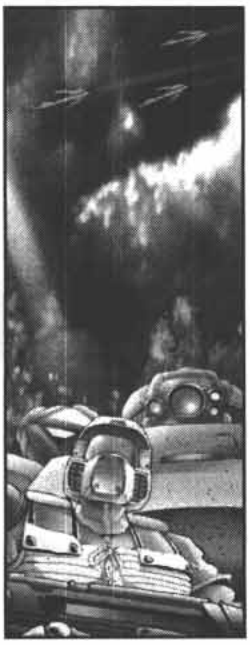
5.1 CONSTRUCTION RULES ADDENDUM

5.1.1 STEP TWO: MOVEMENT SYSTEM — FLIGHT

The Flight movement mode encompasses all manner of flying machines and does not discriminate between fixed and rotary wing craft. All vehicles with this movement are given a new attribute: Stall Speed, which indicates the minimum possible flight speed before stalling out and falling. A VTOL craft has a Stall Speed of 0; i.e., it can actually hover and stay in place without falling. Stall Speed is taken into account in the modified Flight Defense Multiplier formula.

Most non-VTOL aircraft have a secondary movement system (usually Ground) to taxi around the runway. In this case, the system's maximum *stable* speed is entered in the Defense Multiplier formula. Many aircraft with a Ground movement system have the Decreased Maneuverability flaw (see **Field Guide N1**, page 8). VTOL craft rarely have a powered secondary movement system, although a Ground movement system with a speed of 0 is used to represent wheeled landing gear.

The following table lists the maximum Combat and Top speed MPs for the most common types of aircraft. Top ground speed should be slightly above the stall speed.



AIRCRAFT MAXIMUM SPEED TABLE

Aircraft Type	Combat Speed	Top Speed	Stall Speed
Light Commercial Plane	15	30	7
Civilian Jet Plane			
Size 1-15	25	50	12
Size 16+	22	44	10
Military Planes			
Air Superiority Fighter	40	80	16
Fighter-Bomber	33	66	14
Large Bomber	21	42	9
Troop Transport	19	38	6
VTOL Fighter	23	46	0
Attack Helicopter	7	14	0
Recon Helicopter	6	12	0
Medium-Lift Helicopter	5	10	0
Hopper	7	14	0
Lighter-than-air	3	6	0

These values are the maximum speed possible for new designs, unless the model is a prototype.

5.1.2 STEP THREE: SELECT MANEUVERABILITY

Larger aircraft tend to be less agile than smaller ones, and rotary-wing or other VTOL aircraft are generally more agile than fixed-wing planes. The following table lists the suggested Maneuver ratings for the most common categories of aircraft. Note that it is possible to have a sluggish VTOL and a maneuverable cargo plane, it is just not very common. It should also be noted that these maneuver ratings are for flying since planes are far less maneuverable on the ground.

TYPICAL AIRCRAFT MANEUVER SCORES

Aircraft Type	Maneuver Score
Aerobatics aircraft	+2
VTOL plane	+1
Light propeller plane	+1
Air Superiority Fighter	0
Fighter-Bomber	-1
Medium Bomber	-2
Troop Transport	-3
Large Bomber	-4
Recon Helicopter	+2
Hopper	+2 to -1
Attack Helicopter	+1
Medium-lift Helicopter	0
Troop Transport Helicopter	-1
Lighter-than-air	-5

Calculate Turn Radii for both Air War and Dogfighting scales, unless it is a VTOL aircraft (see below).

• Air War Turn Radius

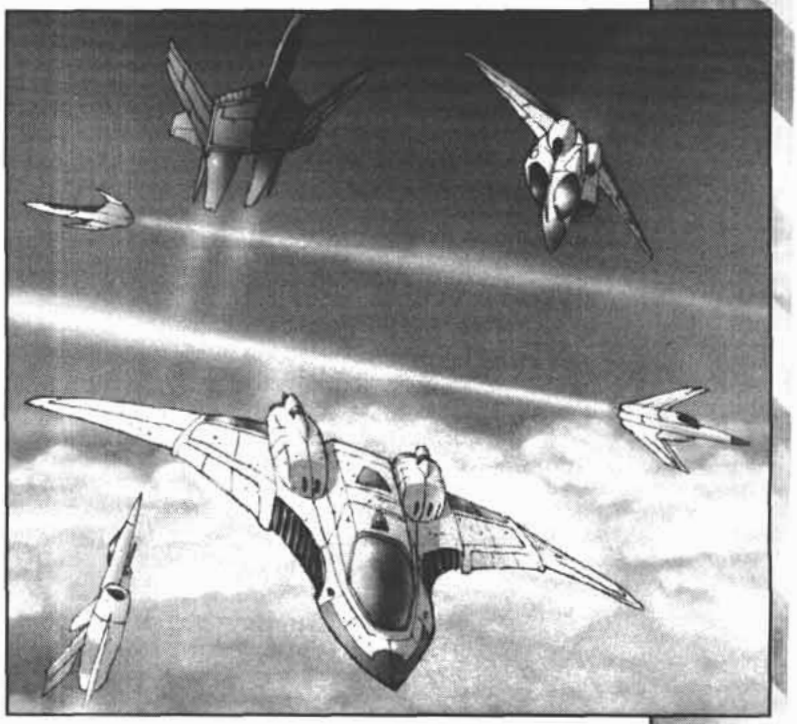
Aircraft with a Maneuver rating of 0 or better can change facing by one hexside (and only one) per hex of forward movement (smaller turn radii cannot be seen on the map at this scale). Aircraft with negative Maneuver ratings must travel one more hex per Maneuver point below 0 before they can turn one hexside. Thus, an aircraft with a Maneuver rating of -2 must travel straight for 3 hexes before turning one hexside: its turn radius is 3. If it had a Maneuver rating of -4, its turn radius would be 5.

Vehicles with a Stall Speed of 0 can change facing within a single hex at the usual cost — free for one hex side turn, one MP for a turn of up to 180°.

• Dogfighting Turn Radius

Because the Dogfighting Scale requires more detail than usual, turning is handled differently than in the Air War scale. As detailed in the Turning section (see p.17), the Dogfighting Scale uses four different turn radii for both Combat and Top speeds. It is usually better to calculate these in advance and note them down before a Dogfighting game to save time. Purists may want to calculate alternate turn radii to take battle damage into account, although this is not required.

The first, or Safe, turn radius is equal to the Flying MP score divided by (3 + Maneuver rating, min.1), rounded down. To calculate the three other turn radii, divide the MP score by (4 + Maneuver), (5 + Maneuver) and (6 + Maneuver), respectively — always rounded down, with a minimum divisor of 1.



5.1.3 STEP FOUR: SELECT ARMOR RATING

Due to the severe weight restrictions demanded by the mechanics of flight, aircraft *very rarely* have an Armor rating that's more than twice their actual Size rating. For military craft, the armor rating is usually just under that limit. Aircraft that carry more than their Size in armor will typically be filled with redundant systems and built on a strong airframe rather than covered with thick (and heavy) armor plates.

5.1.4 STEP FIVE: SELECT WEAPONS

While there are weapons common to both aircraft and ground military vehicles, planes, helicopters and choppers do use specialized weaponry, mostly in the form of air-to-ground and air-to-air missiles. See *5.2 New Weapons*, page 37, for more information. Note that airplanes cannot use melee weapons such as chassis reinforcements, grenades and vibroblades. Exceptions to this are grenades used as self-destruct charges or as warheads in cruise missiles (which are designed as small crewless airplanes guided by the Autopilot perk).

5.1.5 STEPS SIX AND EIGHT: SELECT SENSORS AND COMMUNICATIONS

Most aircraft have Sensor and Communication suites that are much more efficient than those of ground vehicles. The average sensor range for military aircraft is 10 to 20 km, while communication ranges can be as high as 400 km with atmospheric signal bouncing (though on average it is closer to 200).

5.1.6 STEP NINE: SELECT DEPLOYMENT RANGE

In general, fixed-wing aircraft are more fuel-efficient and have a higher fuel capacity than VTOLs, giving them a significantly longer deployment range: 400 to 3,000 km for fixed-wing, 200 to 1,000 km for VTOL. Note that the Deployment Range can be considerably extended at a low cost by buying the Refueling Equipment perk for in-flight refueling instead of adding costly kilometers of range.

5.1.7 STEP TEN: SELECT PERKS AND FLAWS

Perks and Flaws are chosen as usual, except that many are not applicable to aircraft (or are applied differently). Autopilot and Ejection System, though they are not specifically required, are natural additions to any aircraft; see page 31 for more aircraft-specific Perks and Flaws.

Numerous Perks can make a vehicle very complex, increasing the odds that defects will occur. However, aircraft are often put together with more care than ground vehicles and will tend to have fewer defects (see *Lemon Rolls* further down). As usual, the minimum cost of the combined Sensor rating, Comm rating, Perks and Flaws of a vehicle is zero. If the total cost is negative, consider it as being equal to zero.

5.1.8 STEP ELEVEN: CALCULATE THREAT VALUE

Threat values are calculated according to the procedure outlined in the Vehicle Construction section on page 127 of the rulebook. There is one small exception: a slightly modified formula for the Defense Multiplier. This new formula takes into account an aircraft's higher top speed and includes its Stall Speed, since both speeds are significant parameters in a tactical air combat game. The new formula is:

FLIGHT DEFENSE MULTIPLIER =
$(\text{Armor Rating})^2 + (\text{top flight speed in kph} - (\text{Stall Speed} \times 3) \div 25)^3 + (\text{sum of speeds of all other movement types in kph} \div 6)^2$

5.1.9 STEP FOURTEEN: SELECT PRODUCTION TYPE AND LEMON ROLLS

The only change to this step is the lemon roll. Due to the meticulous design and construction of aircraft, they tend to have fewer defects than other types of vehicles. In addition to the basic model lemon dice, add one die for every ten (10) perks the aircraft has, instead of the usual 5.

5.2 NEW WEAPONS

The weapon systems introduced in the **Heavy Gear** rulebook were merely a small sample of the armament types in use. Although aircraft share many weapon systems with ground-based vehicles, they also carry more specialized armament designed to hit airborne targets. The following weapons can be mounted on any vehicle, save for the various bomb racks that can only be mounted on aircraft.

AIRCRAFT WEAPON LIST

Name	Code	Rating	Range	DM	Acc.	RoF	Ammo	Min. Size	Special
Light AA Cannon	LAAC	121	2/4/8/16	x8	0	+6	0.28	4	–
Medium AA Cannon	MAAC	176	3/6/12/24	x10	0	+4	0.51	4	–
Heavy AA Cannon	HAAC	230	3/6/12/24	x12	0	+3	0.68	5	–
Anti-Gear Missile	AGM	756	3/6/12/24	x15	+1	0	15.12	4	Guided
Anti-Aircraft Missile	AAM	2066	8/16/32/64	x10	+1	0	8.30	7	Guided, Min. Range 10
Airburst Missile	ABM	508	3/6/12/24	x10	0	0	2.00	6	AE=1
Light Bomb Rack	LB	135	0/0/0/0	x10	-2	3	0.05	4	Guided, AE=0
Medium Bomb Rack	MB	257	0/0/0/0	x15	-2	2	0.11	5	Guided, AE=0
Heavy Bomb Rack	HB	841	0/0/0/0	x20	-2	1	0.20	7	Guided, AE=1
Fuel-Air Bomb Rack	FAB	2758	0/0/0/0	x35	-1	0	11.00	11	AE=2, Slow Burn
Cluster Bomb Rack	CB	369	0/0/0/0	x8	0	2	0.06	6	AE=2
Hvy Cluster Bomb Rack	HCB	884	0/0/0/0	x10	0	1	0.10	8	AE=3

5.2.1 CANNONS

Cannons include any weapons that can accelerate one or more projectiles using a chemical explosion. They are rugged, adaptable, effective and take a variety of forms, from single-barrelled guns to rotating multi-barrelled "gatling"-type weapons. Most modern cannons include an autoloader and/or a belt-feeder mechanism, or are clip-fed for easy reloading.

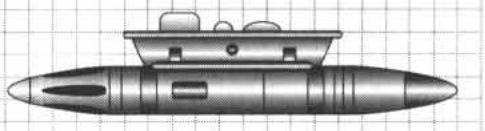
• Light Anti-Aircraft Cannon

Purpose:	Anti-Aircraft
Effective Range (air):	4000 m
Penetration:	65 mm
Accuracy:	average
Mode of Fire:	burst
Usual Ammo Load:	200-1000 shells

The Light Anti-aircraft Cannon is a high velocity, small-caliber weapon with an extremely high rate of fire, allowing it to fill a large area with deadly projectiles. An electric auto-loader brings fresh ammunition rounds, often caseless, from a magazine. It is usually linked to an air defense sensor system to increase its accuracy.

The LAAC-76 20 mm cannon mounted on Norlight attack planes is representative of this class of weaponry. The cannon is placed in an external pod underneath the fuselage, while its ammunition is carried in a helicoïdal magazine in the pod's rear section.

• Medium Anti-Aircraft Cannon

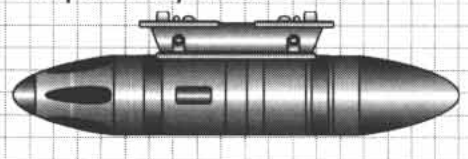


Purpose:	Anti-Aircraft
Effective Range (air):	6000 m
Penetration:	100 mm
Accuracy:	average
Mode of Fire:	burst
Usual Ammo Load:	200-1000 shells

The Medium Anti-aircraft Cannon is a larger version of the previous weapon. It has a slightly lower rate of fire, but makes up for it with bigger shells, usually in the 30-40 mm caliber. Each shell has either a collapsed alloy penetrator for increased damage or a light explosive charge. Often, both are mixed within the magazine for optimum effect.

The Territorial Arms' Air Division Model 954 autocannon is a rugged multi-barrelled gun that is liquid cooled and automatically belt-fed. The ammunition is held in an easy to reload magazine that can be slipped in and out of the aircraft in a few minutes.

• Heavy Anti-Aircraft Cannon



Purpose:	Anti-Aircraft
Effective Range (air):	6000 m
Penetration:	144 mm
Accuracy:	average
Mode of Fire:	burst
Usual Ammo Load:	200-1000 shells

The Heavy Anti-Aircraft Cannon is the largest high velocity, rapid-fire cannon available. Its electric loader labors to feed its ravenous appetite for large 40 to 50 mm shells. Its overall rate of fire must be limited to prevent excessive barrel wear and overheating, which is always a problem.

The monster Matrel Mark IV HAAC is composed of five ceramic composite barrels activated by a heavy duty electric motor. The overall length of the weapon (over six meters) takes up almost half the fuselage of the HF-12 air and ground attack plane.

5.2.2 ROCKETS AND MISSILES

This type of weapon consists of a high-explosive, shaped charge warhead propelled by a rocket motor. Guided rockets are referred to as "missiles." The following weapons can be used by either air or ground units, though the versions used by ground vehicles are outwardly different from their airborne brethren. It would be very hard, for example, to jury-rig a *Silk* AAM (see below) to be launched by a Heavy Gear, though a specific Gear-mounted AAM can exist.

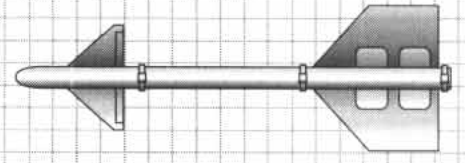
• Anti-Gear Missile

Purpose:	Anti-Gear
Effective Range (air):	6000 m
Penetration:	225 mm
Accuracy:	good
Mode of Fire:	single
Usual Ammo Magazine:	2 to 4 missiles

The Anti-Gear Missile is a smaller, lighter version of the standard anti-tank missile. It is intended to be used against light armored vehicles such as Heavy Gears, hence the name. The majority of AGM designs are wire-guided using a very thin optic fiber trailing behind the missile, but laser or radio-guided models are also known to exist in very limited quantities.

The Javelin IV missile is a very versatile weapon that can be fired from a ground launcher or, with the aid of an additional solid fuel booster, from an aircraft. The small projectile lacks the punch of a standard anti-tank missile, but is powerful enough to dispose of most light armored vehicles.

• Anti-Aircraft Missile

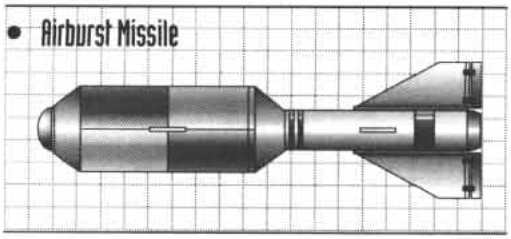


Purpose:	Anti-Aircraft
Effective Range (air):	16,000 m
Penetration:	100 mm
Accuracy:	very good
Mode of Fire:	single
Usual Ammo Magazine:	1 or 2 missile

The Anti-Aircraft Missile is primarily an air-to-air weapon, although a ground-launched version is available for specialized air defense units. Its solid fuel booster requires nearly 2000 meters to reach its peak thrust, making close-range operation difficult at best. However, once past that range, its advanced seeker warhead almost guarantees a kill every time.

The AA-12 Silk is probably the most common air-to-air missile in use on Terra Nova. It can use both TV and millimeter wave radar to acquire its target and can discriminate against most counter-measures, which make it almost impossible to shake off. If a constant laser target lock is provided, the Silk never fails.

• Airburst Missile



Purpose:	Area Saturation
Effective Range (air):	6000 m
Penetration:	100 mm
Accuracy:	average
Mode of Fire:	single
Usual Ammo Magazine:	2 missile

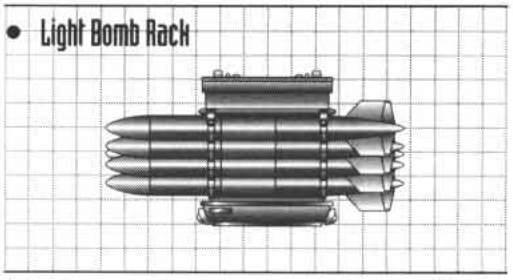
The Airburst Missile is a rather large missile that contains several smaller sub-projectiles. Once the missile approaches its target, the nose cone splits open and fires its sub-munition payload to cover a larger area at once. Airburst missiles are very effective for engaging several targets at once.

The Agerstond ASM-588 contains a simple auto-guidance system that uses data downloaded from the aircraft's fire control system just prior to firing. It contains 21 armor-piercing warheads that can cover a zone nearly 150 meters across.

5.2.3 BOMB RACKS

Bomb racks are specialized hardware designed to hold freefall explosive charges. They are attached to hardpoints on the underside of an aircraft or inside a bomber's weapons bay. All types of bomb racks fit on similar universal mounting points and can be quickly exchanged. Bombs are usually laser-guided and have small fins to control their trajectory for precise, pin-point targeting. Bomb racks can only be used by flying vehicles.

• Light Bomb Rack

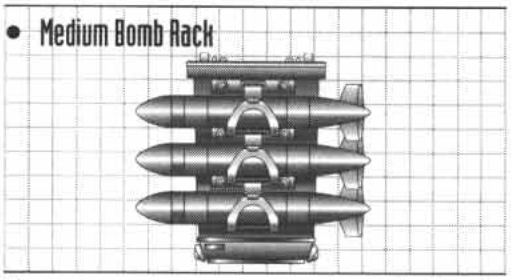


Purpose:	Area Saturation
Effective Range:	depends on initial speed
Penetration:	100 mm
Accuracy:	average (if guided)
Mode of Fire:	single or saturation
Standard Rack:	9 bombs

The Light Bomb Rack is a mounting frame and integrated guidance system for carrying dead-fall ordinance to the target, almost always in the form of guided bombs. The bombs themselves have no propulsion system, but do have some maneuvering ability to "home in" on their target.

The Light Bomb Rack shown above is a Mark 3 rack holding M36 laser guided bombs. The HF-12 fighter-bomber sometimes carries two such racks with nine bombs apiece on its outer wing hardpoints for ground attack operations.

• Medium Bomb Rack

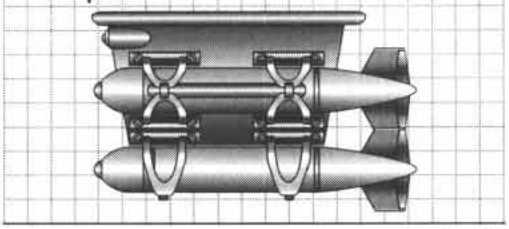


Purpose:	Area Saturation
Effective Range:	depends on initial speed
Penetration:	225 mm
Accuracy:	average (if guided)
Mode of Fire:	single or saturation
Standard Rack:	6 bombs

Like the Light Bomb Rack, the Medium Rack is a mounting frame and integrated guidance system for carrying guided bombs. The rack is heavier and sturdier and can support more powerful bombs, although the reinforced frame causes more delay when dropping them and reduces the overall rate of release.

This Medium Bomb Rack is mounted in the main fuselage bay of the Republican RL-5A Quetzal fighter-bomber. Its Mark 78 bombs can shatter most ground targets to a radius of nearly 30 meters from the impact point.

• Heavy Bomb Rack

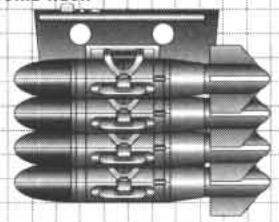


Purpose:	Area Saturation
Effective Range:	depends on initial speed
Penetration:	400 mm
Accuracy:	average (if guided)
Mode of Fire:	single or saturation
Standard Rack:	3 bombs

The Heavy Bomb Rack is a highly potent weapon: the bombs it carries can vaporize even the toughest armored target if it is guided to a direct hit. A laser sensor in the nose of the bomb controls small fins that can modify the trajectory of the projectile. The bomb's heavy warhead has an effective kill radius of more than 75 meters from the impact point, and even if it should miss, the concussion effects alone will take out most unprotected targets. Some racks can be modified to carry heavy bombs equipped with nuclear warheads.

The Mark 108 bombs carried in the inner wing bays of the Azrael bomber are typical examples of Heavy Bombs. Each rack holds 3 bombs apiece, more than enough for a bombing run.

• Cluster Bomb Rack

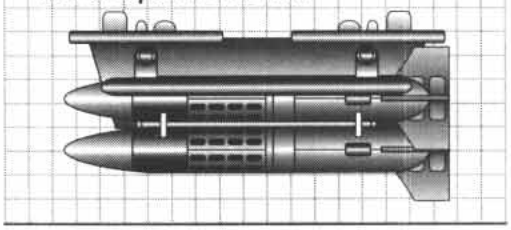


Purpose:	Area Saturation
Effective Range:	depends on initial speed
Penetration:	65 mm
Accuracy:	average
Mode of Fire:	single or saturation
Standard Rack:	10 bombs

The Cluster Bomb consists of a large aerodynamic container that splits open when above the target area and releases hundreds of small explosive bomblets. The bomb is guided to the target via information downloaded from the launcher's fire control and, just before impact, by a sensor placed in the bomb's nose. The rack itself can release up to two bombs at once and holds up to ten. A trained crew can time the sub-munitions' release to completely saturate a large area in only a few seconds.

The MC-675 bomb contains 120 bomblets which are scattered by an ejection device over a zone nearly 150 meters across. The high bomblet density is very dangerous for any target in the dead zone.

• Fuel-Air Explosive Bomb Rack

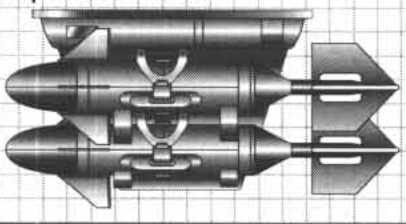


Purpose:	Large-scale destruction
Effective Range:	depends on initial speed
Penetration:	1225 mm
Accuracy:	poor
Mode of Fire:	single or saturation
Standard Rack:	1 or 2 bombs

The Fuel-Air Explosive (FAE) Bomb Rack is very powerful, although its explosive radius has been intentionally limited in order to reduce collateral damage. The Fuel-Air Bomb contains a highly volatile gas mixture that is dispersed over a large target area and then ignited. The force of the explosion is followed by additional damage wrought by the intense heat of the detonation, igniting all combustibles at the impact point. There are some even bigger FAE designs in existence that have an area effect comparable to a small nuclear explosion, but they are generally not seen on the tactical battlefield because they represent too great a danger to both sides.

The FAE-90 bomb carried in the ventral armament bay of the Azrael bomber is its main weapon, capable of a devastating attack against large and powerful targets. Because of the bomb's size and cost, only two are carried per plane.

• Heavy Cluster Bomb Rack



Purpose:	Area Saturation
Effective Range:	depends on initial speed
Penetration:	144 mm
Accuracy:	average
Mode of Fire:	single or saturation
Standard Rack:	5 bombs

The Heavy Cluster Bomb is very similar in shape and function to its smaller brother, but it contains even more sub-munitions. These are designed to hit a large, but well defined area, yielding a higher saturation of the target zone. Each bomb contains hundreds of small bomblets equipped with a specialized warhead and a timer. The bomblets are generally a mix of anti-personnel fragmentation warheads, high-armor piercing warheads, incendiary devices and area cratering shells (note that for playability purposes, the actual effects of the bomblets' many types of warheads have been averaged into the cluster bomb's damage multiplier and Area Effect).

The Territorial Arms's Air Division CB-500 "super" cluster bomb is in fact a large profiled container slung under the belly of the plane. It contains 500 high explosive canisters that are ejected over the target to ensure maximum saturation effects.

5.3 NEW PERKS

These new Perks were expressly designed for aircraft, though some of them could conceivably be used for other vehicles. They are official additions to the Perks and Flaws listing in the **Heavy Gear** rulebook (p.144) and the four existing Field Guides, **Northern Vehicles 1 & 2** and **Southern Vehicles 1 & 2**.

Perks with the designation (**AUX**) are defined as auxiliary systems for damage purposes.

Perks with the designation (**R**) have a rating (see data sheet for the specific value).

• Airlift Winch — AUX R

The aircraft is equipped with a rugged winch and cable system that enables it to airlift troops and/or cargo without having to land. The rating gives the maximum number of troops that can be airlifted aboard in a single Air War round, or the maximum Size of any airlifted cargo. The Airlift Winch rating cannot be greater than the maximum cargo capacity of the aircraft (for example, a 15-ton helicopter cannot have a winch larger than Rating 6, which is capable of lifting 7.3 tons).

NOTE: This Perk is only useful to VTOL or rotary-wing aircraft, since the vehicle has to be airborne and stationary.

COST = RATING X 3

• Catapult Hook — AUX

This Perk enables any non-VTOL aircraft to take off from a carrier (a landship, for example) with the help of a catapult. For simplicity, the catapult is included in the carrier's Vehicle Bay perk cost. This also enables any aircraft with such equipment to use the ship's short landing strip. Non-VTOL aircraft without this Perk can still take-off and land on a carrier ship, but must make a Piloting rolls versus 7 and 8, respectively, or crash in the attempt. A crash-landing is treated as a ramming attack against the carrier for damage purposes. VTOL aircraft do not require this perk to operate from a carrier.

COST = 2

• Chaff/Flare Dispenser — AUX R

Chaff and Flare dispensers are used to confuse and defeat the radar and infrared guidance systems of incoming missiles. In game terms, each use of a Chaff/Flare Dispenser grants the aircraft a defense bonus versus missiles and guided weapons. The dispenser's rating is added to the pilot's defense roll. If the result of the vehicle's modified defense roll is greater than the attacker's roll, the countermeasures have successfully misled the missile(s).

Example: Infantryman Alpha launches a ground-air guided missile at fighter Beta. Alpha's attack roll is a 6. Beta's defense roll is a 4. Fortunately, fighter Beta has a Chaff/Flare Dispenser (rating 2). The rating is added to the defense roll, giving a final result of 6. Since the modified defense roll is equal to Alpha's attack roll, the chaffs and flares have misguided the missile.

Use of a Chaff/Flare Dispenser does not cost an action in the Air War scale, but does cost one action per use in the Dogfighting scale. There is no limit, other than the dispenser's ammo load, to the number of chaffs or flares that can be used in one round, but only one shot is expended per defense roll.

COST = (RATING X 5) +(AMMO/20)

• Glider

Fixed-wing aircraft with this perk possess the abilities of a thermal glider, and only lose one altitude level or speed MP when gliding. In addition, the pilot can make a Piloting roll vs. a threshold of 5 to ride the thermal updrafts and actually *gain* altitude levels. The flyer gains a number of altitude levels equal to the Margin of Success, without losing speed.

COST = 2

• Lighter-Than-Air

Aircraft with this perk use lighter-than-air gases to stay aloft. As this requires no movement points, lighter-than-air craft do not fall when their movement systems are disabled or destroyed, though their horizontal movement will be determined by wind alone (see *Wind*, page 20). Lighter-than-air craft can gain or lose one altitude level per round *without* using any MPs.

Light Structural damage will cause a lighter-than-air craft to lose one altitude level per round, without the possibility of gaining them back. Heavy Structural damage will cause a two-level drop per round.

A lighter-than-air craft occupies three times as much space as its Size for stacking purposes. Craft with this perk are considered as VTOL craft for determining admissible perks and flaws.

COST = 2

• NOE Flyer

Aircraft with the Nap-Of-the-Earth Flyer Perk are equipped with above average radar-controlled flight systems that allow the aircraft to effectively fly at zero altitude at speeds of up to 25 MPs (750 kph). This enables the aircraft to avoid most long- and medium-range radar. In game terms, the NOE flight system gives a pilot a -2 modifier on any roll on the Aircraft Control Loss Table (see p.10) if the aircraft is at altitude level one.

COST = 7

• Reduced G-effect

Aircraft with this perk have been modified to reduce the strain of pulled Gs (acceleration) on its pilot and/or crew, either through specially designed cockpits, seats or flight suits. The pilot has a +1 bonus whenever he has to make a Fitness roll due to quick accelerations.

COST = 4

• Seaplane

Aircraft with this perk have pontoons or an amphibious hull that enables them to land on water as if it were clear ground. Unless they have dual-purpose floats (with a retractable landing gear), they can no longer land on firm ground. Craft that can reach supersonic speeds (Top speeds of 40 or more) cannot take this perk.

COST = 1 (SINGLE-PURPOSE), 3 (DUAL-PURPOSE)

• Stratospheric Flight

An aircraft with this Perk can climb past the usual ceiling of 12 km (altitude level 48 in Air War scale, 240 in Dogfighting scale), and into the stratosphere, up to a maximum ceiling of 50 km (Air War: 200, Dogfighting: 1000). It cannot be attacked by normal ground-based weapon systems at this altitude, but may be subject to space-based weapon arrays.

COST = 8

• Diving Wings

An aircraft with this Perk has distinctive wings that enhance its ability to pull out of a dive. Such planes have a +1 bonus on Piloting rolls to pull out of Dives, Stalls or uncontrolled falls.

COST = 2

• Refueling Equipment AUX

This Perk allows an aircraft to be refueled while flying. The refueling boom consists of enough equipment to refuel one aircraft at a time. A cargo bay is required to house the fuel, though it can be drawn from the tanker's reserve instead. Tanker and aircraft pilots must roll their Piloting skill vs. 4. If either fails, the aircraft takes on only 1d6 x 10% of the intended fuel load. Another attempt may be made every three minutes (6 rounds). A fumble means a collision occurred — the refueling equipment on both planes is out of service.

COST = 1 (INTAKE) OR 2 (PER REFUELING BOOM)

5.4 NEW FLAWS

Flaws are the opposite of perks and represent defects or shortcomings in the design of the vehicle. The following new flaws apply only to aircraft and cannot appear on any other kind of vehicle.

• Cannot Glide

The aircraft has a very high aspect ratio (wing length/span), and cannot gain lift without thrust. Should the engines fail (all MPs lost through Movement damage), or be cut off for any reason, the aircraft will automatically go into an uncontrollable fall.

COST = -4

• Maximum Ceiling R

An aircraft with this very common Flaw cannot climb past a certain altitude. The rating is subtracted, in kilometers, from a height of 12 km to give the aircraft's maximum operation ceiling. For example, an aircraft with a Maximum Ceiling rating of 4 cannot climb past (12 - 4 =) 8 kilometers (an altitude level of 32 in Air War scale, 120 in Dogfighting scale).

A majority of aircraft have this Flaw, to different degrees; rotary-wing craft, for example, rarely have ceilings higher than 4 km (rating 8). Aircraft that can go higher than 12 km must have the Stratospheric Flight Perk, and cannot take the Maximum Ceiling Flaw.

COST = RATING X -1.5

• Maximum Climbing Angle R

Aircraft with this Flaw must advance a certain number of hexes before they can climb one altitude level; the rating of the Perk gives the number of hexes. VTOL craft cannot take this Flaw.

COST = RATING X -3

• Requires Airstrip

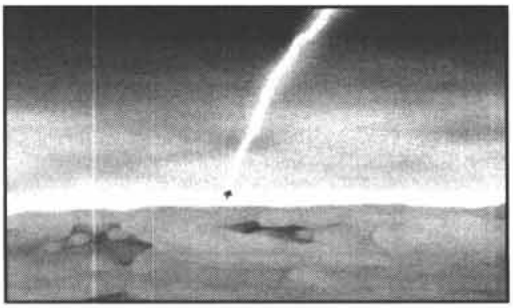
The Aircraft cannot land on rough or even smooth ground. An airstrip or straight portion of highway (in very good condition) is required for a safe landing. In any other case, the pilot must make a Piloting roll against a threshold of 4 (for an exceptionally smooth and hard surface, like a Clear hex) to 10 (rough terrain w/rocks and shrubs) to avoid crash landing.

COST = -5

• No Engine

This is not really a flaw *per se*: the plane has simply been designed without an engine and must be towed or catapulted to take off. Planes with this flaw usually have the Glider perk and cannot have a Stall Speed lower than 1. Movement hits are ignored, though Armor is lost as per usual.

COST = -2



AIRCRAFT DESIGN SHEET

1) OFFENSIVE SCORE

◆ Weapons with FF arc = Weapon Threat Rating x 0.6		
◆ Weapons with T arc = Weapon Threat Rating x 1.8		
Total Weapon Rating of All Weapons		
Ammo		
Offensive Multiplier		

TARGETING MULTIPLIER	
Fire Control Score	Multiplier
5	700
4	120
3	24
2	6
1	2
0	1
-1	0.5
-2	0.333
-3	0.25
-4	0.2
-5	0.167

Offensive Score = Targeting Multiplier* x Offensive Multiplier =	

2) DEFENCE SCORE

◆ (Armor Rating) squared		
◆ (fastest movement speed in kph - (Stall Speed x 3) ÷ 25) cubed		
◆ (sum of speeds of all other movement types in kph ÷ 6) squared		
Defense Multiplier		

MANEUVER MULTIPLIER	
Maneuver Score	Multiplier
10	5500000
9	550000
8	60000
7	7500
6	1000
5	180
4	36
3	9
2	3
1	1.5
0	1
-1	0.667
-2	0.5
-3	0.4
-4	0.333
-5	0.286
-6	0.25
-7	0.222
-8	0.2
-9	0.182
-10	0.167

Defensive Score = Maneuver Multiplier* x Defense Multiplier =	

3) MISCELLANEOUS SCORE

(Total Actions granted by Crew) cubed	
(Communication Range in km ÷ 10) cubed	
(Sensor Range in km ÷ 2) cubed	
(Deployment Range in km ÷ 50) squared	
(Sensor Score + Communications Score + Perk/Flaw Threat Point Total) squared	
Miscellaneous Score	

4) THREAT VALUE AND CHARACTERISTICS

Threat Value = (Off. Score + Def. Score + Misc. Score) ÷ 3	
Default Size = Cube Root (Final Threat Value)	

If the Default Size of the aircraft is calculated at less than one-fifth of the Armor Rating, raise the Default Size to one-fifth (round up) of the Armor Rating. The Default cannot be more than ten times the Armor Rating.

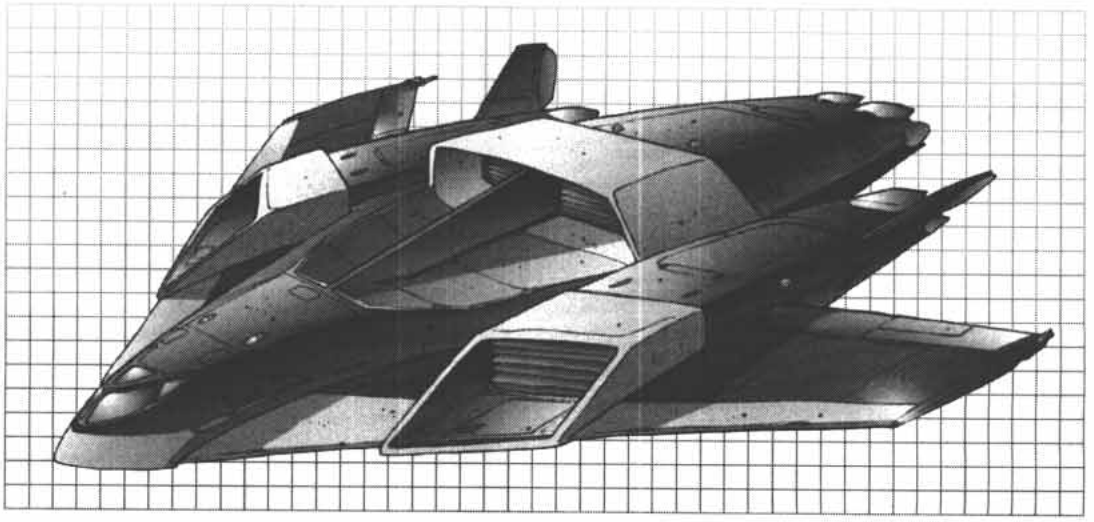
Default Cost = 1000 x (final Threat Value)	
Actual Size (choose) =	

The aircraft may be as large as twice the Default Size score or as small as one-fifth the Default Size score.
The Size can be no greater than twice the vehicle's Armor Rating.

Pre-Prod. Cost Def. Cost x (Def. Size ÷ Actual Size)	
Production Type:	
Model Dice	
Individual Dice:	
Final Cost Pre-Production Cost x Production Cost	

SKETCH

B-3 BUZZARD



• Overview

The *Buzzard* is the only heavy bomber currently in service with the forces of the CNCS. Because most of the targets requiring the use of such an imposing plane are heavily defended by ground-to-air missiles and laser turrets, the *Buzzard* rarely sees action.

The bomber has an extremely aerodynamic flying wing configuration and is powered by four turbofans. Two of the engines are mounted in the wings, while the remaining two are placed side by side on the "tail" of the plane. All exhaust ports are equipped with a cool air overflow generator, to reduce the IR signature, and thrust-vectoring plates for increased maneuverability.

The *Buzzard* carries its payload internally in one large ventral bomb bay. The most commonly used payload configuration consists of four racks of light M51 laser-guided freefall bombs and two smaller racks of the heavier M62 bombs. Although each bomb is not very powerful individually, the M51 has a good area effect; what's more, the sheer number of projectiles dropped in one run can devastate a large area.

• Service Record

As stated above, the armies of the CNCS share only a few hundred *Buzzards* between them. The bombers are only used as a last resort, and then only when much of the opposition has been eliminated. *Buzzard* missions usually use the "overwhelm" approach, where the bombers fly in dense assault waves to pound the targets into submission with saturation bombing.

• Specifications

Code name:	Buzzard	Production code:	B-3
Manufacturer:	Northern Aero Consortium	Use:	heavy bomber
Wing span:	33.6 meters	Length:	33 meters
Average armor thickness:	36 mm	Armor material:	ceramite RAM composite
Standard operational weight:	76,800 kg	Maximum flight speed:	900 kph
Powerplant:	4 x turbofans	Thrust:	4 x 13,400 kg

• Weapons

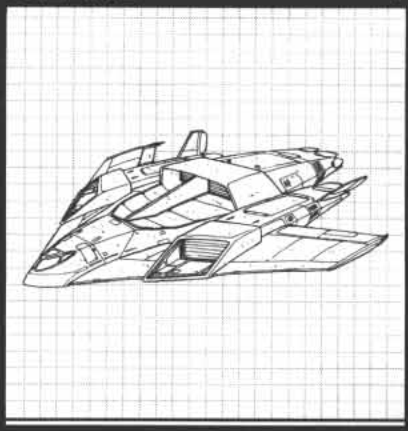
Name	Ammunition Payload	Name	Ammunition Payload
4 x M51 laser-guided bomb rack	10 bombs per rack	2 x M62 laser-guided bomb rack	3 bombs per rack

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Buzzard-FAE "Flyswatter" (replace Bombs with 3 x FAB, 2 bombs ea.)	342,241	*Buzzard*-C "Nitpicker" (replace MB with 2 x LB, 10 bombs ea.)	337,223
Buzzard-R "Snoop" (replace Bombs with +2 Sensor, Range 100 km)	378,043		

VEHICLE RECORD SHEET

BUZZARD



VEHICLE DESCRIPTION

VEHICLE TYPE:	Buzzard
THREAT VALUE:	337,386
▶ OFFENSIVE:	2113.3
▶ DEFENSIVE:	4410.6
▶ MISCELLANEOUS:	1,005,633.0
SIZE:	14
▶ ORIGINAL DEFAULT SIZE:	70
CREW:	3
▶ BONUS ACTION:	1
COST:	843,465,000 marks
▶ PRODUCTION TYPE:	Mass Production
▶ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	15
▶ TOP SPEED:	(900 kph) 30
▶ STALL SPEED	(120 kph) 4
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	13/(150 kph) 25
MANEUVER:	-3
DEPLOYMENT RANGE:	3250 km

ELECTRONICS

SENSORS:	0
▶ SENSOR RANGE:	20 km
COMMUNICATION:	0
▶ COMMUNICATION RANGE:	1000 km
FIRE CONTROL:	+1

ARMOR

LIGHT DAMAGE:	18
HEAVY DAMAGE:	36
OVERKILL:	54

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Ammo/Fuel Containment System	-	Subtract 2 from first Ammo/Fuel hit
Autopilot	-	Act as level 1 pilot
Chaff/Flare Dispenser	1	20 charges
ECM	1	Offensive electronic warfare equipment
Life Support	-	Limited
Stealth	3	Hard to detect
Target Designator	3	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	2	Subtract from Maneuver when on ground
Maximum Climbing Angle	2	Cannot climb steeply
Requires Airstrip	-	Must operate from hardened airstrip

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

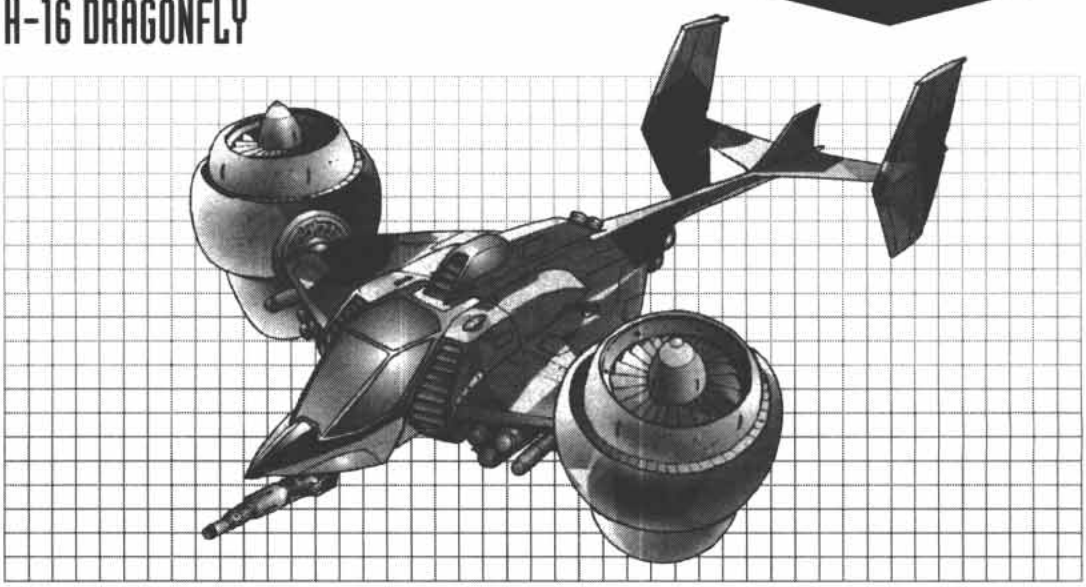
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
Light Bomb Rack	LB	F	0	0	0	0	-2	x10	4	10	ROF3, G, AE0
Med. Bomb Rack	MB	F	0	0	0	0	-2	x15	2	3	ROF2, G, AE0

DAMAGE

■■■■■■■■■■	10		60
■■■■■■■■	20		70
	30		80
	40		90
	50		100

H-16 DRAGONFLY



• Overview

One of the most innovative military vehicles, hoppers (vectored thrust aerodynes) are as agile as helicopters, but tend to be sturdier and can achieve higher speeds. Paxton, Terra Nova's current leader in hopper technology, has long made it a policy to sell to both camps. So far, however, the Northern leagues show more interest in hopper technology than their Southern counterparts, especially for border operations.

The H-16 *Dragonfly* is representative of the many craft fielded by the various Northern air forces. It is used extensively onboard the Northern states' landships patrolling the periphery, mainly for aerial protection, but also for counter-insurgency and anti-bandit operations. A retractable belly-mounted minigun turret makes it especially deadly against infantry.

A battle-tested, reliable model, the H-16 is both fast and maneuverable, characteristics that make it perfect for anti-Gear operations. Its advanced electronics and heavy weapon arsenal make it a dangerous foe, even if it is lightly armored.

• Service Record

While not as feared as the A-22 or other attack helicopters, the Dragonfly remains a powerful and versatile craft that has won high praise over the years. There are about 600 H-16s in service with the Northern Guard and other individual Northern armies. An estimated 50 of them have also been sold to various Southern forces. Naturally, Paxton fields a few Dragonflies in its own Air Service.

• Specifications

Code name:	Dragonfly	Production code:	H-16
Manufacturer:	Paxton	Use:	attack hopper
Wing span:	13.1 meters	Length:	12.6 meters
Average armor thickness:	20 mm	Armor material:	armoplast w/composite
Standard operational weight:	8500 kg	Maximum flight speed:	420 kph
Powerplant:	2 x Paxton VG-4 Self-enclosed Turbofans	Thrust:	2 x 4,900 kg

• Weapons

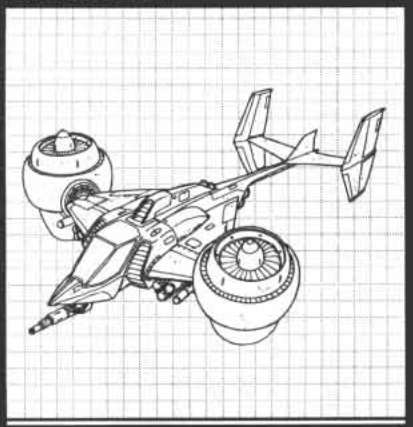
Name	Ammunition Payload	Name	Ammunition Payload
M230-F Autocannon	160 shells	KJ-16 Minigun	1600 shells
AT-6 "Damocles" missile rack x 2	3 missiles each rack	AA-12 "Silk" missile rack x 2	1 missile each rack

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Gear Hunter (replace AAM & ATM by 2 racks of 4 AGM)	4664	Electronic Support (replace ATM by ECM 4 & ECCM 2)	5663

VEHICLE RECORD SHEET

DRAGONFLY



VEHICLE DESCRIPTION

VEHICLE TYPE:	Dragonfly
THREAT VALUE:	6885
◆ OFFENSIVE:	8713.5
◆ DEFENSIVE:	7262.4
◆ MISCELLANEOUS:	4679.0
SIZE:	7
◆ ORIGINAL DEFAULT SIZE:	19
CREW:	2
◆ BONUS ACTION:	1
COST:	9,343,929 marks
◆ PRODUCTION TYPE:	Mass Production
◆ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
◆ COMBAT SPEED:	7
◆ TOP SPEED:	(420 kph) 14
◆ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
◆ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	+1
DEPLOYMENT RANGE:	500 km

ELECTRONICS

SENSORS:	+1
◆ SENSOR RANGE:	20 km
COMMUNICATION:	+1
◆ COMMUNICATION RANGE:	150 km
FIRE CONTROL:	0

ARMOR

LIGHT DAMAGE:	10
HEAVY DAMAGE:	20
OVERKILL:	30

CREW

PILOT [LVL/ATTR]:	
GUNNERY [LVL/ATTR]:	

PERKS

NAME	RATING	GAME EFFECT
Autopilot	-	Act as level 1 pilot
Backup Communications System	-	Absorbs first "Communication" hit
Chaff/Flare Dispenser	1	20 charges
Ejection System	-	Ejection seats for both crewmen
Hostile Environment Protection	-	Desert
Target Designator	4	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	No wing surface
Large Sensor Profile	1	Easier to detect
Maximum Ceiling	4	8,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

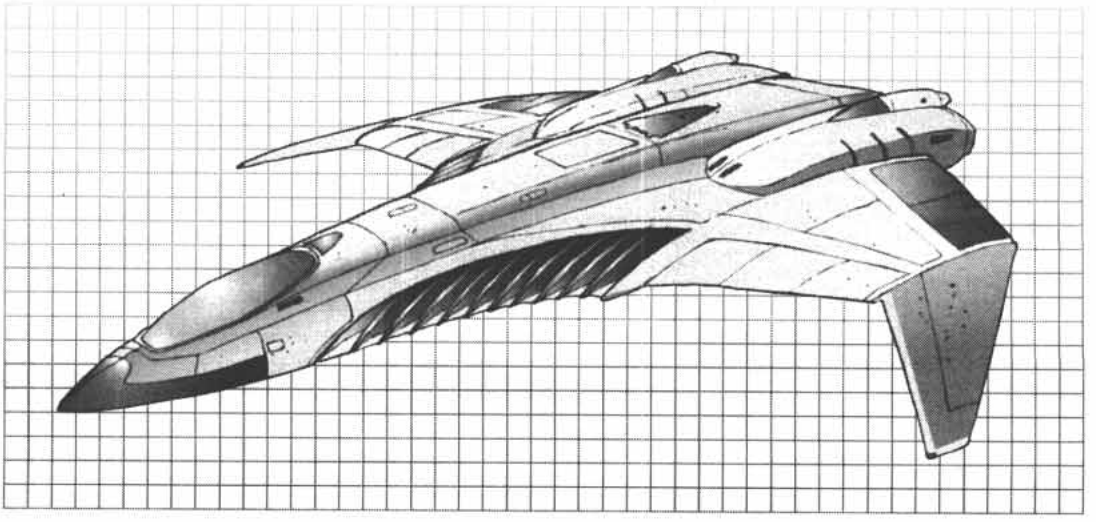
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
M230-F Autocannon	MAC	F	3	6	12	24	0	x10	1	160	ROF1
KJ-16 Minigun	LMG	T	1	2	3	4	0	x3	1	1600	ROF4, AI
AT-6 "Damocles"	ATM	F	3	6	12	24	+1	x25	2	3/3	G
AA-12 "Silk"	AAM	F	8	16	32	64	+2	x10	2	1/1	G, MR10

DAMAGE

■■■■■■■■■■	10		60
	20		70
	30		80
	40		90
	50		100

P-119 EAGLE



• Overview

A fast and agile plane, the P-119 has been adopted by the Northern Guard as its main Air Superiority aircraft, used mostly to defend larger aircraft or combat enemy fighters. It can also be used for ground attack missions where all of the Anti-Aircraft missiles are replaced by Anti-Gear, Anti-Tank or Heavy Anti-Tank missiles.

Highly maneuverable, the P-119 is known as a dangerous plane for beginners. Though Eagle is its official "nickname" (given by the Northern Guard's high command), pilots and air crew have dubbed it the "Widowmaker," the "Russian Roulette," the "Flying Coffin" or the "Final Frontier." Officials insist that the plane is at least as safe as the P-117 or the HF-12, two other fighter planes previously used by the Northern Guard, and that human error (i.e. the pilots' cocky overconfidence) has been responsible for the dozen or so accidents since its introduction.

• Service Record

There are approximately 180 P-119s currently in service. Following the more recent trends in aerial warfare, the Guard has decided not to buy any more of these aircraft and to concentrate its efforts on more efficient stealth fighters and anti-Gear VTOLs. The existing Eagles are stationed mostly on border airfields, flying mostly recon and interdiction missions.

• Specifications

Code name:	Eagle	Production code:	P-119
Manufacturer:	Northco	Use:	air superiority fighter
Wingspan:	14.4 meters	Length:	15 meters
Average armor thickness:	45 mm	Armor material:	durasheet w/composite
Standard operational weight:	17,000 kg	Maximum flight speed:	2100 kph
Powerplant:	2 x Northco Dynamics CS-120 turbojet	Thrust:	2 x 6600 kg

• Weapons

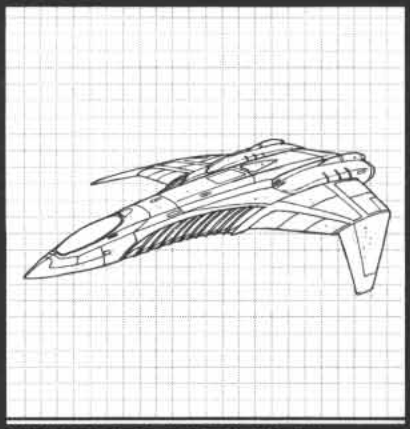
Name	Ammunition Payload	Name	Ammunition Payload
M222-F Autocannon	2560 belted shells	AA-12 "Silk" missile rack x 2	3 missiles each rack

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Ground Attack (replace AAM with 2 racks of 3 AGM)	64,109	Light Bomber (replace AAM with 2 racks of 3 LB)	63,220
Wild Weasel (replace AAM with 1 rack of 3 AGM, +2 Sensors)	63,597		

VEHICLE RECORD SHEET

EAGLE



VEHICLE DESCRIPTION

VEHICLE TYPE:	Eagle
THREAT VALUE:	46956
▶ OFFENSIVE:	9926.8
▶ DEFENSIVE:	113485.4
▶ MISCELLANEOUS:	17455.6
SIZE:	9
▶ ORIGINAL DEFAULT SIZE:	36
CREW:	1
▶ BONUS ACTION:	0
COST:	93,912,000Marks
▶ PRODUCTION TYPE:	Mass Production
▶ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	35
▶ TOP SPEED:	(2100 kph) 70
▶ STALL SPEED	(300 kph) 10
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	26/(310 kph) 52
MANEUVER:	0
DEPLOYMENT RANGE:	2000 km

ELECTRONICS

SENSORS:	+1
▶ SENSOR RANGE:	30 km
COMMUNICATION:	+1
▶ COMMUNICATION RANGE:	225 km
FIRE CONTROL:	+1

ARMOR

LIGHT DAMAGE:	15
HEAVY DAMAGE:	30
OVERKILL:	45

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Ammo/Fuel Containment System	-	Subtract 2 from first Ammo/Fuel hit
Autopilot	-	Act as level 1 pilot
Backup Communications System	-	Absorb first "Communication" hit
Chaff/Flare Dispenser	2	20 charges
Ejection System	-	Pilot's ejection seat
Life Support	-	Limited
Stealth	2	Hard to detect
Target Designator	7	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	3	Subtract from Maneuver when on ground
Requires Airstrip	-	Must operate from hardened airstrip

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

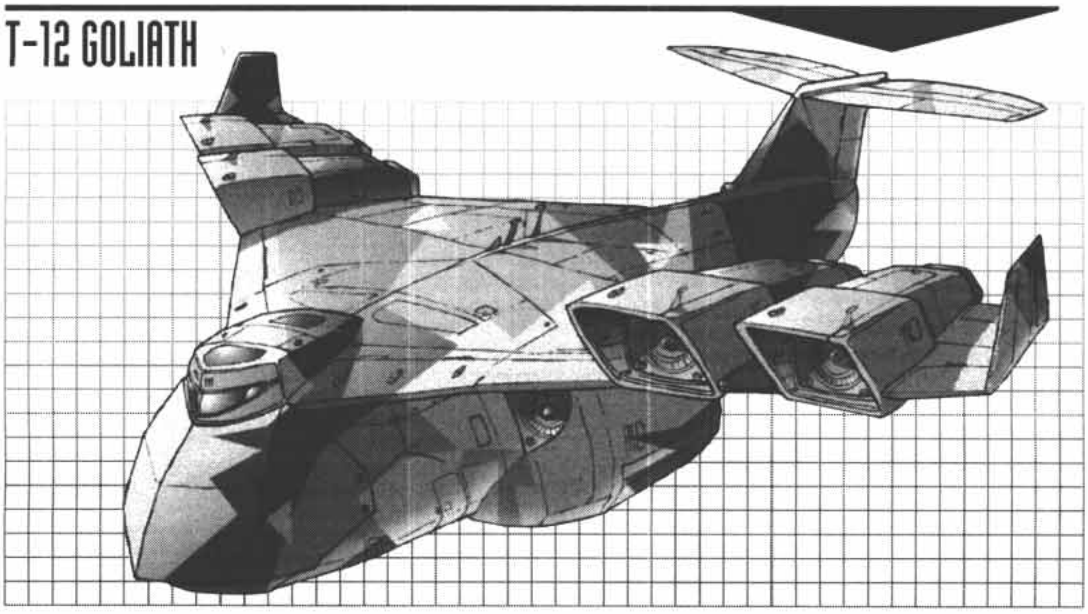
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
M222-F Autocannon	LAC	FF	2	4	8	6	0	x8	1	2560	ROF2
AA-12 "Silk" Missile	AAM	F	8	16	32	64	+2	x10	2	3/3	G, MR10

DAMAGE

10 20 30 40 50 60 70 80 90 100

T-12 GOLIATH



• Overview

The ubiquitous T-12 *Goliath* is the most commonly used aerial troop transport north of the Badlands. A sturdy, rather simple machine, it is often the textbook case for military mechanics-in-training in the North. It is relatively easy for someone with a little money to spare to buy an old, run-down *Goliath* and restore it with a couple of hired aeronautical engineers and mechanics. *Goliaths* are perfect for smuggling.

While designed to transport infantry, the *Goliath* can easily carry cargo or small vehicles (mostly jeeps and small- to mid-sized Gears) if the passenger seats are removed. There are many variants of the basic troop-transport model, including tanker, command & control, gunship, ground attack and electronic warfare, all with added equipment and/or weaponry. These aircraft often have different designations and nicknames, but under all the specialized hardware they are the same good ol' birds.

• Service Record

First used during the War against Earth, the *Goliath* proved to be a reliable aircraft, ferrying infantry and supplies over large distances. Since then, the Northern Guard and the armies of the independent northern city-states have increased their respective fleets. There are an estimated 800 *Goliath* presently in service in the Northern Hemisphere.

• Specifications

Code name:	Goliath	Production code:	T-12
Manufacturer:	Northco	Use:	troop transport aircraft
Wing span:	53.8 meters	Length:	48 meters
Average armor thickness:	97 mm	Armor material:	durasheet walloy and ceramic
Standard operational weight:	80,000 kg	Maximum flight speed:	1020 kph
Powerplant:	4 x turbofans	Thrust:	4 x 8800 kg

• Weapons

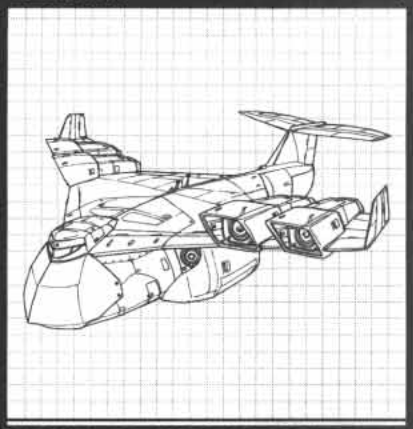
Name	Ammunition Payload	Name	Ammunition Payload
None as standard	-		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Tanker (replace Passengers with 200³ m fuel tank & Refueling Equipment)	15678	Gunship (replace Passengers with 3 HAAC, LS, 3000 shots each)	17838
Command & control (rep. 50 Passengers with Comm +3/300 km, Sat. Uplink)	16064	Electronic Ship (replace Passengers with ECM 5, ECCM 5, Sensor +2/30 km)	16945

VEHICLE RECORD SHEET

GOLIATH



VEHICLE DESCRIPTION

VEHICLE TYPE:	Goliath
THREAT VALUE:	15797
▸ OFFENSIVE:	0
▸ DEFENSIVE:	3442.9
▸ MISCELLANEOUS:	43948.0
SIZE:	14
▸ ORIGINAL DEFAULT SIZE:	25
CREW:	4
▸ BONUS ACTION:	2
COST:	14,104,464 marks
▸ PRODUCTION TYPE:	Mass Production
▸ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▸ COMBAT SPEED:	17
▸ TOP SPEED:	(1020 kph) 34
▸ STALL SPEED	(180 kph) 6
SECONDARY MOVEMENT MODE:	Ground
▸ COMBAT SPEED/TOP SPEED:	16/ (194 kph) 32
MANEUVER:	-3
DEPLOYMENT RANGE:	6000 km

ELECTRONICS

SENSORS:	0
▸ SENSOR RANGE:	20 km
COMMUNICATION:	+1
▸ COMMUNICATION RANGE:	300 km
FIRE CONTROL:	0

ARMOR

LIGHT DAMAGE:	22
HEAVY DAMAGE:	44
OVERKILL:	66

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Autopilot	-	Act as level 1 pilot
Backup Communications System	-	Absorbs first "Communication" hit
Cargo Bay	-	25 m³
Chaff/Flare Dispenser	1	20 charges
Crew Accommodations	4	Military grade bunks
Easy to Modify	-	+2 to Repair and Modify rolls
Hostile Environment Protection	-	Desert
Life Support	-	Limited
Passenger Seating	-	100 passengers in cabin

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	1	Subtract from Maneuver on ground
Exposed Movement System	-	Large turbofans
Large Sensor Profile	2	Easier to detect
Maximum Climbing Angle	1	Cannot climb steeply

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

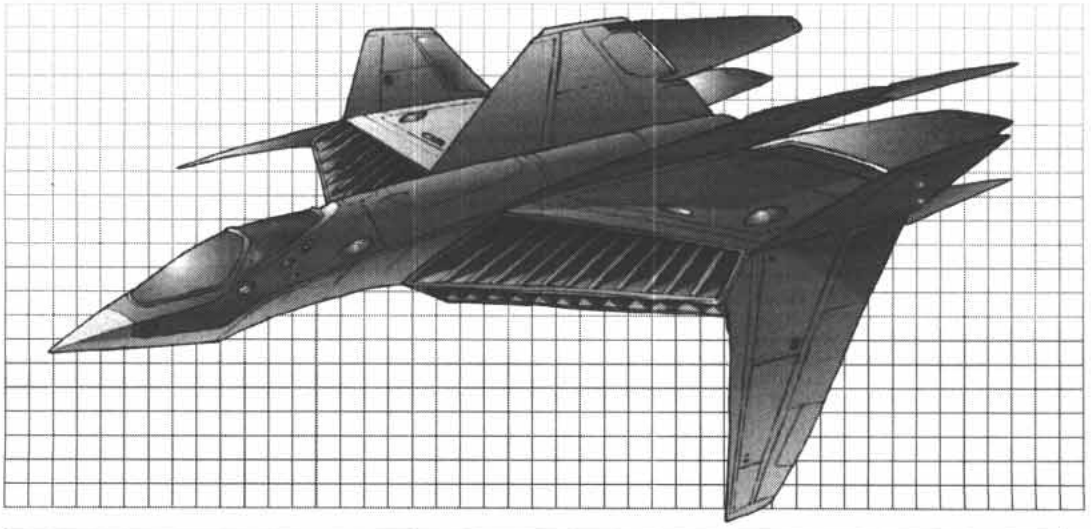
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
None as standard	-	-	-	-	-	-	-	-	-	-	-

DAMAGE

■■■■■■■■■■	10		60
■■■■■■■■■■	20		70
■■	30		80
	40		90
	50		100

G-7 REDJACKET



• Overview

The *Redjacket* is built by the same industrial conglomerate that built the *Eagle*, the famous air superiority fighter of the Norlight air force. It is the North's most common ground-attack airplane, though it can hold its own in dogfights.

The *Redjacket* is crewed by one pilot and one system operator, both sitting in the narrow cockpit located in the nose of the plane. Most system operators are of small stature, as the rear station is extremely crowded. The two main physical characteristics of the plane are the large air intakes and the enlarged control surfaces. The latter give the plane increased maneuverability for its size, though they are damage-prone. They also gave the aircraft its name, as they remind many people of the wings of a redjacket.

The *Redjacket*'s armament is carried within three bomb bays located underneath the fuselage and the engine pods. The bays under the engine pods are more shallow than the one under the fuselage as the engines take up much of the available space. For this reason, only smaller projectiles, like Anti-Gear Missiles, can be carried there.

• Service Record

The *Redjacket* presently serves in ground attack squadrons of the Northern Guard's air force and, to a lesser degree, in the armies of the three Northern leagues. Most are stationed with border regiments as a deterrent against a possible ground attack.

• Specifications

Code name:	Redjacket	Production code:	G-7
Manufacturer:	Northco	Use:	fighter-bomber
Wing span:	15.8 meters	Length:	16 meters
Average armor thickness:	15 mm	Armor material:	ceramite composite
Standard operational weight:	18,900 kg	Maximum flight speed:	1170 kph
Powerplant:	4 x jet engines	Thrust:	4 x 2700 kg

• Weapons

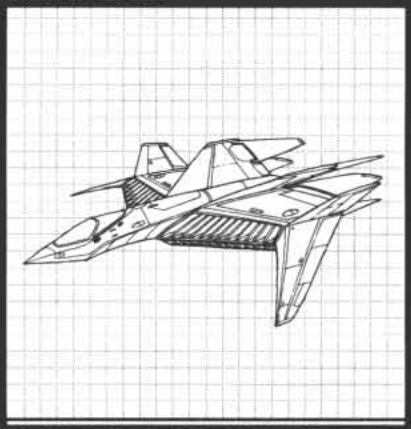
Name	Ammunition Payload	Name	Ammunition Payload
J-7620 Light Autocannon	60 short bursts	Dak-III Anti-Aircraft Missiles	2 missiles
Battleax AT-38 Anti-Tank Missiles	2 missiles	GM-65 Anti-Gear Missiles	8 missiles

• Options

Name	Modified Threat Value	Name	Modified Threat Value
G-7D (Anti-Missile 2, 50 shots)	5443	Ground Attack (add Reinforced Crew Compartment)	5212

VEHICLE RECORD SHEET

REDJACKET



VEHICLE DESCRIPTION

VEHICLE TYPE:	Redjacket
THREAT VALUE:	5148
◆ OFFENSIVE:	5118.6
◆ DEFENSIVE:	4226.4
◆ MISCELLANEOUS:	6100.0
SIZE:	9
◆ ORIGINAL DEFAULT SIZE:	17
CREW:	2
◆ BONUS ACTION:	1
COST:	4,862,000 marks
◆ PRODUCTION TYPE:	Mass Production
◆ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
◆ COMBAT SPEED:	20
◆ TOP SPEED:	(1170 kph) 39
◆ STALL SPEED	(240 kph) 8
SECONDARY MOVEMENT MODE:	Ground
◆ COMBAT SPEED/TOP SPEED:	25/(300 kph) 50
MANEUVER:	-2
DEPLOYMENT RANGE:	1800 km

ELECTRONICS

SENSORS:	0
◆ SENSOR RANGE:	12 km
COMMUNICATION:	0
◆ COMMUNICATION RANGE:	160 km
FIRE CONTROL:	0

ARMOR

LIGHT DAMAGE:	11
HEAVY DAMAGE:	22
OVERKILL:	33

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Ammo/Fuel Containment System	-	Subtract 2 from first Ammo/Fuel hit
Autopilot	-	Act as level 1 pilot
Chaff/Flare Dispenser	1	20 charges
Ejection System	-	Ejection seats for both crewmen
ECM	1	Offensive electronic warfare equipment
Life Support	-	Limited
Target Designator	6	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	2	Subtract from Maneuver when on ground
Requires Airstrip	-	Must operate from hardened airstrip

DEFECTS

NAME	RATING	GAME EFFECT
Annoyance	-	System Operator cramped: max. Build is 0

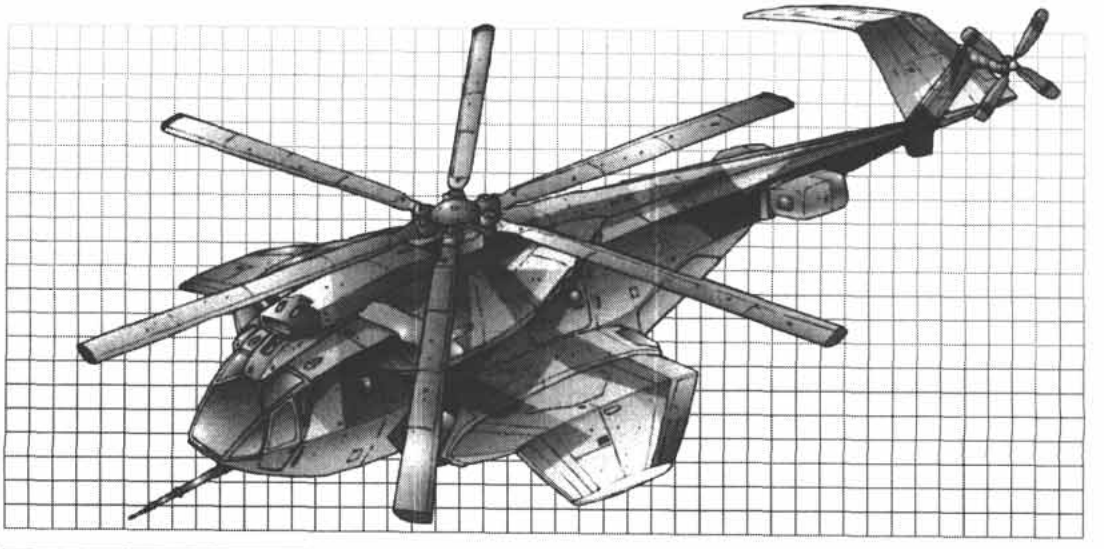
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
Light Autocannon	LAC	F	2	4	8	16	0	x8	1	60	ROF2
Anti-Air Missiles	AAM	F	8	16	32	64	+1	x10	1	2	G,MR10
Anti-Tank Missiles	ATM	F	3	6	12	24	+1	x25	1	2	G
Anti-Gear Missiles	AGM	F	3	6	12	24	+1	x15	1	8	G

DAMAGE

10 20 30 40 50 60 70 80 90 100

VT-56 ROCK BEETLE



• Overview

The *Rock Beetle* is a sturdy transport helicopter manufactured by Skycorp Ltd., a well-known United Mercantile Federation helicopter manufacturer. Since the formation of the Confederated Northern City-States, the *Rock Beetle* has found its way into most northern armed forces, especially the Northern Guard, where it is used by most service battalions.

The *Rock Beetle* is powered by two gas turbines mounted above the fuselage on either side of the base of the rotor assembly. The helicopter's engines are geared for torque, not speed, which allows the *Rock Beetle* to carry an incredible amount of material. The rear cargo ramp is equipped with retractable roller pads to allow the easy loading of cargo pallets. The wheeled landing gear can be semi-retracted to allow easier access.

Many *Rock Beetles* have recently been upgraded to the so-called "Super Beetle" configuration. The airframe is extended by almost *one full meter*, adding another 7 cubic meters to the main cargo bay. Given the present rate of conversion at Skycorp's main plant, it is unlikely that the standard *Rock Beetle* will disappear from service any time soon.

• Service Record

The *Rock Beetle* served with distinction during the War of the Alliance, ferrying troops to and from the front lines. Several were modified into makeshift "battle taxis," carrying infantry and light Gear units to the edge of the battlefield. For these missions, the normally unarmed *Beetle* had two light machineguns mounted in the side access doors for clearing landing zones.

• Specifications

Code name:	Rock Beetle	*Production code:*	VT-56
Manufacturer:	Skycorp Ltd.	Use:	heavy transport helicopter
Wing span:	15.7 meters	Length:	24 meters
Average armor thickness:	20 mm	Armor material:	aluminum/ceramite
Standard operational weight:	21,000 kg	Maximum flight speed:	210 kph
Powerplant:	2 x gas turbines	Horsepower:	2 x 4,500 hp

• Weapons

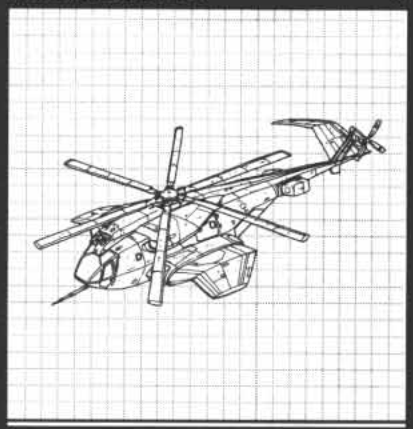
Name	Ammunition Payload	Name	Ammunition Payload
None as standard	-		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Troop Transport (replace Cargo Bay w. 30 passengers)	703	War (add two LMGs, one each side, 200 shots each)	648

VEHICLE RECORD SHEET

ROCK BEETLE



VEHICLE DESCRIPTION

VEHICLE TYPE:	Rock Beetle
THREAT VALUE:	634
▸ OFFENSIVE:	0.0
▸ DEFENSIVE:	294.7
▸ MISCELLANEOUS:	1608.0
SIZE:	9
▸ ORIGINAL DEFAULT SIZE:	9
CREW:	2
▸ BONUS ACTION:	1
COST:	317,000 marks
▸ PRODUCTION TYPE:	Mass Production
▸ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▸ COMBAT SPEED:	4
▸ TOP SPEED:	(210 kph) 7
▸ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
▸ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	-3
DEPLOYMENT RANGE:	1650 km

ELECTRONICS

SENSORS:	-1
▸ SENSOR RANGE:	8 km
COMMUNICATION:	0
▸ COMMUNICATION RANGE:	60 km
FIRE CONTROL:	-2

ARMOR

LIGHT DAMAGE:	12
HEAVY DAMAGE:	24
OVERKILL:	36

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Airlift Winch	6	Can lift up to 7300 kg
Autopilot	-	Act as level 1 pilot
Cargo Bay	-	75 m³ (2.5 x 10 x 3 m)
Double Towing Capacity	-	Can lift up to its own weight
Hostile Environment Protection	-	Desert

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	Not enough wing surface
Large Sensor Profile	2	Easy to detect
Maximum Ceiling	6	6,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

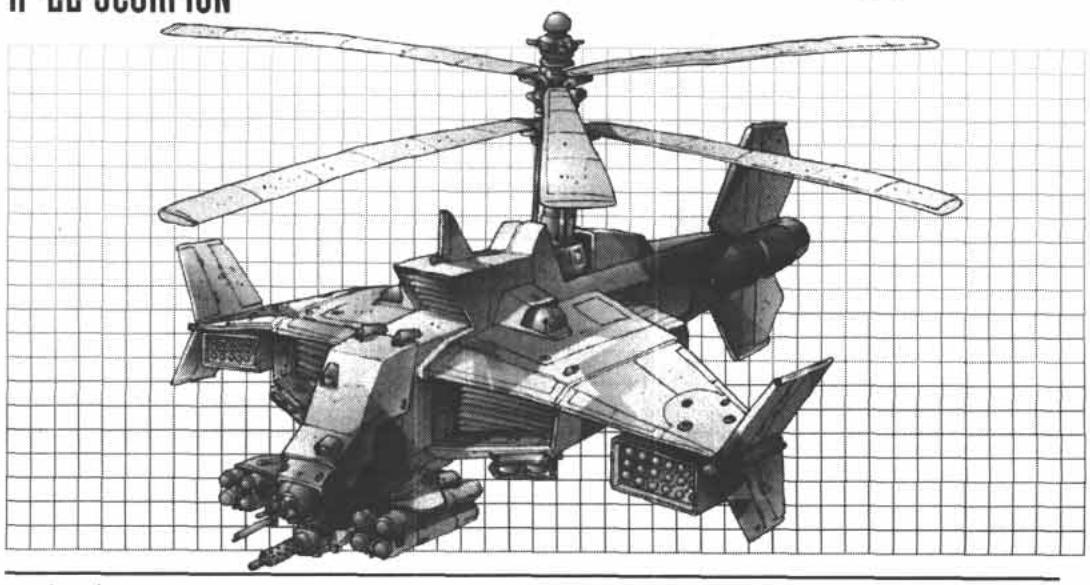
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
None as standard	-	-	-	-	-	-	-	-	-	-	-

DAMAGE

■■■■■■■■■■	10		60
■■	20		70
	30		80
	40		90
	50		100

A-22 SCORPION



• Overview

The Northco-Applefish A-22 *Scorpion* is probably the North's number one attack helicopter, often referred to in the South as the "Gear's Nightmare." Pilot folklore says that Heavy Gears that survive fights with an A-22 will start to tremble and shake when they hear recordings of the helicopter's characteristic low-key "whup-whup-whup." The kill ratio of A-22s versus Gears is often as high as 25 to 1. Its only drawbacks seem to be the high cost of fuel and the time-consuming maintenance involved with such an advanced and complex aircraft.

Armed with deadly anti-tank missiles and rocket pods, the A-22 can also be fitted with a wide assortment of anti-vehicular and anti-infantry weapons (anti-aircraft missiles, incendiary rockets, airburst missiles, etc.). Some versions also have enhanced ECM capabilities, as well as ECCM pods, but these are rather uncommon.

• Service Record

Many of the existing A-22s are fielded by the Northern Guard, almost all of them in the Air Wings of the Border divisions. At least 250 A-22 *Scorpions* are stationed on the Badlands border. Another 200 or so are scattered through the different city-states' defense forces as air support for armored regiments, or in their own cavalry units.

• Specifications

Code name:	Scorpion	Production code:	A-22
Manufacturer:	Northco-Applefish	Use:	helicopter gunship
Wing span:	13 meters	Length:	12.5 meters
Average armor thickness:	24 mm	Armor material:	durasheet w/alloy
Standard operational weight:	10,000 kg	Maximum flight speed:	390 kph
Powerplant:	2 x Fulton Mechanics 230S turboshafts	Horsepower:	2 x 2500 Hp

• Weapons

Name	Ammunition Payload	Name	Ammunition Payload
M230-F Autocannon	320 shells	AT-6 "Damocles" missile rack	2 racks of 4 missiles
GH-8A Rocket Pod	2 pods of 18 rockets		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
EW Pod (replace MRPs with ECM 3 & ECCM 3)	9141	Rocket Boat (replace ATMs with LRP/32)	6932
Gunship (2 x ATM/2, 2 x MRP/18, 600 MAC shots)	9616		

VEHICLE RECORD SHEET

SCORPION

VEHICLE DESCRIPTION

VEHICLE TYPE:	Scorpion
THREAT VALUE:	9625
▶ OFFENSIVE:	11074.1
▶ DEFENSIVE:	5876.1
▶ MISCELLANEOUS:	11924.0
SIZE:	7
▶ ORIGINAL DEFAULT SIZE:	21
CREW:	2
▶ BONUS ACTION:	1
COST:	14,437,500 marks
▶ PRODUCTION TYPE:	Mass Production
▶ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	7
▶ TOP SPEED:	(390 kph) 13
▶ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	+1
DEPLOYMENT RANGE:	500 km

ELECTRONICS

SENSORS:	+1
▶ SENSOR RANGE:	30 km
COMMUNICATION:	+1
▶ COMMUNICATION RANGE:	200 km
FIRE CONTROL:	+1

ARMOR

LIGHT DAMAGE:	11
HEAVY DAMAGE:	22
OVERKILL:	33

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Autopilot	-	Act as level 1 pilot
Backup Communications System	-	Absorbs first "Communication" hit
Chaff/Flare Dispenser	1	20 charges
ECM	1	Offensive electronic warfare equipment
Hostile Environment Protection	-	Desert
NOE Flyer	-	Advanced avionics
Searchlight	6	Forward arc, 300 m range
Target Designator	4	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	Not enough wing surface
Exposed Movement System	-	Large rotor
Maximum Ceiling	6	6,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

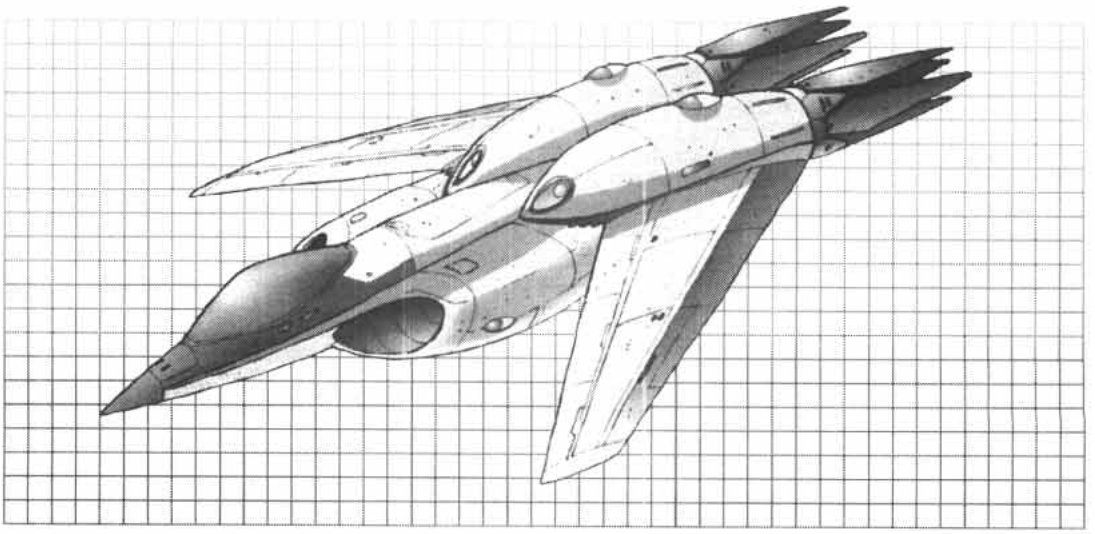
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
M230-F Autocannon	MAC	F	3	6	12	24	0	x10	1	320	ROF1
AT-6 "Damocles"	ATM	F	3	6	12	24	+1	x25	2	4/4	G
GH-8A Rocket Pod	MRP/18	F	2	4	8	16	-1	x18	2	18/18	ROF3, IF

DAMAGE

■■■■■■■■■■	10		60
■	20		70
	30		80
	40		90
	50		100

L-45 ASPIC



• Overview

Although the concept of air superiority is tenuous at best on Terra Nova, most of the important armies of the planet possess at least one design of air superiority aircraft — just in case. The *Aspic* is the fighter jet most often seen in the sky over the Southern Republic.

The *Aspic*'s forward swept-wing design and large thrust-vectoring panels make it an incredibly agile warplane, capable of eluding even heat-seeking missiles in the hands of a capable pilot. The thrust-vectoring plates can also double as high-efficiency air brakes. To support the strain of high speed maneuvering, the entire airframe is made of bonded resin and layers of composite material.

The *Aspic* features a small ventral weapons bay, which is most often used to carry various types of air-to-air missiles. Other ordinance can be carried, but the fire control computer has been optimized for aircraft interception and does not fare well when used to guide autocannons or direct bombing runs.

• Service Record

The *Aspic* is currently the most common fighter in the forces of the AST. Simplified versions of the plane are sold to Republican client states, although the price tends to vary according to the political weight of the buyer. A few *Aspics* have found their way into MILICIA hands, although they suffer from excessive downtime because of the low priority given to the MILICIA's demands for replacement parts.

• Specifications

Code name:	Aspic	Production code:	L-45
Manufacturer:	Republic Aircraft Co.	Use:	air superiority fighter
Wing span:	10.1 meters	Length:	14 meters
Average skin thickness:	8 mm	Skin material:	bonded resin and composite
Standard operational weight:	8900 kg	Maximum flight speed:	1980 kph
Powerplant:	2 x jet engines	Thrust:	2 x 4200 kg

• Weapons

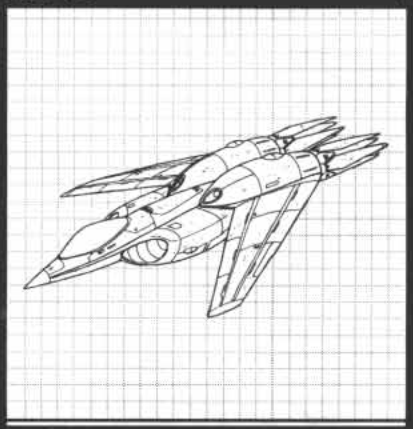
Name	Ammunition Payload	Name	Ammunition Payload
Turcan-III Air-to-air Missiles	2 missiles in ventral bay		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Aspic Recon (no weapon, +2 Sensor)	68664	Aspic Trainer (2 crew)	69344
Aspic Long Range (+200 km deployment range)	69390		

VEHICLE RECORD SHEET

ASPIC



VEHICLE DESCRIPTION

VEHICLE TYPE:	Aspic
THREAT VALUE:	69326
▶ OFFENSIVE:	2082.6
▶ DEFENSIVE:	195880.8
▶ MISCELLANEOUS:	10014.0
SIZE:	7
▶ ORIGINAL DEFAULT SIZE:	41
CREW:	1
▶ BONUS ACTION:	0
COST:	812,104,571 dinars
▶ PRODUCTION TYPE:	Limited Mass Production
▶ INDV. LEMON DICE:	2

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	33
▶ TOP SPEED:	(1980 kph) 66
▶ STALL SPEED	(240 kph) 8
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	25/(300 kph) 50
MANEUVER:	+1
DEPLOYMENT RANGE:	1100 km

ELECTRONICS

SENSORS:	0
▶ SENSOR RANGE:	20 km
COMMUNICATION:	0
▶ COMMUNICATION RANGE:	200 km
FIRE CONTROL:	0

ARMOR

LIGHT DAMAGE:	8
HEAVY DAMAGE:	16
OVERKILL:	24

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Autopilot	-	Act as level 1 pilot
Chaff/Flare Dispenser	2	10 charges
Ejection System	-	Pilot's ejection seat
Life Support	-	Limited
Stealth	1	Hard to detect
Target Designator	6	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	2	Subtract from Maneuver when on ground
Requires Airstrip	-	Must operate from hardened airstrip

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

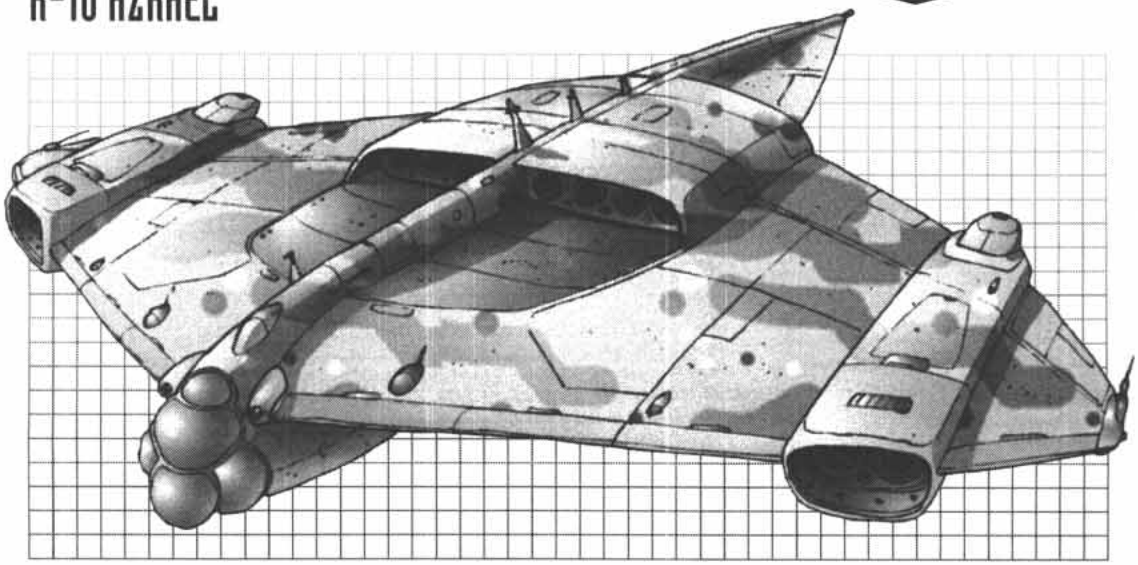
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
Anti-Air Missiles	AAM	F	8	16	32	64	+1	x10	1	2	G, MR10

DAMAGE

10 20 30 40 50 60 70 80 90 100

R-10 AZRAEL



• Overview

The *Azrael* is a Terranovan rarity: a plane designed solely for the purpose of dropping bombs on a target. Given the level of sophistication of current anti-aircraft weaponry, this ungainly and poorly maneuverable craft seems like a relic from past ages. The *Azrael* is only used when AA defense systems are either nonexistent or have been neutralized by ground forces. It then moves in, using its bomb load to beat the target into submission, usually with saturation bombing.

Most of the plane's offensive systems are carried within five separate weapon bays located underneath the plane's body. Typically, each bay holds a different type of bomb or missile, although the internal hardpoints are very flexible and can handle more than one type of weapon within a single bay. A small retractable turret near the nose of the plane holds a laser designator to guide the bombs (or any other guided weapons) to the target. A single 10 mm minigun mounted in the tail assembly guards the plane's rear arc, although its actual combat usefulness is doubtful at best.

• Service Record

The armed forces of the Southern Republic currently have the most *Azraels* in service: about 35 posted to bases on the border. Forty-five other *Azraels* are divided between the armies of the other leagues, and a mere 12 over-worked planes serve with the MILICIA.

• Specifications

Code name:	Azrael	Production code:	R-10
Manufacturer:	Gruchov-Taillefer	Use:	heavy bomber
Wing span:	39.5 meters	Length:	26 meters
Average armor thickness:	115 mm	Armor material:	durasheet w/alloy
Standard operational weight:	78,000 kg	Maximum flight speed:	1080 kph
Powerplant:	12 x turbofans	Thrust:	12 x 2500 kg

• Weapons

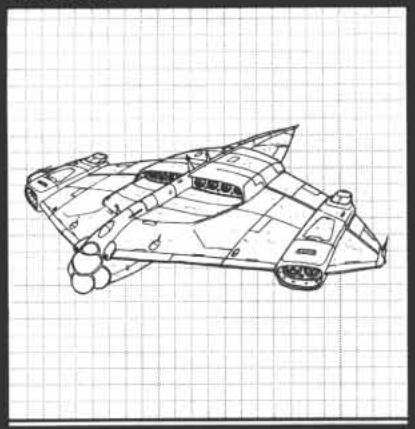
Name	Ammunition Payload	Name	Ammunition Payload
VG-120 Machinegun	1600 shells	Heavy Bomb Rack	2 racks of 16 bombs each
Medium Bomb Rack	2 racks of 32 bombs each	Fuel-Air Explosive Bomb Rack	2 bombs

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Devastator (remove all Bomb Racks, add 2 racks of 3 FAE)	18730	Hammer (remove all Bomb Racks, add 5 racks of 16 LB)	11169

VEHICLE RECORD SHEET

AZRAEL



VEHICLE DESCRIPTION

VEHICLE TYPE:	Azrael
THREAT VALUE:	12606
▶ OFFENSIVE:	5168.8
▶ DEFENSIVE:	1911.3
▶ MISCELLANEOUS:	30738.4
SIZE:	14
▶ ORIGINAL DEFAULT SIZE:	23
CREW:	4
▶ BONUS ACTION:	2
COST:	10,354,929 dinars
▶ PRODUCTION TYPE:	Mass Production
▶ INDY. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	18
▶ TOP SPEED:	(1080 kph) 36
▶ STALL SPEED	(240 kph) 8
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	24/(280 kph) 47
MANEUVER:	-4
DEPLOYMENT RANGE:	4000 km

ELECTRONICS

SENSORS:	+1
▶ SENSOR RANGE:	40 km
COMMUNICATION:	+1
▶ COMMUNICATION RANGE:	250 km
FIRE CONTROL:	0

ARMOR

LIGHT DAMAGE:	24
HEAVY DAMAGE:	48
OVERKILL:	72

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Ammo/Fuel Containment System	-	Subtract 2 from first Ammo/Fuel hit
Autopilot	-	Act as level 1 pilot
Backup Communications System	-	Absorb first "Communication" hit
Cargo Bay	-	10m³
Chaff/Flare Dispenser	1	20 charges
ECM	1	Offensive electronic warfare equipment
Life Support	-	Limited
Stealth	2	Hard to detect
Target Designator	4	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	1	Subtract from Maneuver when on ground
Maximum Climbing Angle	2	Cannot climb steeply
Requires Airstrip	-	Must operate from hardened airstrip

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

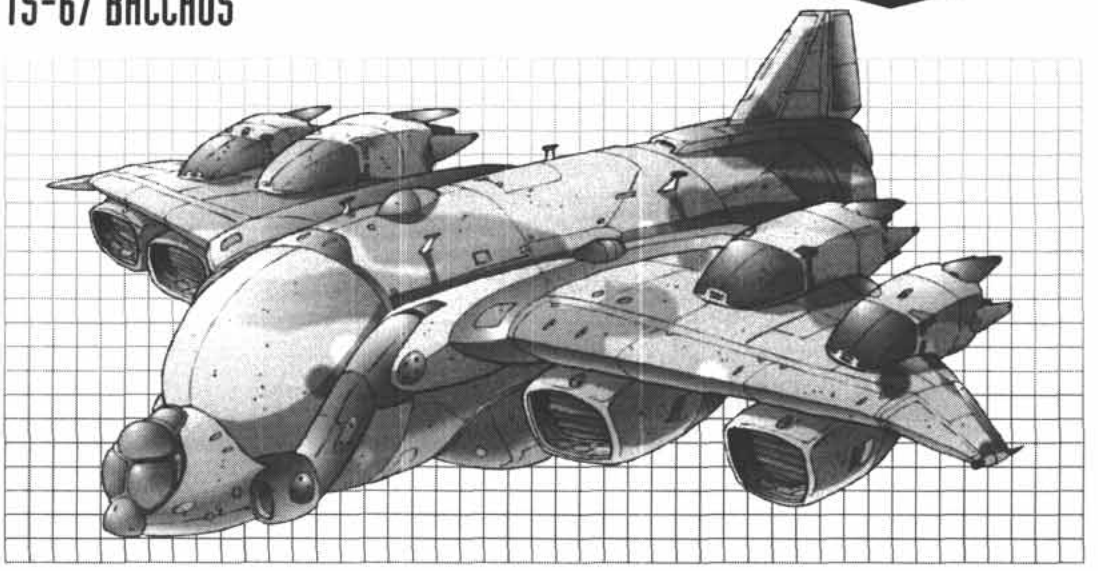
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
VG-120 Machine Gun	HMG	R	1	2	4	8	0	x 4	1	1600	ROF3, AI
Heavy Bomb Rack	HB	F	0	0	0	0	-2	x 20	2	16/16	ROF1, G, AE1
Med. Bomb Rack	MB	F	0	0	0	0	-2	x 15	2	32/32	ROF2, G, AE0
Fuel-Air Bomb Rack	FAB	F	0	0	0	0	-1	x 35	1	2	AE2, SB

DAMAGE

■■■■■■■■■■	10		60
■■■■■■■■■■	20		70
■■■■	30		80
	40		90
	50		100

TS-67 BACCHUS



• Overview

The *Bacchus* is the Allied Southern Territories' most numerous heavy transport aircraft, making it's large silhouette a common sight on Republican and Mekong runways. Its name comes from its bloated fuselage and the gaping maw of the front cargo bay when open.

The *Bacchus* has been designed with only one function in mind: to transport heavy material over long distances in any condition, short of a tempest. The aircraft's structure has been heavily reinforced to support wind buffeting. The flow of air through the four turbofan engines is ducted through the wing and multiple filters to avoid particle clogging. Small thrust-vectoring plates help control the ungainly plane in flight.

The fuselage of the *Bacchus* houses a cavernous cargo bay that can accommodate a huge variety of cargo. The bay has two access ramps, one at the rear, the other in front. The front door opens using an ingenious mechanism that first moves the entire cockpit assembly upward and out of the way before splitting the front of the aircraft in half. (Note: the entire cockpit assembly is locked down and cannot be moved during flights.)

• Service Record

The *Bacchus* is a strong, sturdy model that has been in service for more than five generations. Its rough and tough design has protected it well from the ravages of time, and the plane is expected to go on for several more cycles with the help of judicious airframe update programs.

• Specifications

Code name:	Bacchus	Production code:	TS-67
Manufacturer:	Maxim-Valiant Ltd.	Use:	heavy transport aircraft
Wing span:	62.5 meters	Length:	38 meters
Average armor thickness:	25 mm	Armor material:	alloy/composite polymers
Standard operational weight:	110,800 kg	Maximum flight speed:	450 kph
Powerplant:	4 x turbofans	Thrust:	4 x 5,300 kg

• Weapons

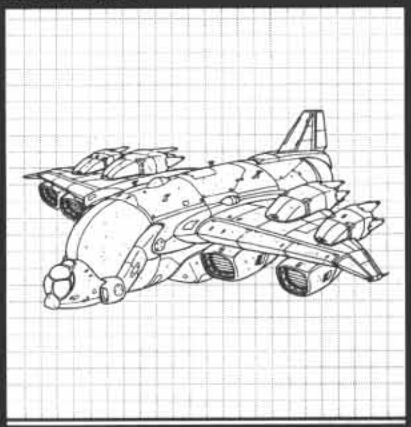
Name	Ammunition Payload	Name	Ammunition Payload
None as standard	-		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Passenger Seating (200 passengers)	2624	Gear Transport (Vehicle Bay, Size 12)	2557
Defender (Anti-Missile 2, 50 shots)	2650	Armored (+2 armor)	2251

VEHICLE RECORD SHEET

BACCHUS



VEHICLE DESCRIPTION

VEHICLE TYPE:	Bacchus
THREAT VALUE:	2243
▶ OFFENSIVE:	0.0
▶ DEFENSIVE:	306.5
▶ MISCELLANEOUS:	6422.2
SIZE:	16
▶ ORIGINAL DEFAULT SIZE:	13
CREW:	2
▶ BONUS ACTION:	1
COST:	911,219 dinars
▶ PRODUCTION TYPE:	Mass Production
▶ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	8
▶ TOP SPEED:	(450 kph) 15
▶ STALL SPEED	(120 kph) 4
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	13/(150 kph) 25
MANEUVER:	-5
DEPLOYMENT RANGE:	3200 km

ELECTRONICS

SENSORS:	0
▶ SENSOR RANGE:	12 km
COMMUNICATION:	-1
▶ COMMUNICATION RANGE:	100 km
FIRE CONTROL:	-2

ARMOR

LIGHT DAMAGE:	20
HEAVY DAMAGE:	40
OVERKILL:	60

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Autopilot	-	Act as level 1 pilot
Cargo Bay	-	1800 m³ (6 x 6 x 30 m)
Chaff/Flare Dispenser	1	20 charges
Crew Accommodations	4	Military grade bunks
Easy to Modify	-	+2 to Repair and Modify rolls
Life Support	-	Limited

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	1	Subtract from Maneuver on ground
Exposed Movement System	-	Large turbofans
Large Sensor Profile	2	Easier to detect
Maximum Climbing Angle	1	Cannot climb steeply

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

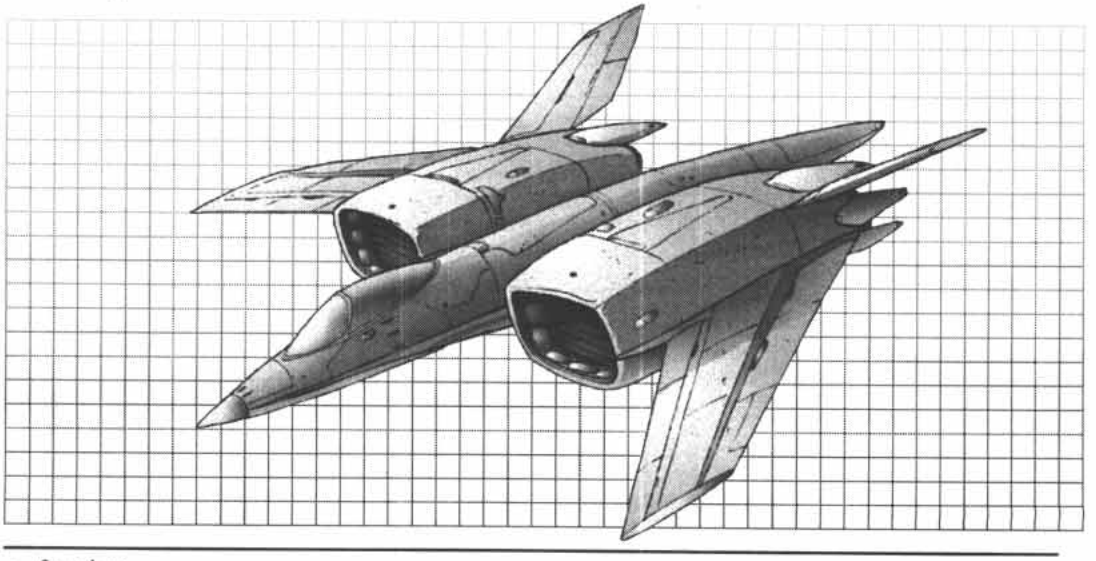
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
None as standard	-	-	-	-	-	-	-	-	-	-	-

DAMAGE

10 20 30 40 50 60 70 80 90 100

RL-5A QUETZAL



• Overview

The Southern Republic's main air war/ground attack, fighter-bomber plane, the RL-5A *Quetzal* first saw action during the Earth invasion. It fared well enough against Terran aircraft and tanks to be officially adopted by the Southern MILICIA as their main air supremacy weapon. Though it is not as agile as the Northern P-119 (its principal opponent in air domination), its greater firepower makes it a force to be reckoned with. An RL-5A with a well-coordinated pilot-gunner crew is one of the deadliest machines that can be found in the skies above Terra Nova.

The RL-5A's most common weapon configuration is described below, but it can be easily modified to suit particular missions. For bombing missions, the anti-tank missiles are replaced by two more medium bomb racks. ECM pods can replace bombs for missions that require electronic warfare. For anti-infantry missions, light bomb racks or airburst missiles are substituted for the medium bomb racks and anti-tank missiles.

• Service Record

Most RL-5As belong to either the Southern MILICIA or the Southern Republic, which has been known to use the planes against its own people during periods of severe civil unrest. There are approximately 140 RL-5As in service with the MILICIA, and about 100 in the Southern Republic's air force. All are expected to serve well into the 1940s.

• Specifications

Code name:	Quetzal	Production code:	RL-5A
Manufacturer:	Maxim-Serpa	Use:	fighter-bomber
Wing span:	15.3 meters	Length:	15 meters
Average armor thickness:	58 mm	Armor material:	durasheet w/composite
Standard operational weight:	27,000 kg	Maximum flight speed:	1920 kph
Powerplant:	2 x Grand Mechanics D2500 turbojets	Thrust:	2 x 8012 kg

• Weapons

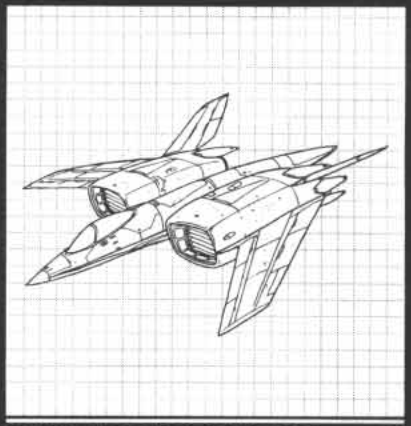
Name	Ammunition Payload	Name	Ammunition Payload
PRF-30 Autocannon	1600 shells	AT-6 "Damocles" missile rack	2 racks of 3 missiles
AM-40A/g "Wuerger" missile	2 racks of 1 missile	Medium Bomb Rack	2 racks of 1 bomb

• Options

Name	Modified Threat Value	Name	Modified
Bomber (replace ATM with 2 racks of 3 MB)	29944	Anti-infantry (replace MB with 2 racks of 5 LB)	31073
EW Ship (replace MB with ECM 4, ECCM 2)	31343		

VEHICLE RECORD SHEET

QUETZAL



VEHICLE DESCRIPTION

VEHICLE TYPE:	Quetzal
THREAT VALUE:	31154
▸ OFFENSIVE:	10212.9
▸ DEFENSIVE:	60241.2
▸ MISCELLANEOUS:	23009.0
SIZE:	10
▸ ORIGINAL DEFAULT SIZE:	31
CREW:	2
▸ BONUS ACTION:	1
COST:	48,288,700 dinars
▸ PRODUCTION TYPE:	Mass Production
▸ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▸ COMBAT SPEED:	32
▸ TOP SPEED:	(1920 kph) 64
▸ STALL SPEED	(270 kph) 9
SECONDARY MOVEMENT MODE:	Ground
▸ COMBAT SPEED/TOP SPEED:	25/(300 kph) 50
MANEUVER:	-1
DEPLOYMENT RANGE:	2000 km

ELECTRONICS

SENSORS:	0
▸ SENSOR RANGE:	30 km
COMMUNICATION:	+2
▸ COMMUNICATION RANGE:	250 km
FIRE CONTROL:	0

ARMOR

LIGHT DAMAGE:	17
HEAVY DAMAGE:	34
OVERKILL:	51

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Ammo/Fuel Containment System	-	Subtract 2 from first Ammo/Fuel hit
Autopilot	-	Act as level 1 pilot
Backup Communications System	-	Absorb first "Communication" hit
Chaff/Flare Dispenser	2	20 charges
Ejection System	-	Ejection seats for both crewmen
ECM	1	Offensive electronic warfare equipment
Life Support	-	Limited
Stealth	2	Hard to detect
Target Designator	6	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	3	Subtract from Maneuver when on ground
Requires Airstrip	-	Must operate from hardened airstrip

DEFECTS

NAME	RATING	GAME EFFECT
Annoyance	-	Cramped forward cabin

WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
PRF-30 Autocannon	MAC	FF	3	6	12	24	0	x10	1	2560	ROF1
AT-6 "Damocles"	ATM	F	3	6	12	24	+1	x25	2	3/3	G
AM-40A/g "Wuerger"	AAM	F	8	16	32	64	+1	x10	2	1/1	G, MR10
Medium Bomb Rack	MB	F	0	0	0	0	-2	x15	2	1/1	ROF2, G, AE0

DAMAGE

■■■■■■■■■■	10		60
■■■■■■■	20		70
	30		80
	40		90
	50		100

ST-8M SAMSON

• Overview

The *Samson* is a powerful, twin-rotor, transport helicopter fielded by several armies in the Southern Hemisphere. Its cavernous fuselage compartment contains 90 seats, two large equipment racks and a large rear ramp, making it an excellent troop carrier. If required, the seats can be removed and the bay converted into cargo space. A special upgrade pack is also available, converting the compartment into a vehicle bay complete with servicing equipment for two light jeeps or armored cars.

As the *Samson* is not designed for heavy combat, it is lightly armed with twin 10 mm miniguns firing from semi-stabilized automated turrets on either side of the fuselage. These are usually operated by the flight engineer, whose station is just aft of the cockpit. The miniguns are intended to be used to clear a contested or hot landing zone, but can also serve as a limited defensive weapon. Variants equipped with anti-personnel grenade launchers are also known to exist.

• Service Record

The *Samson* is extensively used by the transport and support units of the Southern MILICIA. Many engineering corps have at least one ST-8M and use it to ferry equipment and building supplies. Domestically produced versions are also used by the armies of the Humanist Alliance and the Eastern Sun Emirates.

• Specifications

Code name:	Samson	Production code:	ST-8M
Manufacturer:	Marshall Avionics	Use:	troop transport helicopter
Wing span:	17.9 meters	Length:	24.8 meters
Average armor thickness:	65 mm	Armor material:	composite laminates
Standard operational weight:	31,300 kg	Maximum flight speed:	300 kph
Powerplant:	2 x gas turbines	Horsepower:	2 x 5100 Hp

• Weapons

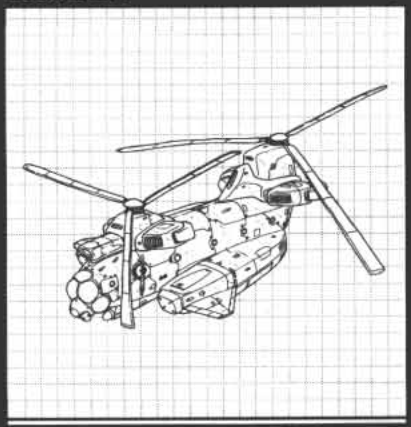
Name	Ammunition Payload	Name	Ammunition Payload
2 x MGU-80 Machine Gun	1200 shells each		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Grenadier (replace each HMG by APGL, 40 shots)	1338	Vehicle Carrier (replace Passengers with Vehicle Bay 6 (Ground))	1364
Cargo (replace Passenger Seats by additional 80 m³)	1354		

VEHICLE RECORD SHEET

SAMSON



VEHICLE DESCRIPTION

VEHICLE TYPE:	Samson
THREAT VALUE:	1382
▸ OFFENSIVE:	167
▸ DEFENSIVE:	2052.0
▸ MISCELLANEOUS:	1928.4
SIZE:	11
▸ ORIGINAL DEFAULT SIZE:	11
CREW:	3
▸ BONUS ACTION:	1
COST:	691,000 dinars
▸ PRODUCTION TYPE:	Mass Production
▸ INDY. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▸ COMBAT SPEED:	5
▸ TOP SPEED:	(300 kph) 10
▸ STALL SPEED	(0kph) 0
SECONDARY MOVEMENT MODE:	Ground
▸ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	0
DEPLOYMENT RANGE:	1,500 km

ELECTRONICS

SENSORS:	-1
▸ SENSOR RANGE:	15 km
COMMUNICATION:	-1
▸ COMMUNICATION RANGE:	80 km
FIRE CONTROL:	-1

ARMOR

LIGHT DAMAGE:	18
HEAVY DAMAGE:	36
OVERKILL:	54

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Airlift Winch	6	Can lift up to 7300 kg
Autopilot	-	Act as level 1 pilot
Backup Communications System	-	Absorbs first "Communication" hit
Cargo Bay	-	20 m³ (twin 10 meters long racks)
Hostile Environment Protection	-	Desert
Passenger Seating	-	90 passengers in fuselage

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	Not enough wing surface
Exposed Auxiliary Systems	-	Unprotected sensor and antennae
Exposed Movement System	-	Large rotors
Large Sensor Profile	2	Easy to detect
Maximum Ceiling	6	6,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

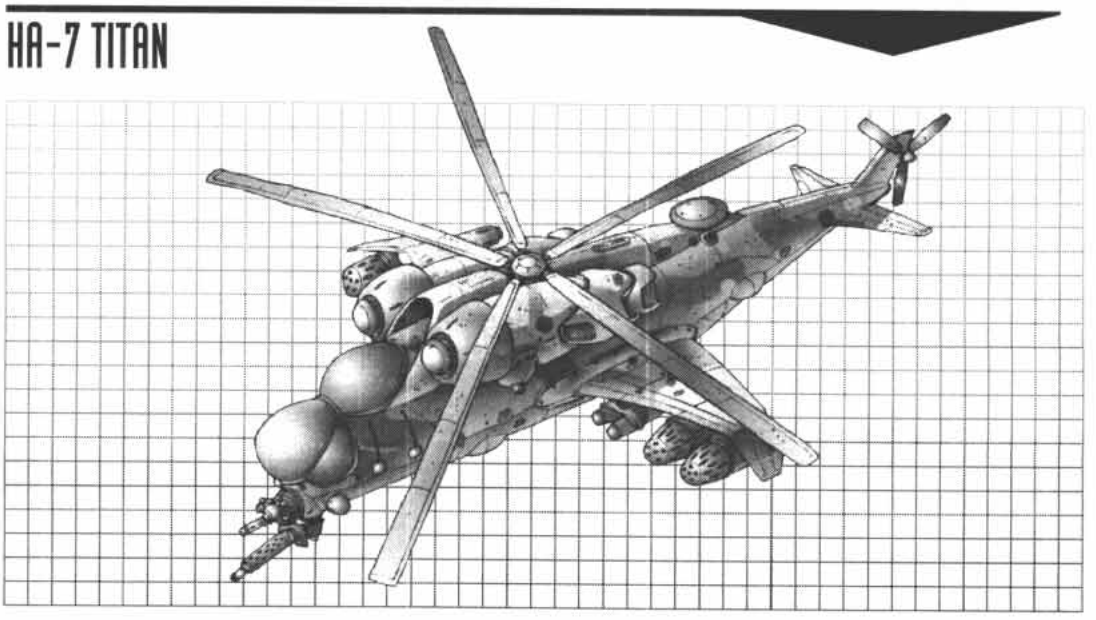
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
MGU-80 Machine Gun	HMG	Rt	1	2	4	8	0	x4	1	1200	ROF3, AI
MGU-80 Machine Gun	HMG	Lt	1	2	4	8	0	x4	1	1200	ROF3, AI

DAMAGE

■■■■■■■■■■	10		60
■■■■■■■■■	20		70
	30		80
	40		90
	50		100

HA-7 TITAN



• Overview

The *Titan* is probably the best-known Southern attack helicopter. In addition to its deadly ordinance, the *Titan* can also double as a light troop carrier, since it can carry an eight man infantry squad. This gives the helicopter the ability to secure terrain objectives, a task few other choppers can accomplish. A crew of two (pilot and weapon specialist) is required to properly operate the *Titan*, though it can be flown by a single crewman.

Most of the *Titan*'s offensive hardware is mounted on fixed hardpoints on either side of the fuselage and generally consists of a mix of rocket pods and air-to-ground missiles; a mast-mounted laser designator is used to guide the missiles to their target, though the fire control computer can also use any friendly target designator. Although the unsophisticated wing hardpoints greatly limit the *Titan*'s effective fire arc, the helicopter can still prove devastating in the hands of a skilled pilot. In addition to the wing-mounted ordinance, a chin-mounted mini-turret carries a 20 mm autocannon that is belt-fed from a large 2400-shell magazine located in the craft's main body.

• Service Record

Titans can be found in the armed forces of most of the Allied Southern Territories' member-leagues and their client-states. Presently, the Southern Republic and the Mekong Dominion are the greatest users of the aircraft. In the Dominion, *Titan* crew are sometimes assigned to squads of Peacekeepers for rapid deployment.

• Specifications

Code name:	Titan	Production code:	HA-7
Manufacturer:	Marshall Avionics	Use:	helicopter gunship
Wing span:	11.4 meters	Length:	15.6 meters
Average armor thickness:	45 mm	Armor material:	durasheet w/composite
Standard operational weight:	17,000 kg	Maximum flight speed:	330 kph
Powerplant:	2 x gas turbines	Horsepower:	2 x 3900 Hp

• Weapons

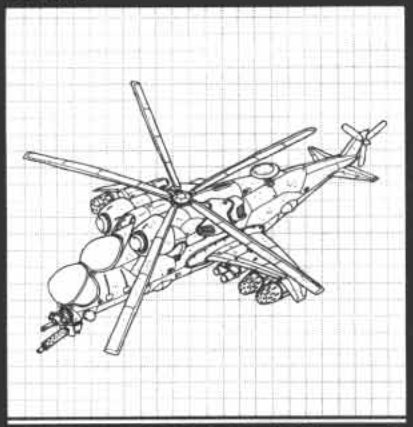
Name	Ammunition Payload	Name	Ammunition Payload
PRF-25 Autocannon	2400 belted shells	Vogel-8 Rocket Pod	4 pods of 32 rockets each
AT-6 "Damocles" missile rack	2 racks of 2 missiles each		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Crusher (replace ATMs with 2 x LRP/32)	3174	Devastator (replace all missiles with 2 x HRP/48, FF)	3147

VEHICLE RECORD SHEET

TITAN



VEHICLE DESCRIPTION

VEHICLE TYPE:	Titan
THREAT VALUE:	3898
▸ OFFENSIVE:	3945.9
▸ DEFENSIVE:	2525
▸ MISCELLANEOUS:	5223.7
SIZE:	9
▸ ORIGINAL DEFAULT SIZE:	16
CREW:	2
▸ BONUS ACTION:	1
COST:	3,464,889 dinars
▸ PRODUCTION TYPE:	Mass Production
▸ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▸ COMBAT SPEED:	6
▸ TOP SPEED:	(330 kph) 11
▸ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
▸ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	0
DEPLOYMENT RANGE:	360 km

ELECTRONICS

SENSORS:	0
▸ SENSOR RANGE:	30 km
COMMUNICATION:	0
▸ COMMUNICATION RANGE:	120 km
FIRE CONTROL:	0

ARMOR

LIGHT DAMAGE:	15
HEAVY DAMAGE:	30
OVERKILL:	45

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Ammo/Fuel Containment System	-	Subtract 2 from first Ammo/Fuel hit
Autopilot	-	Act as level 1 pilot
Backup Communications System	-	Absorb first "Communication" hit
Chaff/Flare Dispenser	1	20 charges
Hostile Environment Protection	-	Desert
Passenger Seating	-	8 passengers in cabin
Target Designator	4	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	Not enough wing surface
Exposed Movement System	-	Large rotor
Large Sensor Profile	1	Easy to detect
Maximum Ceiling	7	5,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

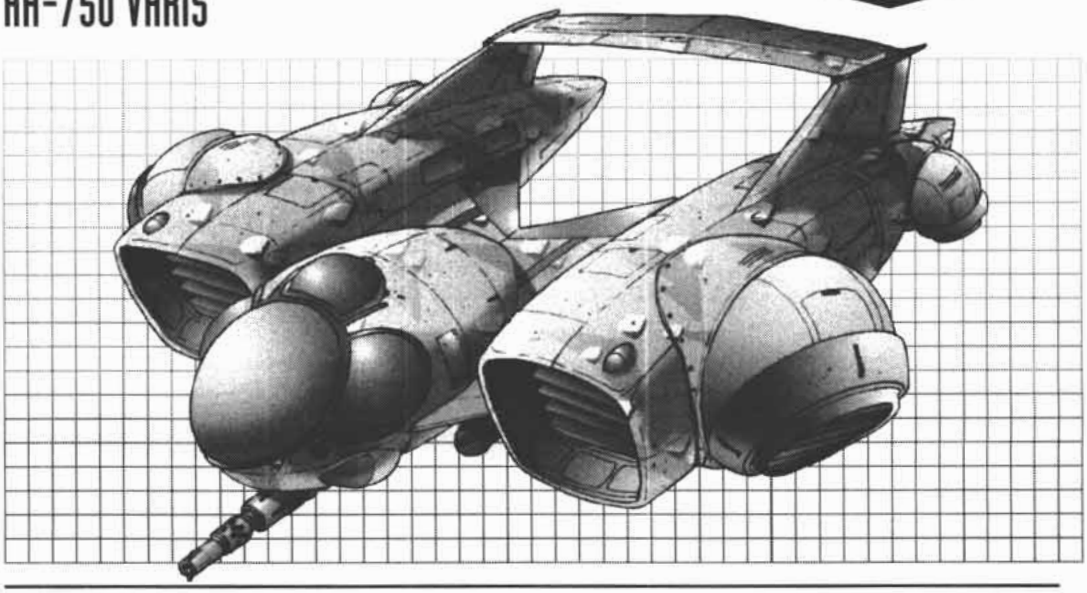
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
PRF-25 Autocannon	LAC	F	2	4	8	16	0	x8	1	2400	ROF2
Vogel-8 Rocket Pod	LRP/32	FF	1	2	4	8	-1	x12	4	4x32	ROF4, IF
AT-6 "Damocles"	ATM	FF	3	6	12	24	+1	x25	2	2/2	G

DAMAGE

■■■■■■■■■■	10		60
■■■■■	20		70
	30		80
	40		90
	50		100

HA-750 VARIS



• Overview

Vectored-thrust aerodynes are not as popular with Southern forces as they are with other armies on the planet, but not even Southerners could go without them. The *Varis* is one of the few hoppers in service with the armies of the Allied Southern Territories and the Southern MILICIA. It was first developed as a logging vehicles for Mekong plantations. The airframe proved to be rugged and adaptable and subsequently evolved into a combat vehicle for Mekong peacekeepers. The design was later sold to other city-states or simply copied.

The *Varis* features a twin-boom layout with the crew compartment and most of the armament and avionics in a short ovoid fuselage placed in the center. Each boom contains a powerful turbofan engine and two gimbal-mounted, vectored-thrust ports.

The military variant of the aircraft features a belly-mounted light autocannon fed mechanically from a drum placed within the rear fuselage. Racks for short-range, light, air-to-ground missiles are provided underneath the fuselage support pylons, though a skilled mechanic can usually adapt them to carry a variety of other payloads.

• Service Record

The *Varis* is used mainly for counter-insurgency and anti-bandit operations. The Peacekeepers use a special police variant for high speed interceptions and patrols. These police vehicles, slightly downgraded from the military version, are the *Varises* most commonly seen by the public at large.

• Specifications

Code name:	Varis	Production code:	HA-750
Manufacturer:	Tsi Heavy Industries	Use:	light attack/patrol VTOL
Wingspan:	6.9 meters	Length:	8 meters
Average armor thickness:	20 mm	Armor material:	armoplast
Standard operational weight:	8200 kg	Maximum flight speed:	240 kph
Powerplant:	2 x GH-75 turbofan	Thrust:	2 x 4560 kg

• Weapons

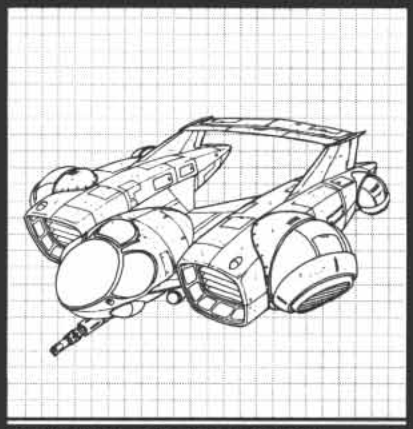
Name	Ammunition Payload	Name	Ammunition Payload
Hi-far 20 mm autocannon in swivel mount	250 shells in ammo drum	2 x AT-3 "Dagger" Light Guided Missile Rack	3 missiles under each "wing"

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Police type (rem. weapon & ejection seats, add Searchlight Front, 100 m)	198		

VEHICLE RECORD SHEET

VARIS



VEHICLE DESCRIPTION

VEHICLE TYPE:	Varis
THREAT VALUE:	820
▶ OFFENSIVE:	1867.1
▶ DEFENSIVE:	492.4
▶ MISCELLANEOUS:	101.4
SIZE:	7
▶ ORIGINAL DEFAULT SIZE:	9
CREW:	2
▶ BONUS ACTION:	1
COST:	316,571 dinars
▶ PRODUCTION TYPE:	Mass Production
▶ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	4
▶ TOP SPEED:	(240 kph) 8
▶ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	-2
DEPLOYMENT RANGE:	450 km

ELECTRONICS

SENSORS:	0
▶ SENSOR RANGE:	3 km
COMMUNICATION:	0
▶ COMMUNICATION RANGE:	20 km
FIRE CONTROL:	0

ARMOR

LIGHT DAMAGE:	10
HEAVY DAMAGE:	20
OVERKILL:	30

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Autopilot	-	Act as level 1 pilot
Chaff/Flare Dispenser	1	15 charges
Ejection System	-	Ejection seats for both crewmen
Hostile Environment Protection	-	Desert

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	No wing surface
Large Sensor Profile	1	Easier to detect
Maximum Ceiling	4	8,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

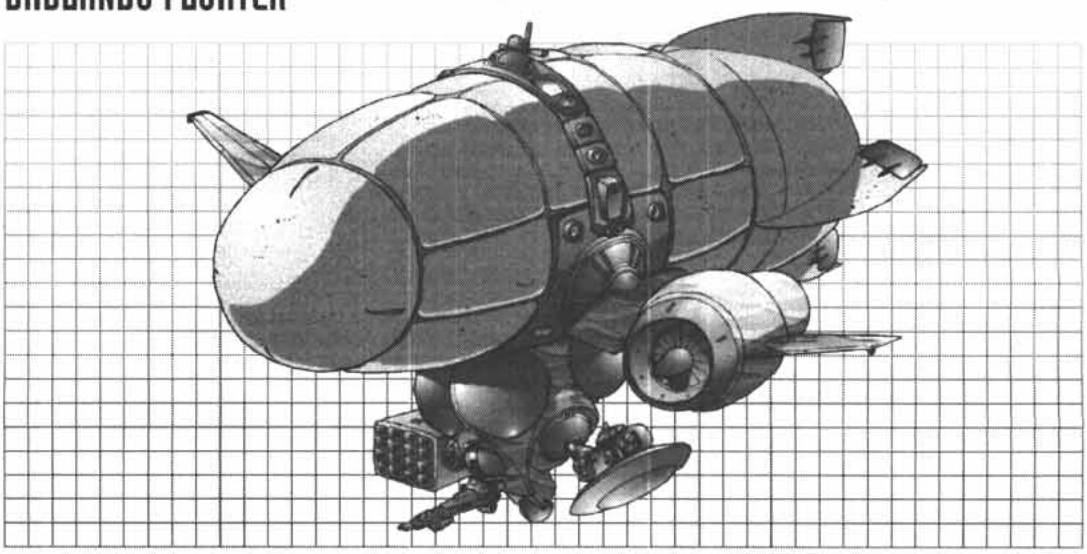
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
Light Autocannon	LAC	T	2	4	8	16	0	x8	1	250	ROF2
Anti-Gear Missile	AGM	F	3	6	12	24	+1	x15	2	3/3	G

DAMAGE

■■■■■■■■■■	10		60
	20		70
	30		80
	40		90
	50		100

BADLANDS FLOATER



• Overview

Floaters are small, lighter-than-air craft used by Badlands communities as surveillance and defense vehicles. Although quite fragile, they are inexpensive and readily available, with hundreds of known variants and designs.

Floaters tend to be remarkably stealthy for vehicles of such girth and technical simplicity: the gas bag is constructed of spun polymer fibers that do not significantly reflect radar waves, and the single gas turbine is buried within the gondola, thereby muffling it's noise and heat emissions. The engine supplies power to two steerable fan units via a pair of drive shafts, a simple, yet elegant, design.

Although not built for combat, Floaters are generally equipped with a single forward-mounted minigun for close-range defense. Two external hardpoints on wing-like mounts are also available on many models. The most common load carried is an ECM pod on one side and a rocket pod containing 32 rockets on the other. Attachment rings underneath the gondola allow additional cargo to be carried as a slung load.

• Service Record

Floaters are a common sight in the Badlands, for they are inexpensive to field and maintain. Carefully avoiding storm fronts, Floaters ply the trade routes, bringing exotic items to the most remote farmlands. A specific sub-culture has evolved amongst the so-called "floater community," where entire families can live and work aboard their craft.

• Specifications

Code name:	Badlands Floater	Production code:	various
Manufacturer:	various	Use:	observation/defense
Width:	29.1 meters	Length:	25.3 meters
Average armor thickness:	10 mm	Armor material:	durasheet w/composite
Standard operational weight:	8000 kg	Maximum flight speed:	60 kph
Powerplant:	gas turbine	Thrust:	500 kg

• Weapons

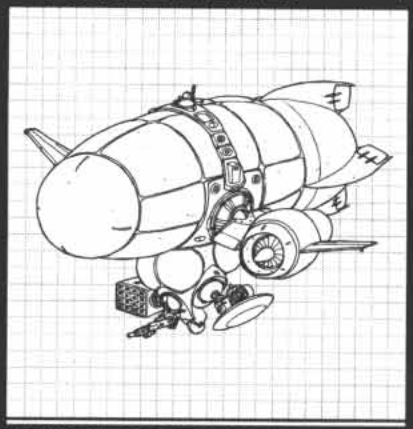
Name	Ammunition Payload	Name	Ammunition Payload
KJ-16 Minigun	1200 shells	Vogel-8 Rocket Pod	32 rockets

• Options

Name	Modified Threat Value	Name	Modified Threat Valu
Civil Patrol (remove all weapons, +1 Sensor)	246	Cargo hauler (remove all weapons, add 50 m^3 cargo bay)	269

VEHICLE RECORD SHEET

BADLANDS FLOATER



VEHICLE DESCRIPTION

VEHICLE TYPE:	Badlands Floater
THREAT VALUE:	301
▶ OFFENSIVE:	187.8
▶ DEFENSIVE:	31.4
▶ MISCELLANEOUS:	683.2
SIZE:	7
▶ ORIGINAL DEFAULT SIZE:	7
CREW:	2
▶ BONUS ACTION:	1
COST:	150,500 marks/dinars
▶ PRODUCTION TYPE:	Mass Production
▶ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	1
▶ TOP SPEED:	(60 kph) 2
▶ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	-2
DEPLOYMENT RANGE:	200 km

ELECTRONICS

SENSORS:	+1
▶ SENSOR RANGE:	15 km
COMMUNICATION:	0
▶ COMMUNICATION RANGE:	50 km
FIRE CONTROL:	-1

ARMOR

LIGHT DAMAGE:	7
HEAVY DAMAGE:	14
OVERKILL:	21

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Crew Accommodations	2	Military grade — small bunks
ECM	2	Offensive electronic warfare equipment
Geological Sensor	-	Can perform geological surveys
Lighter-than-air	-	Can hover in mid-air
Passenger Seating	-	4 seats behind crew stations
Satellite Uplink	-	Allow orbital communications
Stealth	2	Hard to detect

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	Falls if gas bag is punctured
Exposed Auxiliary Systems	-	Exposed sensor equipment
Exposed Movement System	-	Large fans
Fragile Chassis	-	Exposed gas bag
Maximum Ceiling	8	4,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

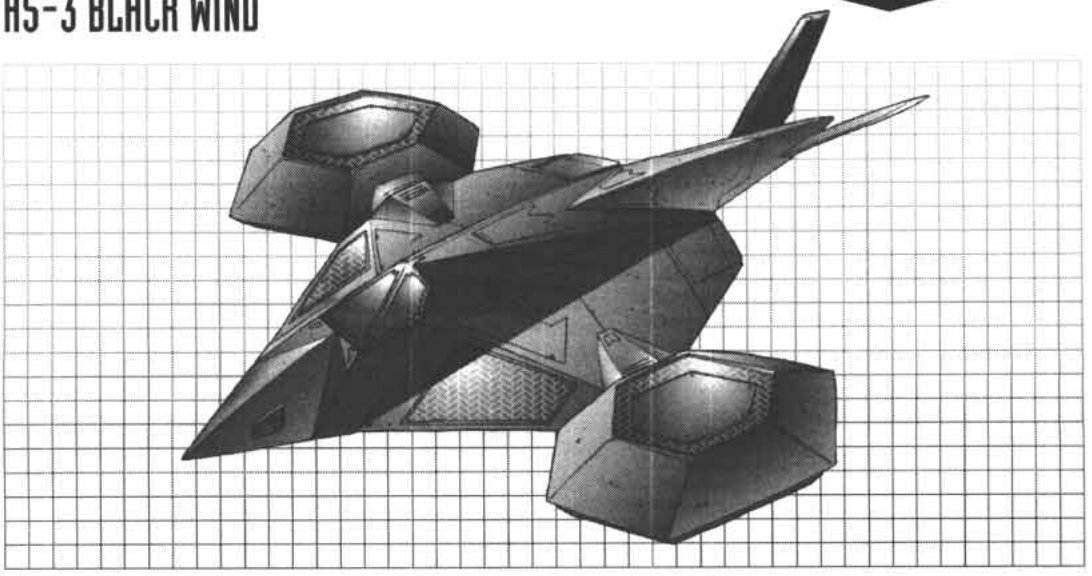
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
KJ-16 Minigun	LMG	F	1	2	3	4	0	x3	1	1200	ROF4, AI
Vogel-8 Rocket Pod	LRP/32	F	1	2	4	8	-1	x12	1	32	ROF4, IF

DAMAGE

■■■■■■■	10		60
	20		70
	30		80
	40		90
	50		100

HS-3 BLACK WIND



• Overview

The *Black Wind* is Paxton's pride and joy. It is the end result of nearly twelve cycles of uninterrupted research that began at the start of the Earth conflict (incidentally, the *Black Wind* contains several systems developed using captured Earth technology). Its external appearance is angular, yet aerodynamic. The twin gas turbines are located deep within the craft's main body. The two suspension fans are likewise well shielded. Thrust is channeled out of specially designed ports located on the sides of the fuselage and the wing pods. The shape of these ports was computer-designed to eliminate as much noise-producing turbulence as possible.

The *Black Wind*'s armament is equally impressive. A retractable, chin-mounted laser cannon fed through a large capacitor that occupies much of the craft's underbelly provides extremely accurate, long-range firepower. Two weapon bays house a deadly assortment of missiles. It is presumed that the *Black Wind* can carry other types of ordinance as well, but the present configuration is the only one seen to date.

• Service Record

Only Paxton's own Air Service fields the *Black Wind*. It has seen action throughout the PRDF's security zone, chasing down unsuspecting rovers and defending Paxton's interests. Both the CNCS and the AST would be interested in procuring one for study, although there are rumors that the Southern Republic has managed to snag two of them. Needless to say, all parties would pay highly for information regarding this hi-tech wonder.

• Specifications

Code name:	Black Wind	Production code:	HS-3
Manufacturer:	Paxton	Use:	stealth hopper
Wing span:	15.7 meters	Length:	16.4 meters
Average armor thickness:	29 mm	Armor material:	armoplast w/composite
Standard operational weight:	9200 kg	Maximum flight speed:	390 kph
Powerplant:	2 x gas turbines	Thrust:	unknown

• Weapons

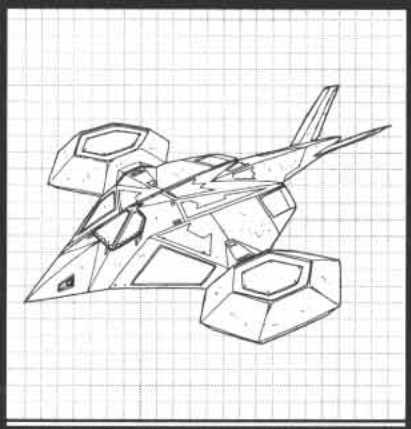
Name	Ammunition Payload	Name	Ammunition Payload
NL66 Laser Cannon	80 shots	AT-6 "Damocles" missile rack	2 racks of 3 missiles each
AA-12 "Silk" missile rack	2 racks of 1 missile each		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
None currently known	-		

VEHICLE RECORD SHEET

BLACK WIND



VEHICLE DESCRIPTION

VEHICLE TYPE:	Black Wind
THREAT VALUE:	17534
▶ OFFENSIVE:	18233.4
▶ DEFENSIVE:	5910.6
▶ MISCELLANEOUS:	28458.0
SIZE:	7
▶ ORIGINAL DEFAULT SIZE:	26
CREW:	2
▶ BONUS ACTION:	2
COST:	325,631,429 marks/dinars
▶ PRODUCTION TYPE:	Late Prototype
▶ INDV. LEMON DICE:	1

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	7
▶ TOP SPEED:	(390 kph) 13
▶ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	+1
DEPLOYMENT RANGE:	1000 km

ELECTRONICS

SENSORS:	+1
▶ SENSOR RANGE:	30 km
COMMUNICATION:	+1
▶ COMMUNICATION RANGE:	280 km
FIRE CONTROL:	+1

ARMOR

LIGHT DAMAGE:	12
HEAVY DAMAGE:	24
OVERKILL:	36

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Advanced Controls	-	+1 Action
Autopilot	-	Act as a level 1 pilot
Backup Communications System	-	Absorb first "Communication" hit
Chaff/Flare Dispenser	2	20 charges
Hostile Environment Protection	-	Desert
NOE Flyer	-	Advanced avionics
Satellite Uplink	-	Allows orbital communication
Stealth	5	Hard to detect
Target Designator	4	Used to target Guided weapons

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	No wings
Decreased Maneuverability	3	Ground Maneuver: -2
Maximum Ceiling	6	6,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

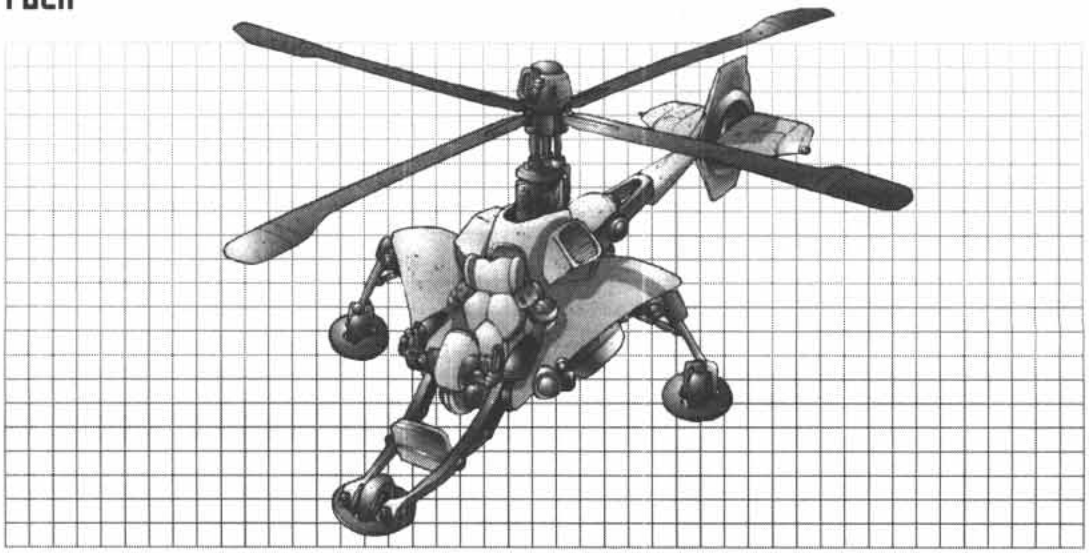
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
NL66 Laser	HLC	F	5	10	20	40	+1	x20	1	80	-3/RB
AT-6 "Damocles"	ATM	F	3	6	12	24	+1	x25	2	3/3	G
AA-12 "Silk"	AAM	F	8	16	32	64	+2	x10	2	1/1	G, MR10

DAMAGE

■■■■■■■■■■	10		60
■■	20		70
	30		80
	40		90
	50		100

FLEA



• Overview

The *Flea* is a sterling example of Terranovan ingenuity. On the surface, it is a light, one-man VTOL designed for patrol duty and short distance transport. What makes it special is that it is designed around components that are widely available, many of them copied or taken off Heavy Gears.

The helicopter is powered by a standard V-engine mounted just aft of the pilot's seat. Each of the two drive shafts is connected to a separate gear box, one transmitting power to the main rotor, the other to the tail rotor. The V-engine used is the same type as that found on Heavy Gears and is thus easily replaced in case of damage. As an unexpected side bonus, its high power output also allows the *Flea* to lift extremely heavy loads for its size. Other Gear parts have been adapted as well, notably the pilot's seat and part of the sensor equipment. Both have been extensively downgraded to save on weight and maintenance.

The aircraft rests on three sturdy, steel alloy legs equipped with both wheels and landing pads. The landing pads and the helicopter's reduced weight allow the pilot to land on thin dust or other unstable ground.

• Service Record

Fleas and other similarly designed craft are found throughout the Badlands and the polar regions. Some are used as light recon vehicles or as police or civil service utility craft, but most are privately owned by ranchers and inhabitants of remote regions. Many villages own at least one of these to use as a recon or courier vehicle for the community.

• Specifications

Code name:	Flea	Production code:	various
Manufacturer:	various	Use:	short distance transport/patrol
Wing span:	2.1 meters	Length:	5.4 meters
Structural material:	lightweight steel alloy	Skin material:	Light Alloy
Standard operational weight:	900 kg	Maximum flight speed :	150 kph
Powerplant:	V-engine	Horsepower:	470 Hp

• Weapons

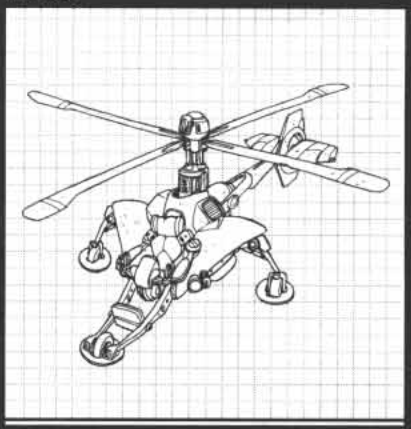
Name	Ammunition Payload	Name	Ammunition Payload
None as standard	-		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Two-seater (add one Passenger Seat)	58	Long Courier (+150 km range, -6 kph Flight speed)	63

VEHICLE RECORD SHEET

FLEA



VEHICLE DESCRIPTION

VEHICLE TYPE:	Flea
THREAT VALUE:	58
▶ OFFENSIVE:	0.0
▶ DEFENSIVE:	154.7
▶ MISCELLANEOUS:	19.0
SIZE:	3
▶ ORIGINAL DEFAULT SIZE:	4
CREW:	1
▶ BONUS ACTION:	0
COST:	38,667 marks/dinars
▶ PRODUCTION TYPE:	Mass Production
▶ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	3
▶ TOP SPEED:	(150 kph) 5
▶ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
▶ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	-1
DEPLOYMENT RANGE:	200 km

ELECTRONICS

SENSORS:	-2
▶ SENSOR RANGE:	2 km
COMMUNICATION:	-2
▶ COMMUNICATION RANGE:	10 km
FIRE CONTROL:	-2

ARMOR

LIGHT DAMAGE:	4
HEAVY DAMAGE:	8
OVERKILL:	12

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Airlift Winch	4	Can lift up to 2.4 tons
Double Towing Capacity	-	Can lift up to its own weight
Hostile Environment Protection	-	Desert

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	Falls if Flight Movement system is destroyed
Exposed Crew Compartment	-	"Crew" hits are one step worse
Maximum Ceiling	6	6,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

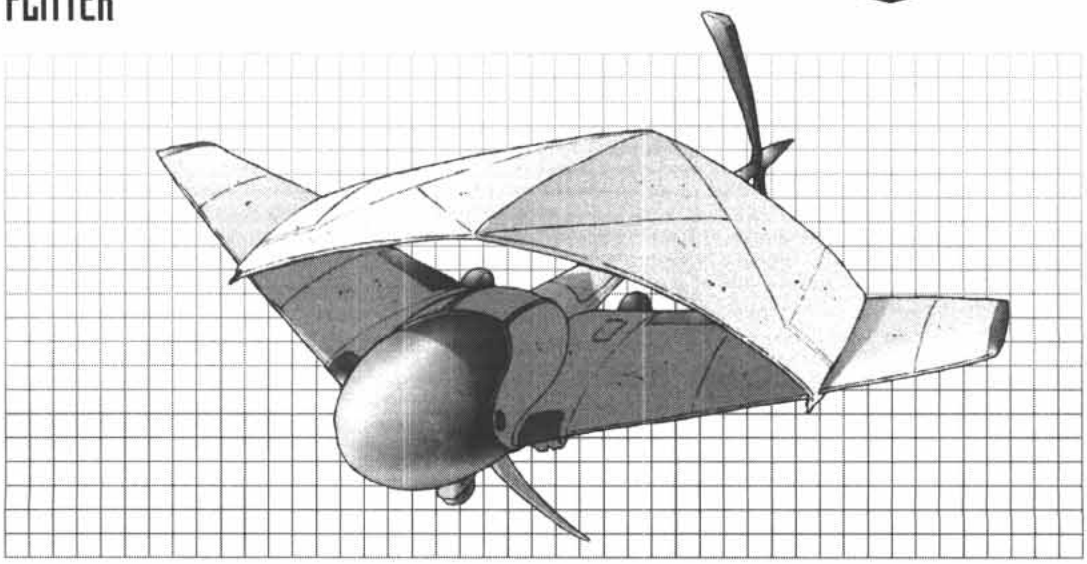
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
None as standard	-	-	-	-	-	-	-	-	-	-	-

DAMAGE

■■■■	10		60
	20		70
	30		80
	40		90
	50		100

FLITTER



• Overview

A Flitter is a small one-man flyer designed for short distance travel. It is most commonly used by farmers visiting distant pieces of equipment (such as water condensors) or checking out the progress of their crop from the sky. Teenagers also occasionally use it as a pleasure craft.

A Flitter's structure is made of lightweight aluminum alloy tubes welded together to form the basic frame. The large canopy is a transparent polymer bubble. A rugged powerplant, either a V-engine or an electric motor, is bolted on right behind the pilot's seat and drives a two-bladed composite propeller. A folding ventral fin is linked to the pilot-activated retractable landing gear. Most of the structure is covered with a polymer weave for a better aerodynamic profile. The weave is easy to patch with strips of material and a special glue, which makes field repairs to the skin of the vehicle a breeze.

The rest of the mechanical and electronic components of the aircraft are equally rugged and simple to understand. Many other ultralights also exist, some of them two-seaters, but all have a similar performance profile and are referred to as Flitters.

• Service Record

Flitters are found throughout the Badlands. They are less common in the polar societies, since they have access to better organized transport networks, but many are flown there too.

• Specifications

Code name:	Flitter	Production code:	various
Manufacturer:	various	Use:	short distance transport /pleasure
Wing span:	7 meters	Length:	2.5 meters
Structural material:	alloy tubes	Skin material:	polymer weave
Standard operational weight:	250 kg	Maximum flight speed :	65 kph
Powerplant:	Electric Motor	Horsepower:	55 Hp

• Weapons

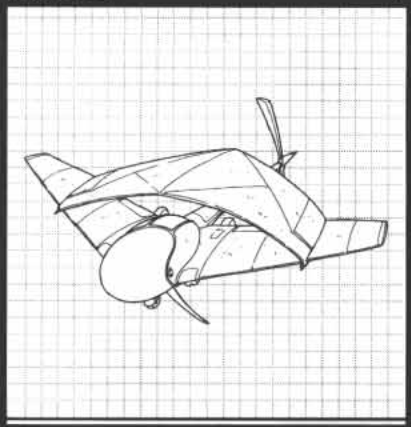
Name	Ammunition Payload	Name	Ammunition Payload
None as standard	-		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Two-seater (add one Passenger Seat)	7	Long Courier (+150 km, -6 kph Flight speed)	14
Improved Electronics (+1 Sensors/Communication)	7	Add Pintle Mount w/9 mm Machinegun (100 shots)	7

VEHICLE RECORD SHEET

FLITTER



VEHICLE DESCRIPTION

VEHICLE TYPE:	Flitter
THREAT VALUE:	7
▶ OFFENSIVE:	0.0
▶ DEFENSIVE:	15.3
▶ MISCELLANEOUS:	5.1
SIZE:	2
▶ ORIGINAL DEFAULT SIZE:	2
CREW:	1
▶ BONUS ACTION:	0
COST:	3500 marks/dinars
▶ PRODUCTION TYPE:	Mass Production
▶ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▶ COMBAT SPEED:	1
▶ TOP SPEED:	(65 kph) 2
▶ STALL SPEED	(12 kph) 0
SECONDARY MOVEMENT MODE:	Ground
● COMBAT SPEED/TOP SPEED:	3/(30 kph) 5
MANEUVER:	-2
DEPLOYMENT RANGE:	100 km

ELECTRONICS

SENSORS:	-3
▶ SENSOR RANGE:	1 km
COMMUNICATION:	-3
▶ COMMUNICATION RANGE:	2 km
FIRE CONTROL:	-5

ARMOR

LIGHT DAMAGE:	2
HEAVY DAMAGE:	4
OVERKILL:	6

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Easy to Modify	-	+2 to Repair and Modify rolls
Glider	-	Lose only one altitude level per two hexes
Hostile Environment Protection	-	Desert

FLAWS

NAME	RATING	GAME EFFECT
Exposed Crew Compartment	-	"Crew" hits are one step worse
Fragile Chassis	-	"Structure" hits are one step worse

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

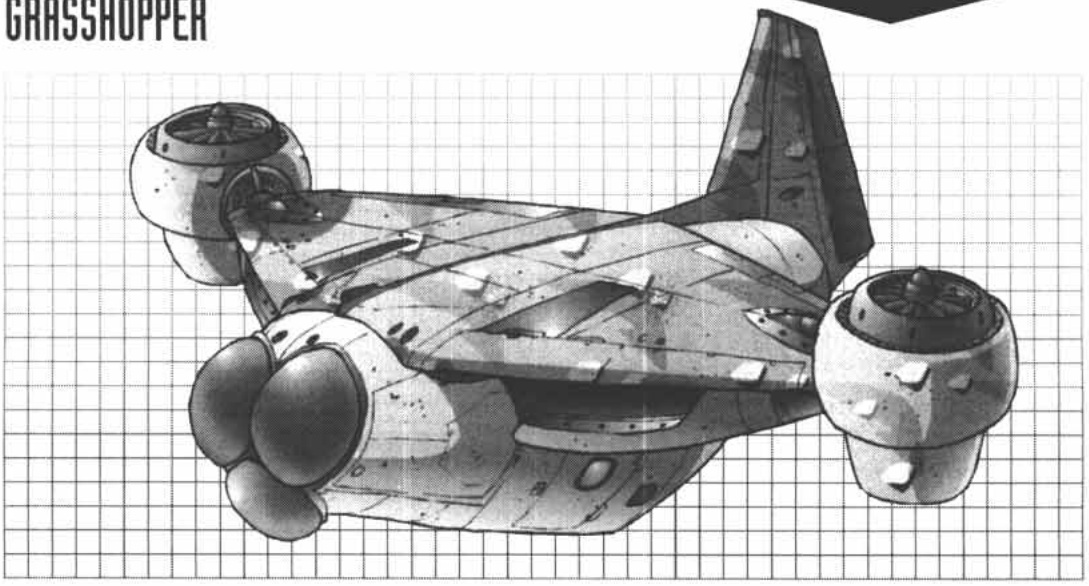
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
None as standard	-	-	-	-	-	-	-	-	-	-	-

DAMAGE

■ ■	10		60
	20		70
	30		80
	40		90
	50		100

GRASSHOPPER



• Overview

The *Grasshopper* jetcopter is a workhorse aircraft used by many communities and companies in the Badlands. The original aircraft had full VTOL capacity with its twin tilt-rotor design and was equipped with two jet turbines placed in the roots of the wings for faster horizontal speed, hence the name "jetcopter." In the newest model, the *Grasshopper II*, the fragile rotors are replaced by standard hopper-style turbofan units, but the vehicle retains the same overall abilities as the first *Grasshopper*.

The large bubble canopy over the *Grasshopper*'s cockpit gives the pilot excellent visibility. Its resemblance to huge insect eyes has often led flight crews to nickname their craft "Bugeye" or "BEM" (Bug-Eyed Monster). A few private individuals have even gone as far as giving the vehicle a paint scheme that accentuates this impression.

The deep fuselage houses a roomy cargo space that is configured according to the craft's version. The standard model has been designed as a light cargo hauler and features internal racks to stow freight such as tools, personal supplies, ammunition or food packs. In other, more specialized variants, the storage racks are replaced by stretchers and med-scanners, advanced sensors or passenger seats.

• Service Record

Many *Grasshoppers* serve as transport aircraft between Oasis towers in the Western Desert and the Karaq Wastes. They are also extensively used as search and rescue vehicles (variant II-S) and mobile hospitals (II-H). The latter version is particularly useful to farming communities that are far from established health centers — in a medical emergency, a *Grasshopper* can often be deployed within minutes.

• Specifications

Code name:	Grasshopper	Production code:	various
Manufacturer:	various	Use:	VTOL cargo hauler
Wing span:	19 meters	Length:	10.5 meters
Structural material:	alloy/composite	Skin material:	bonded composite
Standard operational weight:	9100 kg	Maximum flight speed:	355 kph
Powerplant:	2 x AB-8 turbines, 2 x GD-76 turboreactors	Thrust:	2 x 1000 kg, 2 x 3500 kg

• Weapons

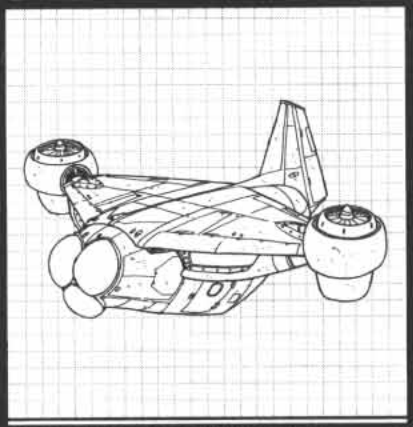
Name	Ammunition Payload	Name	Ammunition Payload
None as standard	-		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Grasshopper (add Exposed Movement System)	566	*Grasshopper* II-S (+2 Sensors)	566

VEHICLE RECORD SHEET

GRASSHOPPER



VEHICLE DESCRIPTION

VEHICLE TYPE:	Grasshopper
THREAT VALUE:	566
▸ OFFENSIVE:	0.0
▸ DEFENSIVE:	1472.1
▸ MISCELLANEOUS:	226.7
SIZE:	7
▸ ORIGINAL DEFAULT SIZE:	8
CREW:	2
▸ BONUS ACTION:	1
COST:	323,429 marks/dinars
▸ PRODUCTION TYPE:	Mass Production
▸ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▸ COMBAT SPEED:	6
▸ TOP SPEED:	(355 kph) 12
▸ STALL SPEED	(0 kph) 0
SECONDARY MOVEMENT MODE:	Ground
▸ COMBAT SPEED/TOP SPEED:	0/0
MANEUVER:	-2
DEPLOYMENT RANGE:	720 km

ELECTRONICS

SENSORS:	-1
▸ SENSOR RANGE:	3 km
COMMUNICATION:	0
▸ COMMUNICATION RANGE:	20 km
FIRE CONTROL:	-2

ARMOR

LIGHT DAMAGE:	9
HEAVY DAMAGE:	18
OVERKILL:	27

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Autopilot	-	Act as level 1 pilot
Cargo Bay	-	12 m^3
Hostile Environment Protection	-	Desert

FLAWS

NAME	RATING	GAME EFFECT
Cannot Glide	-	Falls if Movement system is destroyed
Large Sensor Profile	1	Easier to detect
Maximum Ceiling	4	8,000 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

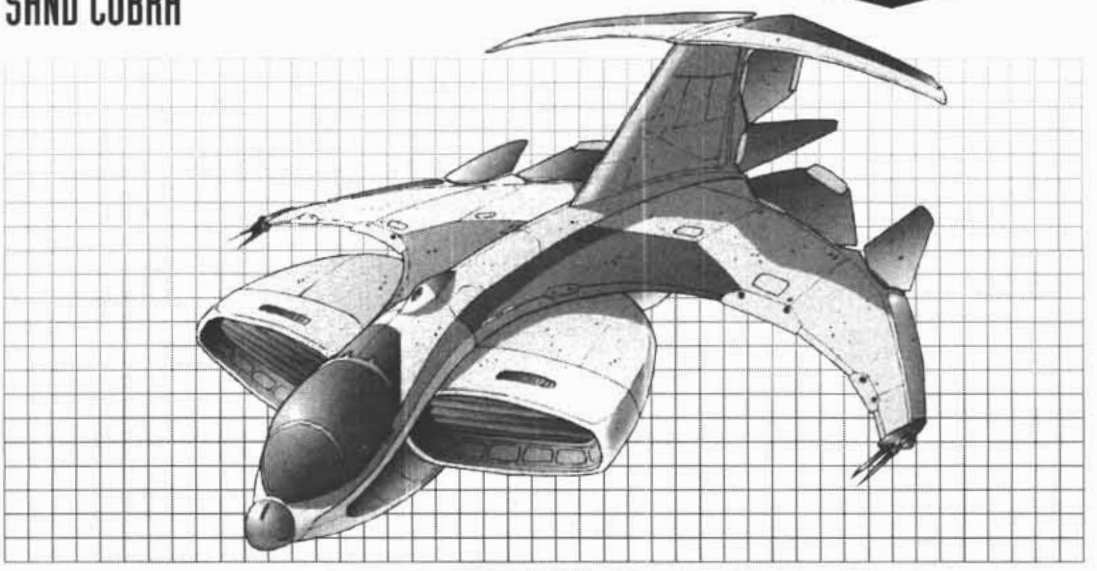
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
None as standard	-	-	-	-	-	-	-	-	-	-	-

DAMAGE

■■■■■■■■■■	10		60
	20		70
	30		80
	40		90
	50		100

SAND COBRA



• Overview

WIGE (Wing In Ground Effect) technology has been used in many vehicles before, including the infamous hovertanks of the CEF during the War of the Alliance. Vehicles using this technology ride on a cushion of air created under the vehicle through a combination of vectored thrust and ground effect hull geometry.

The *Sand Cobra* is one such craft, designed for high speed transport and patrol over the dune seas of the Barrington Basin. It literally "flies" on a cushion of air created under its wing by the two turbofan units placed on either side of its nose. The engines direct their blast downward and aft, right under the wings. Large flaps and control surfaces help direct the resulting thrust. When sufficient speed is reached, the craft can fly up to an altitude of 500 meters.

A comfortable, if a bit cramped, cockpit is placed in the nose of the craft. It houses four sturdy seats in a two-by-two arrangement, with the pilot in the front left seat (but duplicate controls allow the co-pilot to take over control of the craft). The entire one-piece canopy lifts up to allow easy entry and exit.

• Service Record

Most of the *Sand Cobra*'s belong to wealthy businessmen who use them for high-speed, stylish travel. The military variant, equipped with extra sensors and light anti-armor missiles mounted above the fuselage, is fielded by many of the largest Badlands settlements.

• Specifications

Code name:	Sand Cobra	Production code:	various
Manufacturer:	various	Use:	fast transport/patrol
Wing span:	14.5 meters	Length:	12.1 meters
Average armor thickness:	7 mm	Armor material:	bonded composite
Standard operational weight:	7,800 kg	Maximum flight speed:	420 kph
Powerplant:	2 x TER-6 turbofans	Thrust:	2 x 1200 kg

• Weapons

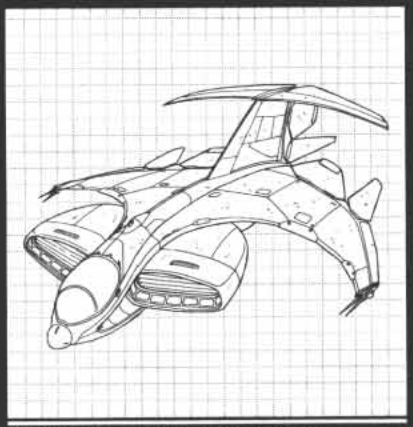
Name	Ammunition Payload	Name	Ammunition Payload
None as standard	-		

• Options

Name	Modified Threat Value	Name	Modified Threat Value
Patrol (+1 Sensor, 4 AGMs firing forward)	632	Long Range (+200 km deployment range)	595

VEHICLE RECORD SHEET

SAND COBRA



VEHICLE DESCRIPTION

VEHICLE TYPE:	Sand Cobra
THREAT VALUE:	542
▸ OFFENSIVE:	0.0
▸ DEFENSIVE:	1281.1
▸ MISCELLANEOUS:	343.4
SIZE:	7
▸ ORIGINAL DEFAULT SIZE:	8
CREW:	2
▸ BONUS ACTION:	1
COST:	309,714 marks/dinars
▸ PRODUCTION TYPE:	Mass Production
▸ INDV. LEMON DICE:	3

MOVEMENT

PRIMARY MOVEMENT MODE:	Flight
▸ COMBAT SPEED:	7
▸ TOP SPEED:	(420 kph) 14
▸ STALL SPEED	(150 kph) 5
SECONDARY MOVEMENT MODE:	Hover
▸ COMBAT SPEED/TOP SPEED:	25/ (300 kph) 50
MANEUVER:	-2
DEPLOYMENT RANGE:	900 km

ELECTRONICS

SENSORS:	-1
▸ SENSOR RANGE:	3 km
COMMUNICATION:	-1
▸ COMMUNICATION RANGE:	20 km
FIRE CONTROL:	-2

ARMOR

LIGHT DAMAGE:	8
HEAVY DAMAGE:	16
OVERKILL:	24

CREW

PILOT (LVL/ATTR):	
GUNNERY (LVL/ATTR):	

PERKS

NAME	RATING	GAME EFFECT
Autopilot	-	Act as level 1 pilot
Hostile Environment Protection	-	Desert
Passenger Seating	-	2 seats behind crew stations

FLAWS

NAME	RATING	GAME EFFECT
Decreased Maneuverability	1	Subtract from Maneuver while Flying
Large Sensor Profile	1	Easier to detect
Maximum Ceiling	11	500 meters maximum

DEFECTS

NAME	RATING	GAME EFFECT
None	-	-

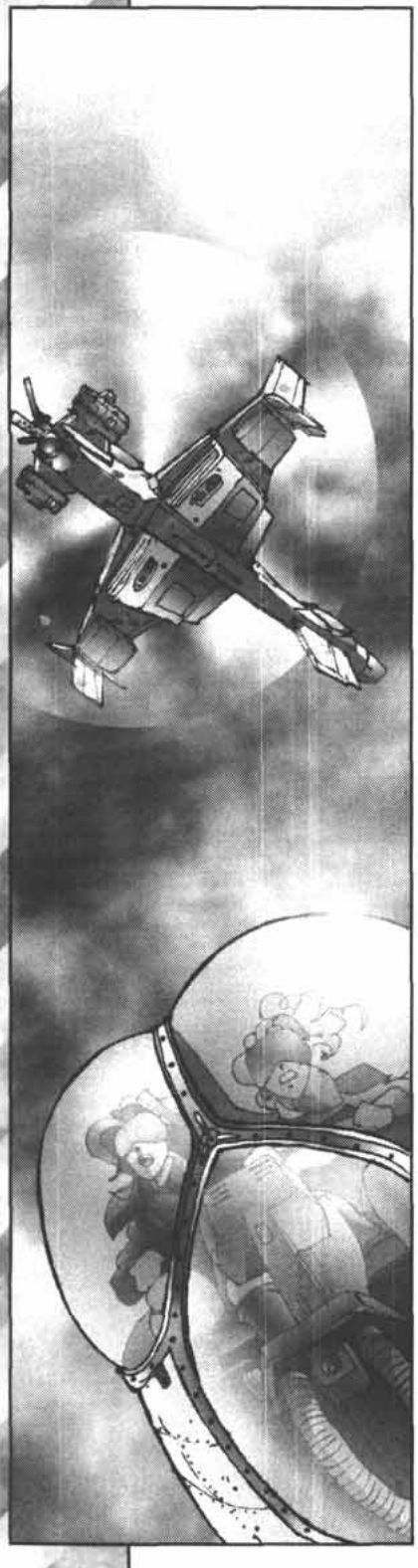
WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special
None as standard	-	-	-	-	-	-	-	-	-	-	-

DAMAGE

■■■■■■■■■	10		60
	20		70
	30		80
	40		90
	50		100

KNIGHTS OF THE AIR



Grace realized she was holding her breath. She exhaled slowly, and sound flowed into her ears once again. She wished it wouldn't.

"Left rotor damaged. Emergency landing recommended."

Grace had always wondered who Paxton Arms had hired to record the unbearably pleasant messages that told pilots they were dead. She concentrated on the job at hand.

Her medivac *Grasshopper* jetcopter was limping over the Barrington Basin, desperately trying to reach Port Arthur. A wounded Arthurian officer was in back, under Stephane's care, while she and Kristine tried to keep them all alive. When they had accepted the medivac contract for the Arthurian military representative in Prince Gable, Grace and her crew hadn't counted on the Protectorate air force deciding to settle an old score from the War of the Alliance.

The Western *Scorpion* attack helicopter had made a single pass, sending autocannon fire into the left side of Grace's copter. Now it came around again and she pressed forward on her stick and throttle, sending the craft into a sharp dive toward the dunes below. Meanwhile Kristine fought desperately to punch through the white noise scrambling their communications system. Struggling against the sluggishness of the *Grasshopper*, Grace flew between the massive dunes the desert was known for — fine silicate forming a sheltering cloud about her. It wouldn't hide her perfectly, but the Western pilot would have to come in close.

Gunning the engine to maximum thrust, Grace darted between the dunes in a frantic zigzag. She tried to ignore the unhealthy whine coming from the left engine and prayed they'd make it to the edge of the Arthurian Security Zone. They didn't.

"Civilian aircraft, surrender your passenger."

A sudden clear voice came over the comm channel, just as the *Scorpion* popped over a dune. Grace sighed and began to land her craft. This wasn't going to look good on her resume.

"I've got a short-range channel open," Kris whispered in her ear and Grace smiled; she wasn't going to go out without a fight. Giving the autopilot a voice command to begin a slow landing, she reached for her survival gear.

Stepping into the rear of the copter, she made sure everyone was ready to leave. The Arthurian officer's gunshot wound was patched up nicely and Stephane was getting him into a desert suit. She told him to pack extra supplies and brought them both in on the plan. The officer smiled; the plan was obviously to his liking.

Grace and her crew, their patient in tow, stepped into the oppressive heat as the Western gunship began to settle to the desert floor not 150 meters away. Grace smiled and opened her comm channel.

"Autopilot. Full forward thrust."

At her signal they all dived for the ground as the copter thundered over their heads. The gunship pilot opened the throttle to lift out of the way, but there wasn't enough time.

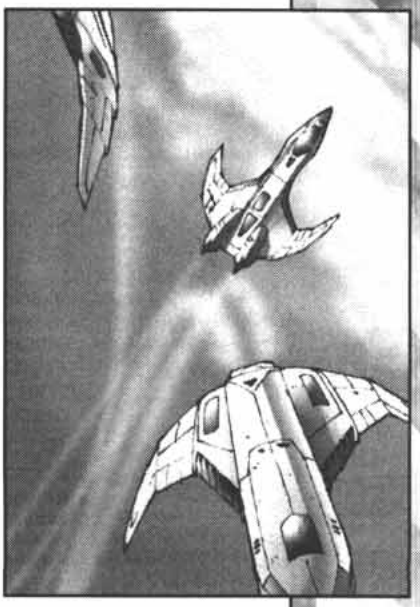
Grace hadn't seen an explosion like that since the war.

7.1 ADVENTURE SEEDS

7.1.1 A DAY AT THE CIRCUS

• Requirements

Suggested Player Characters:	Any
Locations:	Any city or military base
Non-Player Characters:	Air circus members, aerobatic pilots, spectators



The Collins Air Show has set up near the Player Characters' home-town or base, featuring their old friend Liza Rolz as a top stunt pilot. When they visit her, she is excited to see them and launches into long reminiscences at a mile a minute. They are happy to see her too, but they notice a wild undercurrent in their old friend. At the Circus they watch Liza perform in a series of barnstorming and aerobatic displays, cheating death time after time.

Liza's recklessness becomes even more apparent in the following weeks as she darts into on-coming traffic "for the thrill of it" and often dares her friends into death-defying acts of bravado like walking out onto the ledge of a building. She comes back down to earth briefly when a fellow pilot is killed during a stunt, but within a day or two she is back to her wild ways.

Eventually, the Player Characters will realize that Liza is a drug addict. Injecting herself with a heavy stimulant several times a day, she lives in a constant state of hyperactivity, functioning on almost no sleep. They may also notice that other Collins pilots share some of the same symptoms. They will discover that Mikhail Collins is supplying his daredevils with drugs, keeping them in a hyperactive state so they will not hesitate to take ever-increasing risks.

Liza and the others seem happy with the situation, validated and supplied with their fix. If the Player Characters do expose the ring or confront Collins, they must be prepared to deal with a heavily addicted — and suddenly unemployed — friend in their lives.

7.1.2 FLIGHT 714 FOR SARAGOSSA

• Requirements

Suggested Player Characters:	Southern citizens or others
Locations:	Basal, Gropius and other Southern Cities
Non-Player Characters:	SPFI terrorists, Republican citizens

The Player Characters are on board — or perhaps flying — Southair flight 714 between two cities in the Southern Republic when it is targeted by the Saragossa People's Front for Independence (SPFI). Among the passengers are a group of Saragossan entrepreneurs, viewed as traitors by the SPFI, on a business trip through the Republic.

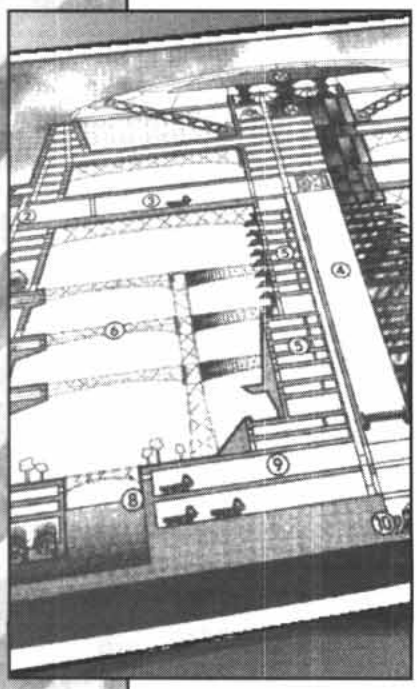
The five terrorists will board the flight separately. Each carrying a disassembled, all-plastic weapon designed to thwart airport security. As the flight progresses the five will go into action, two entering the cockpit while the other three keep an eye on the passengers. They know their targets by face and will section them off in the back of the plane. The SPFI then orders the pilot to make for Basal — where they have allies in the rebellion — after refueling in the Humanist Alliance.

In the early part of the operation, one of the businessmen will grapple with a terrorist and be shot unless the Player Characters intervene. If they do get involved they will be identified by both the terrorists and an undercover Southern Republic Intelligence Directorate (SRID) agent. The SPFI hijackers will treat them as dangerous elements, but the SRID agent will see them as potential allies. She will attempt to communicate with them and — if possible — recruit them for a rescue operation.

Will the Player Characters try to stop the terrorists? They may discover that the terrorists have smuggled explosives on board and are willing to destroy the plane in mid-air. Can they get word to the authorities before anything rash occurs? How do they react when a Southern strike-team attempts a rescue? If they do get involved, they are sure to become media heroes in the South and targets of the SPFI.

7.1.3 LOST AND FOUND

- Requirements



Suggested Player Characters:	Paratroopers
Locations:	The Badlands
Non-Player Characters:	Mad troopers

The Player Characters' squad is dropped over the Badlands to investigate the remains of a long-buried oasis tower recently uncovered by a sandstorm. Investigating the access hatches, they will discover that the main doors are completely jammed by hardened silicate, but a few small access conduits are still functioning normally. Inside, they step into a dark and stale world. The habitat core has been severely damaged and only a few hanging gardens remain intact. The dull hum of air recyclers can be heard, however, and although the oxygen content is low, the atmosphere is breathable. Additional signs of habitation soon become clear. Simple snare traps are discovered holding the bodies of decomposing hoppers, along with several abandoned campsites and some shattered communications gear.

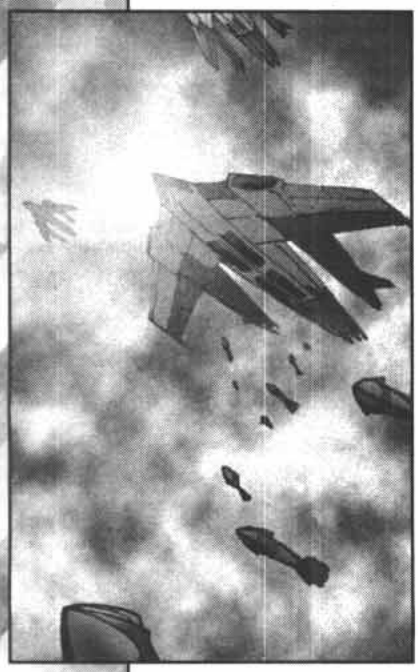
The massive sandstorm that buried the tower hit during the War of the Alliance and trapped a small number of Terranovan troops inside. Numbering only about a dozen, they have been surviving off the air filters and stored supplies of the tower for the last 26 cycles. Life in the gloomy stale tower has loosened their grip on reality and they have broken into two warring factions, each claiming the others are "Earther spies."

The Player Characters' arrival has prompted a change in the dynamics of the mad soldiers. Convinced that Terra Nova has been occupied by Earth, they believe the newcomers to be GRELs and will strike out at them from the maze of corridors and wreckage inside the tower.

If the Player Characters can convince one faction of their identity, they will be sought after as allies against the other. The grip of madness is strong on these lost souls, but it may be possible to convince them to emerge from their prison. If so, they will surely become recurring friends, seeing the Player Characters as saviors. Those left to their own fate may also make their way out later, when other groups investigate the tower, perhaps to reenter the Player Characters' lives as enemies.

7.1.4 RAIN OF FIRE

- Requirements



Suggested Player Characters:	Rescue personnel
Locations:	A Badlands town
Non-Player Characters:	Miscellaneous civilians

The Player Characters have undertaken to save the life of Hiro Tors, a small boy of eight cycles whose father knows the Characters. Hiro lives with his mother on a homestead in a Badlands town that has been recently occupied by a military force. Hiro's mother was forced to flee while her child was left in the town's single school-house. She and her ex-husband are frantic and have asked the Characters for help getting their child back.

The Characters may attempt a variety of ways to recover the missing child, from negotiating with the occupying force to sneaking into the village unnoticed. Hiro himself has managed to slip way from the relatively lax security around the school house and is hiding among the massive water purifiers that make the town a "legitimate" military target. Hiro knows the purification plant intimately and will lead the Characters on a merry chase.

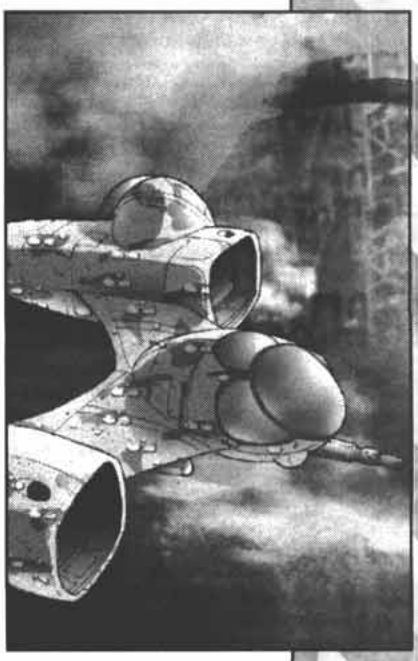
The situation becomes more complicated when the opposing military decides it is critical to drive the occupying force back. The town itself is relatively insignificant and rather than risk Gears and men in ground combat, heavy bombing is called onto the town. Some craft carry "smart bombs" that will target key command and control positions, but subsequent flights are assigned to simply saturate the area and force a withdrawal.

After the first wave of bombers, the occupying command structure is crippled and chaos breaks out in the town. The troops fall back to stronger positions and the townsfolk stream out into the streets seeking out their homes and loved ones. Soon the saturation bombing begins and the Player Characters are faced with finding Hiro as tons of high explosives plummet onto their positions.

7.1.5 STORM RIDER

• Requirements

Suggested Player Characters:	Stunt people
Locations:	Badlands movie set
Non-Player Characters:	Actors, local extras, rovers



The Player Characters' are involved in the filming of *Storm Warriors*, the latest in the *Rover* series of holofilms. Young director Melkin Anders is preparing the filming of the climactic final stunt, an air assault on a lone oasis tower while a tempest rages. The full effect of the storm is to be added after with special effects, but Anders — in a search for "gritty realism" — is determined to film in high winds. The Player Characters will fly several of the craft involved, despite the fact that they know the stunt to be unnecessarily dangerous. Anders has also exposed several locals to danger in minor roles as ground troops.

When the stunt is staged, something goes terribly wrong. One of the attack gunships wheels out of control and smashes into the oasis tower — killing a stunt flyer and wounding a dozen people on the ground. The players will likely be furious at the director and they will not be alone. The whole local population is literally up in arms.

The tension increases to the breaking point when a band of real rover bandits arrives. Fans of the *Rover* holofilm series, they have come to provide their own brand of "production assistance." When they discover the set in chaos and realize the director is an idiot and the star — tough-guy Mikal Fynn — is actually an effete "wimp," they decide that they should be in charge. Holding the producers at gun-point, the rover band begins to reshoot the movie in ever more dangerous and violent ways.

The players must now figure out how to live with a heavily armed "creative director" at their side at all times. Will they just get the job done, including flying a *Varis* hopper into the tower during the next sandstorm? If so, they are sure to make friends of the rovers. Or will they balk at the risks they are asked to take and lead a rebellion? Either way, they can surely sell the movie rights later on.

7.1.6 THE BEST OF THE BEST

• Requirements

Suggested Player Characters:	Test pilots
Locations:	Testing air-base
Non-Player Characters:	Other test pilots, engineers, families

The Player Characters are stationed at the top testing air base of either North or South, taking the newest and best aircraft through their paces. Rivalries and friendships abound on base as each pilot tries to gain the prestige associated with breaking a record and flying the latest technology. The suburban-style housing near the base forms a little community of test personnel and their families, each participating in one way or another in the friendly rivalry.

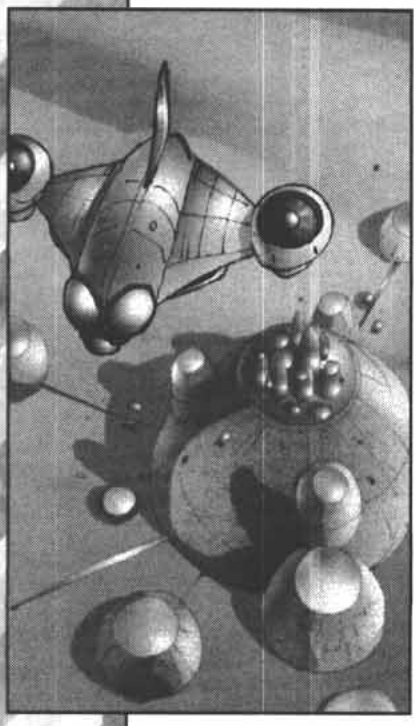
Tempers flare when word comes down that one pilot will be chosen to fly a new craft that is rumored to be the fastest military jet ever designed. The prospect of beating the Terranovan speed record and piloting the ultimate machine is more than enough to send the pilots and their families into a frenzy of competition. The testing grounds become a contest arena as all the flyers try to prove to the base commander that they are the best.

Eventually, rumor has it that one of the Player Characters is to be chosen. Many of the other pilots become resentful, but others welcome the decrease in competitive tension and return to their jobs. The calm is shattered when — on the day before the official pilot choice is to be announced — the Player Character is suddenly arrested by the base military police. Accused of drugging a fellow pilot during a test exercise, the Character faces a court-martial and years in the brig for reckless endangerment of a fellow officer. In fact, the pilot was drugged by Elias Gomez, companion to test pilot Gerald Koss, who hoped that by drugging one contender and framing another for the deed, he would ensure his mate a place in the cockpit.

The Player Characters have only a single night to uncover the truth before the official announcement is made. They can certainly clear their friend afterwards, but Koss will be chosen as pilot and get all the glory.

7.1.7 THE LONG DROP

- Requirements



Suggested Player Characters:	Paratroopers or skydivers
Locations:	Any
Non-Player Characters:	Various

The Player Characters' experience the greatest fear of all skydivers when one of their parachutes doesn't open. Diving in a team, the others watch in horror as a friend plummets to his death. The only hope is a daring air rescue, with another team member diving to catch the doomed jumper. If chutes have already been opened, someone will have to abandon their primary chute and use the smaller emergency chute to break the fall of two people.

Besides a dramatic scene in a longer adventure, the fall can provide ambitious Gamemasters with an interesting storytelling device. Faced with almost certain doom, the Character's mind may start floating back to the critical moments of his life. Roleplaying these quick flashbacks can emphasize the regrets of the character, setting the stage for future stories. This technique works best during a prolonged campaign, when the players have invested a great deal in their characters.

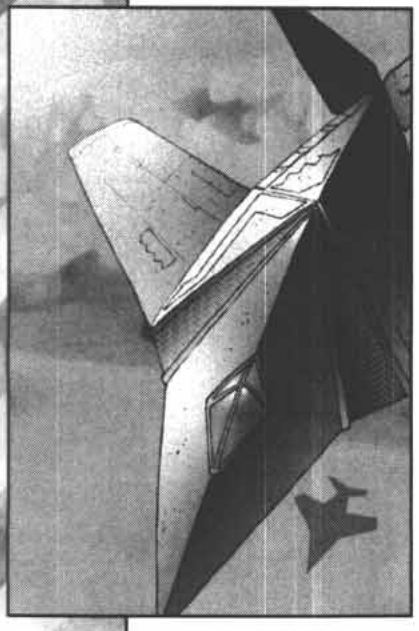
Once safely on the ground (perhaps wounded, but alive) the Player Characters will want to discover what happened. Although a simple technical error is possible, so is tampering. If the latter is the case, the Character's face a search for an unknown enemy who is ready to kill them. Just what has suddenly made them targets? Or, more precisely, what has made one among them a target?

On a more personal level, the experience should have a profound effect on the victimized Character. Even trained military officers who face danger regularly can hardly understand the sensation of looming death that accompanies such a free-fall. The memories that appeared to the diver will continue to haunt his dreams, forcing him to make peace with the unresolved portions of his life. This, along with the knowledge that his life is targeted by a murderer, will provide plenty of opportunities for self-exploration.

Ideally, both elements should converge. Perhaps one of the memories induced by the fall provides a clue to the killer's identity.

7.1.8 YOUR MISSION, IF YOU CHOOSE TO ACCEPT IT...

- Requirements



Suggested Player Characters:	Stealth craft pilots
Locations:	Deep in enemy territory
Non-Player Characters:	Enemy pilots, troops and spies

The Player Characters become the victims of espionage and treason when the security of a top-secret mission is compromised. Sent on a surgical strike mission deep in enemy territory, the Player Characters find enemy fighters closing with them as they approach their objective. Before they can react, anti-aircraft fire blossoms around them. Taking advantage of their stealth capabilities, the Player Characters may be able to complete their mission, but not with the subtle precision they had been ordered to use.

When the players make it back home, they should understand that there is a serious intelligence leak in their mission center. The enemy knew exactly when and where they would be arriving and laid a trap. The whole thing smells of a spy. A second group of pilots will be killed during a similar mission, sending the Player Characters off on their own investigation.

Their prime suspect will likely be the base commander. Privy to all tactical data, she is an old officer whose career some see as having stalled. A veteran of the War of the Alliance, she also has spoken of friends at the opposite pole. In fact it is Colonel Morot, the base intelligence officer, who has been leaking information to the enemy. A skilled agent, he was involved with the base commander for several cycles. When she eventually ended the relationship because of his possessiveness, she could not know the extent to which he would go to reap vengeance.

Morot will keep the pilots following their false trail as long as possible, feeding them erroneous data and misleading reports. Officially, he refuses to support their rogue efforts, but he secretly hopes to get them to take vigilante action against the commander. Will they fall into his trap?

7.1 STOCK NON-PLAYER CHARACTERS

Because of the underlying storyline inherent to Heavy Gear, Non-Player Characters have been divided into five categories: Historical Figures, Restricted Characters, Very Important People, Social Encounters and Expendables. These categories will help the Gamemaster determine which characters he can or cannot use in his campaign and who among them is expendable. The attentive reader will notice that most Historical Figures, Restricted Characters and Very Important People have no stats, while Social Encounters and Expendables often do. This reflects the fact that stats are most useful for combat involving PCs, and the first three categories do not run that risk.

• Historical Figures

These are dead people. Unless a Gamemaster's campaign occurs at a date prior to the current Heavy Gear storyline, these characters may not be encountered. Their stats are not provided for this very reason.

• Restricted Characters

These are the characters who are vital to the storyline of Heavy Gear. While their actions may result in events which will affect the Player Characters' lives, they should remain in the background and are not expected to interact with the players. There will always be numerous underlings to intervene between the PCs and them.

• Very Important People

Characters who fall into the VIP category are not necessarily linked to the storyline. However, they are still important to the game world as a whole and should not be eliminated unless the circumstances and the campaign justify it. They have multiple resources and/or helpers who will come to their aid, which they can occasionally make available to the Player Characters. If the players kill such a character, they should be immediately hunted down and appropriately punished.

• Social Encounters

Most of the non-combat, Non-Player Characters should fall into this category. While stats may be provided for these characters, they are not expected to get into combat. Still, because they can encounter Player Characters, there is always the chance they could die.

• Expendables

These are the typical, faceless characters who populate Terra Nova by the millions. They also include those characters who are meant to challenge the players during scenarios. While mindless slaughter should never be encouraged, these are the most expendable characters.

AEROBATIC PILOT

• Typical Attributes

AGI	2	APP	0	BUI	0	CRE	1	FIT	1
INF	0	KNO	0	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

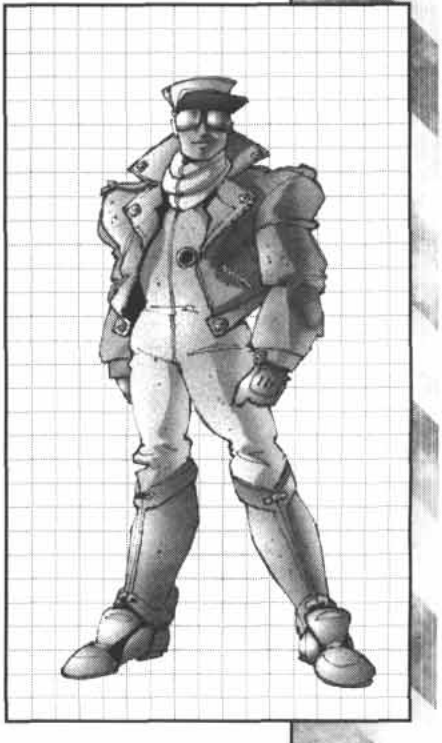
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot (stunts)*	2	2	Drive	1	2	Navigation	2	0
Business	1	0	Electronics	1	0	Notice	1	1
Combat Sense	2	1	Electronic Warfare	1	1	Theatrics	2	0
Communications	1	0	Mechanics	1	0	* (specialization)		

• Description

As Terra Nova inches towards war, its population seeks more and more exciting diversions and the military gains greater and greater prestige. Both functions come together in the elite team of aerobatic pilots featured in most air forces. Touring air shows and media events, these daring pilots tempt death in high-speed fly-bys and tight formation aerobatics. The best aerobatic pilots of the Northern and Southern armed forces are treated like precious resources and enjoy privileges unknown to most who wear a uniform. Combat pilots often look down on them as self-important showoffs who have forgotten the true purpose of military aircraft. Civilian stunt pilots also make a good living at shows and on trideo, but few can boast the skill and equipment of their military counterparts.

Typical equipment: G-suit, flight helmet w/ oxygen mask.



AIR WING COMMANDER

Typical Attributes

AGI	0	APP	0	BUI	0	CRE	1	FIT	0
INF	1	KNO	1	PER	0	PSY	0	WIL	1
STR	0	HEA	0	STA	25	UD	3	AD	3

Typical Skills

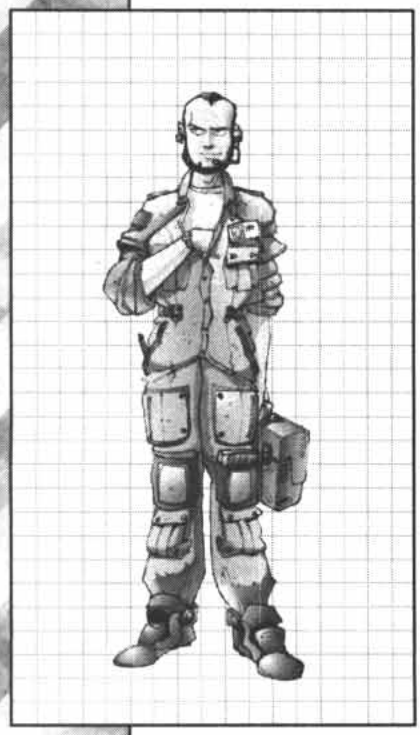
Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	1	0	Electronic Warfare	1	1	Navigation	1	1
Business	1	1	Foreign Language	1	1	Notice	1	0
Combat Sense	1	0	Intimidate	1	0	Small Arms	1	0
Communications	1	1	Leadership	2	1	Tactics	2	1
Dodge	1	0						

Description

The officers who determine the battlefield application of air power must engage in a constant balancing act between military discipline and the attitudes of the pilots. While fighter pilots are extremely professional, the "hot-shot" attitude they are famous for remains a real concern. Similarly, bomber pilots often take the firepower of their craft for granted and must be reigned in to prevent their taking unnecessary risks. Add to this the constant demand from ground commanders for precious air resources, and the profile of the stern over-worked air wing commander becomes clear.

Typical equipment: personal computer, watch, data disks (10), personal communicator (25 km)

AIRCRAFT ENGINEER



Typical Attributes

AGI	-1	APP	-1	BLD	-1	CRE	2	FIT	0
INF	0	KNO	2	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	20	UD	2	AD	2

Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Bureaucracy	1	2	Demolitions	1	2	Mechanics	3	2
Communications	1	2	Electronics	3	2	Tinker	2	2
Computer	2	2	Etiquette	1	0			

Description

Aircraft engineers are a peculiar breed. While some of them are little more than highly experienced technicians, most have a formal education in their trade and take pride in the fact that, unlike mechanical engineers, they are not afraid to ride in the vehicles they helped design. Often during the testing of a machine, an aircraft engineer will be present in the control tower, or in the craft itself, to monitor the tests and to offer helpful suggestions in case of trouble. Because they often put their lives at risk, their salaries are appropriately high.

Typical equipment: protective cloth (Armor Rating 5, 10 against fire), personal computer, watch, data disks (10), personal communicator (25 km), engineering electronics/mechanical tool kit (quality; +1 to electronics or mechanical skill rolls).

AIRCRAFT TECHNICIAN

Typical Attributes

AGI	0	APP	0	BLD	0	CRE	1	FIT	1
INF	0	KNO	1	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Bureaucracy	1	1	Demolitions	1	1	Mechanics	2	1
Communications	1	1	Drive	1	0	Notice	1	1
Computer	1	1	Electronics	2	1	Tinker	1	1

Description

Aircraft technicians, unlike their Heavy Gear counterparts, often feel responsible for the machines they are assigned to maintain. Techs often think of them as their "birds" or their "babies," and tend to dislike reckless pilots who damage them by taking unnecessary risks. Many hotheaded pilots have discovered — much to their dismay — that antagonizing an aircraft tech often leads to their flight being canceled due to "unforeseen technical difficulties." Smart pilots bring their technicians "bribes" to stay in their good graces. This job may not be the most glamorous or the highest paying, but it certainly does have some nice perks.

Typical equipment: protective cloth (Armor Rating 5, 10 against fire), tech gear, electronics tool kit, mechanical tool kit.

AIRPORT SECURITY

Typical Attributes

AGI	1	APP	0	BLD	1	CRE	0	FIT	1
INF	1	KNO	-1	PER	1	PSY	0	WIL	0
STR	1	HEA	0	STA	30	UD	6	AD	6

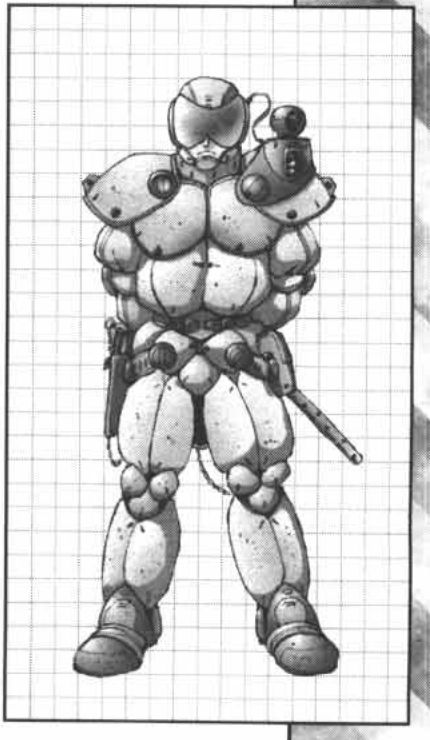
Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Ambush	1	1	Dodge	2	1	Investigation	1	1
Athletics	1	1	Drive	1	1	Law	1	-1
Bureaucracy	1	-1	First Aid	1	-1	Melee	1	1
Combat Sense	2	1	Foreign Language	1	-1	Notice	1	1
Computer	1	-1	Hand-to-Hand	1	1	Small Arms	2	1
Demolitions	1	-1	Intimidate	1	1	Throwing	1	1

Description

Considering the prevalence of terrorism and hijacking, all major airports have invested large sums of money in training and equipping their own security forces. By law, airport security can make use of limited violence in order to ensure the safety of the airport and its clientele.

Typical equipment: heavy flak suit (Armor Rating 40), helmet, 9 mm pistol, personal communicator (25 km), truncheon (AD + 5), shoulder-mounted trideo recorder, data disks (2).



BOMBER CREWMEMBER

• Typical Attributes

AGI	1	APP	0	BLD	0	CRE	1	FIT	0
INF	0	KNO	1	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	4	AD	3

• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	1	1	Electronics	1	1	Navigation	1	1
Communications	1	1	Gunnery (aircraft)	2	1	Notice	1	1
Computer	1	1	Hand-to-Hand	1	1	Small Arms	1	1
Drive	1	1	Mechanics	1	1			

• Description

Crewmembers aboard bombers are usually gunners or bombardiers as well as backup technical assistants to any engineer or technician on board. They have a minimal knowledge of all the equipment on board and, although they have no professional training, they know enough to handle basic emergencies. While they are not cleared to land an aircraft, they could make a reasonable attempt, provided that a professional pilot gave them instructions by radio. Many bomber pilots start as crewmembers and work their way up. Officers keep a careful eye on their bomber crewmembers to see who is fit to move up and who is not.

Typical equipment: flight suit, helmet, bomber overcoat (Armor Rating 10, insulated against heat/cold), 6 mm pistol, goggles, binoculars.

BOMBER PILOT

• Typical Attributes

AGI	1	APP	0	BLD	0	CRE	1	FIT	0
INF	1	KNO	1	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	2	1	Electronics	1	1	Navigation	2	1
Bureaucracy	1	1	Electronic Warfare	2	1	Notice	1	1
Communications	1	1	Gunnery (aircraft)	1	1	Small Arms	1	1
Computer	1	1	Leadership	1	1			

• Description

Bomber pilots realize that their aircraft are heavier and less maneuverable than fighters, but that they are better armed and perform tasks that are just as, or even more, crucial. Bomber pilots tend to think of other aircraft units as less important or simply as support for their missions, an attitude that has earned them a "snobby" reputation. They also have more traditions than regular aircraft pilots — some say that is because they have too much spare time on their hands — and tend to be more level-headed. Bomber pilots often have a crew to think of, which requires initiative and leadership.

Typical equipment: flight suit, bomber overcoat (Armor Rating 10, insulated against heat/cold), 9 mm pistol, goggles, binoculars, aircraft pilot helmet.

BUSH PILOT

• Typical Attributes

AGI	1	APP	0	BLD	1	CRE	1	FIT	1
INF	1	KNO	0	PER	1	PSY	0	WIL	1
STR	1	HEA	0	STA	30	UD	6	AD	6

• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	2	1	Dodge	1	1	Melee	1	1
Athletics	1	1	Foreign Language	1	0	Navigation	2	0
Business	1	0	Gambling	1	1	Notice	1	1
Combat Sense	1	1	Hand-to-Hand	1	1	Small Arms	2	1
Communications	1	0	Intimidate	1	1	Survival	2	1
Cooking	1	1	Mechanics	1	0	Swimming	1	1

• Description

Former military pilots who feel that their lives lack excitement, find employment and adventure as bush pilots. They often own their own craft and take anyone, anywhere, provided he or she can pay the cash up front. Bush pilots with their own craft charge (Aircraft Piloting + Business + INF) marks/dinars per kilometer per person, but that is negotiable. The price can drop to 25% of that amount if they are provided with an aircraft.

Typical equipment: light flak vest (Armor Rating 15), knife (AD + 7), survival kit, personal communicator.

CHIEF TECHNICIAN

• Typical Attributes

AGI	0	APP	0	BLD	0	CRE	1	FIT	0
INF	1	KNO	1	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

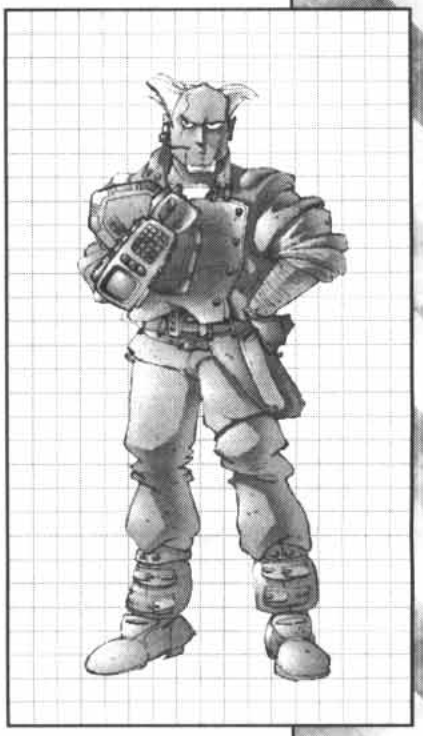
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Bureaucracy	2	1	Drive	1	0	Notice	1	1
Communications	1	1	Electronics	2	1	Teaching	2	1
Computer	2	1	Leadership	1	1	Tinker	2	1
Demolitions	1	1	Mechanics	2	1			

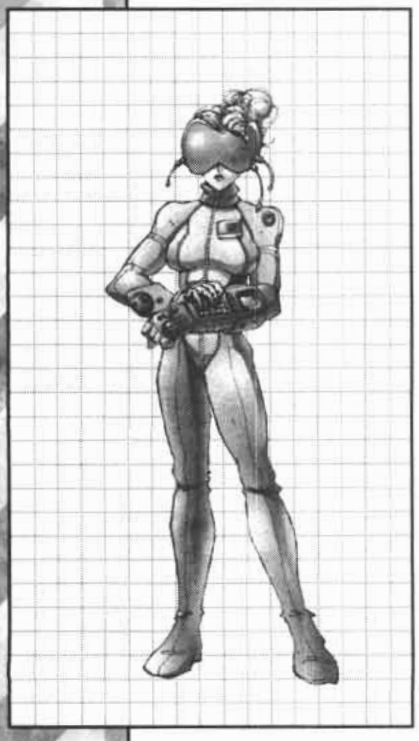
• Description

Taking care of an aircraft is a complex and demanding task that requires the skills of several people. The chief technician is the person who makes sure that everyone's abilities and time are used properly to ensure that the vehicle will be cared for as fast and as carefully as possible. He is well versed in aircraft maintenance and can often lend a hand whenever one of his crew faces unexpected trouble. On many airfields, the chief technician has the final say on whether or not an aircraft will leave the hangar, regardless of the pilot's wishes or headquarters' orders. The base's aircraft are the chief's babies, and he'll be damned if he'll let some hotshot pilot damage one.

Typical equipment: datapad, communicator, light tool kit.



CONTROL TOWER OPERATOR



Typical Attributes

AGI	0	APP	0	BLD	-1	CRE	1	FIT	0
INF	1	KNO	1	PER	1	PSY	-1	WIL	1
STR	0	HEA	0	STA	20	UD	2	AD	2

Typical Skills

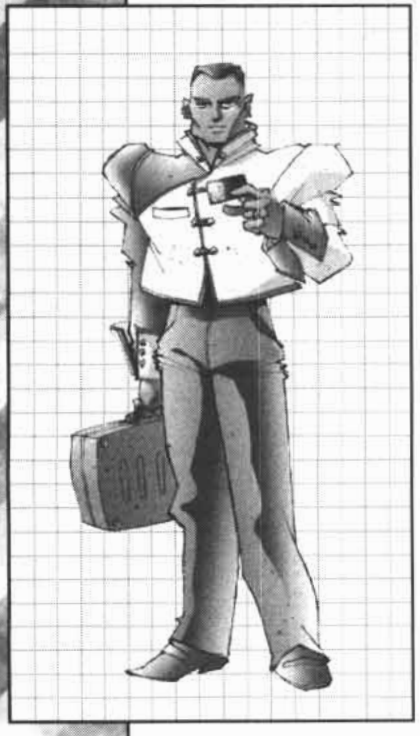
Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	2	0	Drive	1	0	Leadership	1	1
Bureaucracy	1	1	Etiquette	2	1	Navigation	1	1
Communications	2	1	Foreign Language	2	1	Notice	1	1
Computer	1	1						

Description

Even though navigation computers greatly reduce the workload of both flight and ground crew, human supervision is still required to take care of unexpected situations. This is where control tower operators come in. Their job is to oversee the routine computer-directed traffic in their assigned flight zones, ready to take over at a moment's notice should something go awry. A special 3D imaging device lets them see the actual flight path of the aircraft from all sides and even allows them to run hypothetical scenarios. Many operators are former or retired pilots and often boast that they could even coach a grassrunner to land an airplane. Control tower operators are prone to mental fatigue and breakdowns because of the high stress associated with the job.

Typical equipment: dataglove, communicator headset, data imaging system.

CORPORATE REPRESENTATIVE



Typical Attributes

AGI	0	APP	1	BLD	0	CRE	1	FIT	0
INF	2	KNO	1	PER	0	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Bureaucracy	1	1	Drive	2	0	Notice	1	0
Business	2	1	Etiquette	2	2	Psychology	1	1
Computer	1	1	Foreign Language	3	1	Theatrics	2	2

Description

Aircraft are expensive, and the few companies that manufacture them can reap enormous amounts profits if one of their designs is chosen by an airline or air force. Competition is fierce, and the corporations are ready to spend a lot on customer service to ensure loyalty. A corporate representative must know whose palms to grease, and when, to ensure the sale and will often accompany the delivery of a new aircraft to act as a liaison between the factory and the end user. They stay on hand to root out any problems that might develop with the new aircraft and report on the customer's present and future needs. They also keep an eye on the competition to find out what's hot and what's not.

Typical equipment: personal computer, privacy devices, expensive clothes.

CRASH CREW (DEMOLITION)

• Typical Attributes

AGI	1	APP	0	BLD	0	CRE	1	FIT	0
INF	0	KNO	2	PER	1	PSY	0	WIL	1
STR	0	HEA	0	STA	25	UD	3	AD	3

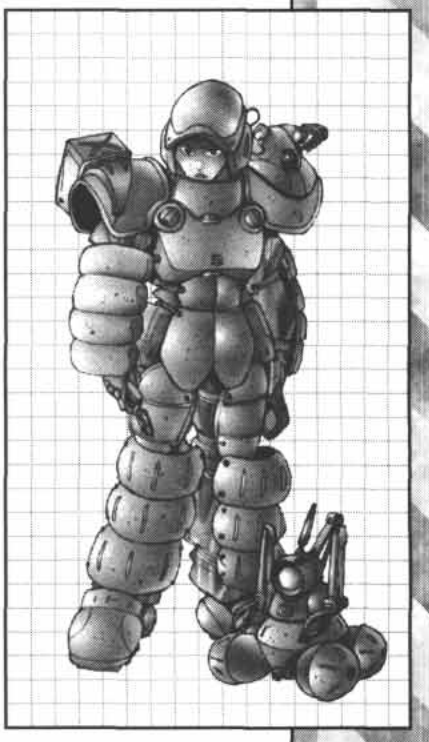
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Combat Sense	1	1	Demolitions	2	2	Mechanics	2	2
Communications	1	2	Electronics	2	2	Notice	2	1
Computer	2	2	First Aid	1	2	Throwing	1	1

• Description

If a military plane is forced to come down with live ordinance on board, no rescue may be attempted before the weapons are dealt with and neutralized. A few crash teams have been trained especially for this purpose. They have an intimate knowledge of explosive devices and aircraft weaponry, and can usually defuse them without delay. The demolition team is also in charge of removing any unused ordinance on returning warplanes before the aircraft is returned to its hangar. Similar demolition teams are found in the civilian sector where they operate at dangerous crash sites, clearing the way for other rescue workers to follow. Whether military or civilian, they are renowned for their unflappable nature and quiet efficiency.

Typical equipment: light flak suit with turtleshell armor, tool kit, wire-guided robot.



CRASH CREW (FIREMAN)

• Typical Attributes

AGI	1	APP	0	BLD	1	CRE	0	FIT	1
INF	0	KNO	0	PER	1	PSY	0	WIL	0
STR	1	HEA	0	STA	30	UD	6	AD	6

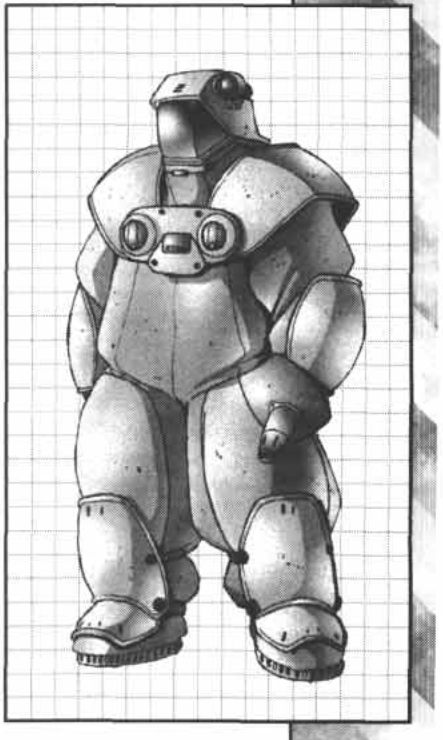
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Athletics	2	1	Earth Sciences	1	0	Melee	1	1
Combat Sense	1	1	First Aid	1	0	Notice	1	1
Demolitions	1	0	Hand-to-Hand	1	1	Physical Sciences	1	0
Dodge	2	1	Investigation	1	1	Throwing	1	1
Drive	2	1	Law	1	0			

• Description

Given the amount of fuel it carries, a burning aircraft can become an unbearable inferno in a very short time. The crash crew firemen are trained to put out the flames as quickly as possible to allow other rescue teams to move in. Their heavy fire suits contain complete life support equipment and are heavily padded to allow them to withstand the scorching heat as they approach a fire. The scorched look of their suits and their apparent fearlessness in the face of fire have earned crash team firemen the nickname "lava men," which they bear with considerable pride.

Typical equipment: fire suit with turtleshell armor, fire ax.



CRASH CREW (MEDIC)

Typical Attributes

AGI	1	APP	0	BLD	0	CRE	0	FIT	0
INF	0	KNO	2	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Athletics	1	0	Dodge	1	1	Medicine	2	2
Combat Sense	1	1	Drive	2	1	Notice	1	1
Communications	1	2	First Aid	3	2	Psychology	1	2
Computer	1	2						

Description

Once the demolition and fire teams have cleared the way and made sure the crash site is secure, the medical team moves in. They are trained to work in extremely difficult conditions, and most crash team medics are extremely limber, ready to crawl between twisted panels to reach a wounded crewman. They have even been known to operate on patients while they are still trapped within the wreckage. A compact medical kit, very similar to that used by battlemeds, allows them to stabilize injuries while the rest of the crash team frees the victims from the twisted wreckage. Many crashmeds (as they call themselves) double as field psychologists since they are the ones who must calm down shocked crash victims.

Typical equipment: medical kit, glove-mounted medical scanner, communicator.

FIGHTER SQUADRON LEADER

Typical Attributes

AGI	1	APP	0	BLD	0	CRE	1	FIT	0
INF	2	KNO	0	PER	1	PSY	0	WIL	1
STR	0	HEA	0	STA	25	UD	4	AD	3

Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	3	1	Drive	1	1	Navigation	1	0
Bureaucracy	1	0	Electronic Warfare	1	1	Notice	1	1
Combat Sense	1	1	Gunnery (aircraft)	2	1	Small Arms	1	1
Communications	2	0	Hand-to-Hand	1	1	Tactics	2	1
Computer	1	0	Leadership	2	2	Teaching	1	1
Dodge	1	1	Mechanics	1	0			

Description

Although they may not always be the hottest pilots in the unit, squadron leaders are skilled in a huge number of fields. It falls to them to make sure that the various parts that compose the squadron — flight crew, technicians, supply, support — work smoothly together. Squadron leaders may sometimes appear rough, but they have the well-being of their unit at heart.

Typical equipment: personal computer, G-suit, flight helmet w/oxygen mask, 9 mm pistol.

FIGHTER PILOT

• Typical Attributes

AGI	1	APP	0	BLD	0	CRE	0	FIT	1
INF	0	KNO	0	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	4	AD	3

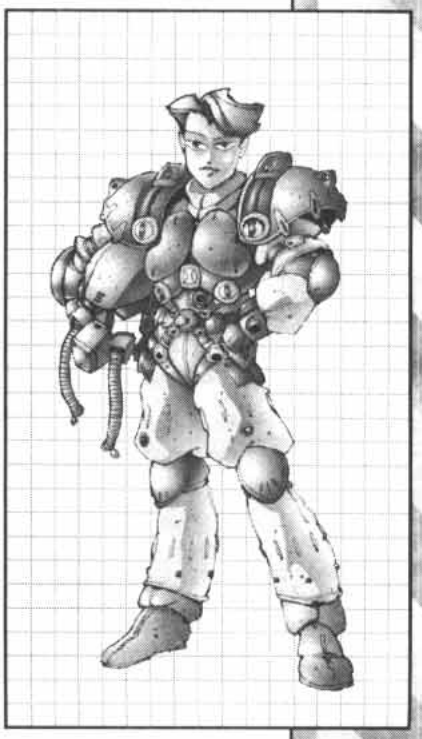
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	2	1	Electronics	1	0	Navigation	1	0
Communications	2	0	Electronic Warfare	2	0	Notice	1	1
Dodge	1	1	Gunnery (aircraft)	2	1	Small Arms	1	1
Drive	1	1	Hand-to-Hand	1	1			

• Description

Military aircraft pilots have always been surrounded by an aura of heroism and bravado, and the pilots of the various air forces of Terra Nova are no different. In fact, they are admired even more than usual because there are so few of them and they must often fly and fight in weather conditions that most pilots would find suicidal. The adrenaline rush associated with this kind of hotshot piloting is precisely what attracts them to the job. Still, most fighter pilots are remarkably calm, and many would deny the above statement. Those that don't, usually do not survive very long.

Typical equipment: G-suit, flight helmet w/oxygen mask, 9 mm pistol.



FLIGHT ATTENDANT

• Typical Attributes

AGI	0	APP	1	BLD	0	CRE	0	FIT	0
INF	1	KNO	1	PER	1	PSY	1	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

• Typical Skills

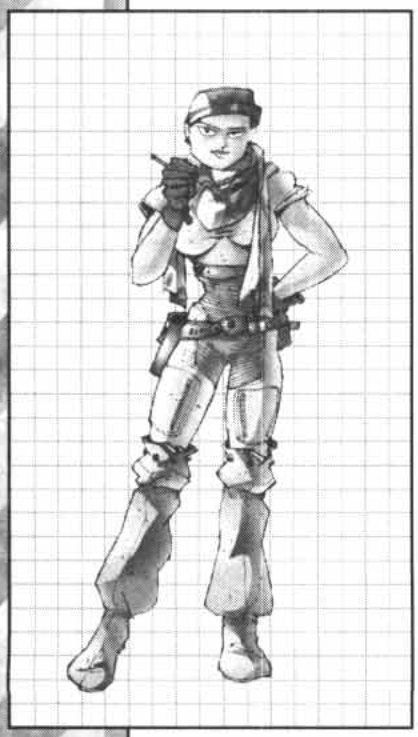
Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Bureaucracy	1	1	Drive	1	0	Foreign Language	2	1
Communications	1	1	Etiquette	3	1	Notice	1	1
Computer	1	1	First Aid	1	1	Psychology	1	1
Cooking	1	0						

• Description

The low population density on Terra Nova means that any trip between city-states is likely to be quite long. This is even more true of the commercial airlines and passenger floaters plying the trading routes of the Badlands since they have to carefully navigate around potential tempests. To ensure the passengers' comfort, airlines assign several flight attendants to each crew. Their main purpose is to make sure that the passengers get everything they need and do not disturb the flight crew, but they generally have enough training to act as a makeshift cook, paramedic or psychologist. Because they travel a lot, flight attendants are an excellent source of foreign news.

Typical equipment: datapad, bartender glove.

FLOATER PILOT



• Typical Attributes

AGI	1	APP	0	BLD	1	CRE	0	FIT	1
INF	1	KNO	1	PER	0	PSY	0	WIL	0
STR	1	HEA	0	STA	30	UD	5	AD	5

• Typical Skills

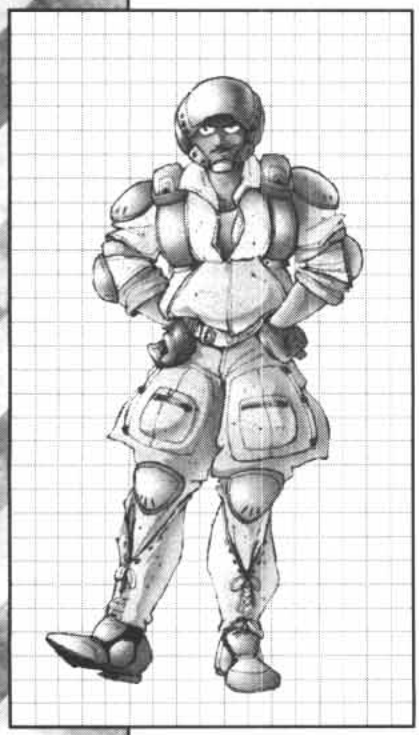
Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	2	1	Communications	2	1	Notice	1	0
Athletics	1	1	Electronics	1	1	Small Arms	1	1
Bureaucracy	1	1	Mechanics	1	1	Tactics	1	0
Business	1	1	Navigation	2	1			

• Description

Blimps, or floaters as they are more commonly called, are a frequent sight in the Badlands. Because they are inexpensive and can drift on the wind to save fuel (thus greatly extending their range), floaters are used as cargo carriers and light patrol vehicles by Badlands communities. Floater crewmen (or just floaters, like their vehicles) are generally easy-going, used to watching the desert sands drift lazily under the vehicle as they travel from place to place. Still, under their placid appearance they are hardy souls, always wary of potential tempests and other disturbances that could rip their fragile aircraft apart.

Typical equipment: goggles, communicator, 6 mm pistol.

HOPPER PILOT



• Typical Attributes

AGI	1	APP	0	BLD	0	CRE	0	FIT	0
INF	0	KNO	1	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	2	1	Computer	1	1	Gunnery (aircraft)	1	1
Bureaucracy	1	1	Dodge	1	1	Navigation	2	1
Combat Sense	1	1	Drive	1	1	Small Arms	1	1
Communications	2	1	Electronic Warfare	1	0	Tactics	1	0

• Description

Hopper pilots are either seen as saviors or total nutcases by ground pounders, depending on their point of view. Vectored-thrust vehicles have a helicopter's hovering capability and maneuverability, but without the large exposed main rotor assembly. It gets to the heads of many hopper pilots, who then make a habit of mixing it up with the ground vehicles they are chasing. Combined with their tendency for nap-of-the-earth flying and love of hard, high-gee maneuvers, it makes for a potentially explosive cocktail. Hopper pilots are often loud, boastful and always ready for a new challenge. They are also very dependable when you are in a fix and will not hesitate to plunge into danger to assist a unit under fire or pull them out of a hot LZ.

Typical equipment: light flight helmet, 9 mm pistol.

MARSHAL (AIR)

• Typical Attributes

AGI	1	APP	0	BLD	1	CRE	0	FIT	1
INF	1	KNO	1	PER	1	PSY	0	WIL	1
STR	1	HEA	0	STA	30	UD	7	AD	5

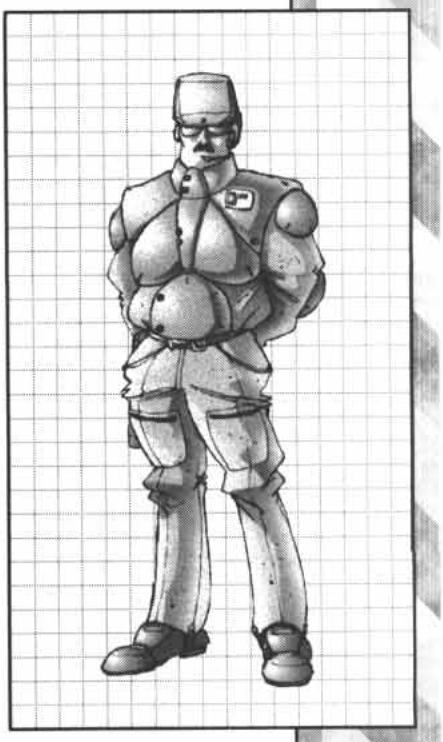
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	1	1	Computer	1	1	Hand-to-Hand	2	1
Ambush	1	1	Dodge	2	1	Intimidate	1	1
Athletics	1	1	Drive	1	1	Investigation	1	1
Bureaucracy	1	1	Electronics	1	1	Law	1	1
Combat Sense	2	1	First Aid	1	1	Notice	1	1
Communications	1	1	Foreign Language	2	1	Small Arms	2	1

• Description

Planes are excellent targets for terrorists and other bandits, and security officers are now assigned to practically every flight. These guards are often former military police looking for a more "relaxed" job when they retire from the army. The usual practice is to post one guard for every fifty passengers, though this number is not an absolute. Sometimes, they board the plane as civilians, with their equipment concealed under long coats.

Typical equipment: light flak vest, communicator, 6 mm pistol.



PARATROOPER

• Typical Attributes

AGI	1	APP	0	BLD	1	CRE	0	FIT	1
INF	0	KNO	0	PER	1	PSY	0	WIL	0
STR	1	HEA	0	STA	30	UD	7	AD	5

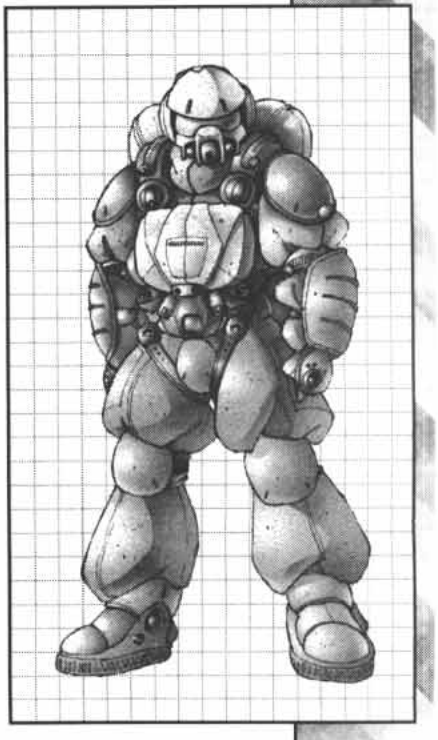
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Athletics	2	1	Drive	1	1	Parachuting	2	1
Camouflage	1	0	First Aid	1	0	Small Arms	2	1
Combat Sense	2	1	Hand-to-Hand	2	1	Stealth	1	1
Communications	1	0	Intimidate	1	1	Survival	2	0
Dodge	2	1	Notice	2	1	Tactics	1	0

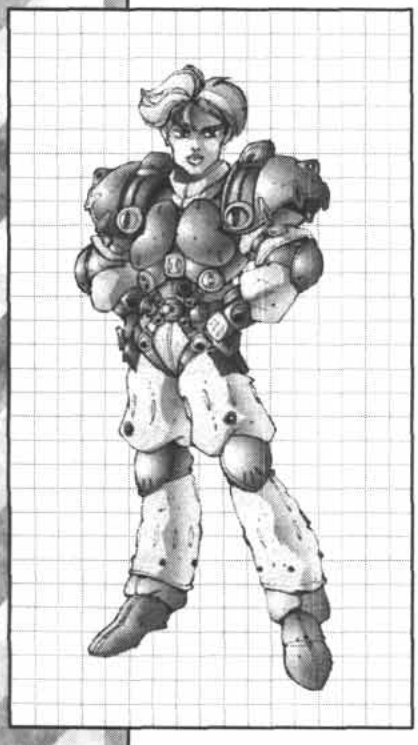
• Description

Paratroopers are experienced soldiers who are parachuted into combat situations. Because they must be able to rely on themselves and their own skills to perform their missions, they are often well trained in survival and personal combat techniques. They are usually expected to secure an area or perform surgical strikes with little or no support. Because of this, they rely heavily on one another and work closely to ensure the success of their missions. Paratroopers are usually given dangerous assignments, and consequently receive higher salaries.

Typical equipment: survival kit, memcompass, military communicator, three grenades, 9mm heavy rifle (plus 2 reload clips of 20 ammo), light flak suit, HALO rig.



PILOTING INSTRUCTOR



• Typical Attributes

AGI	0	APP	0	BLD	0	CRE	1	FIT	0
INF	1	KNO	2	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	4	AD	3

• Typical Skills

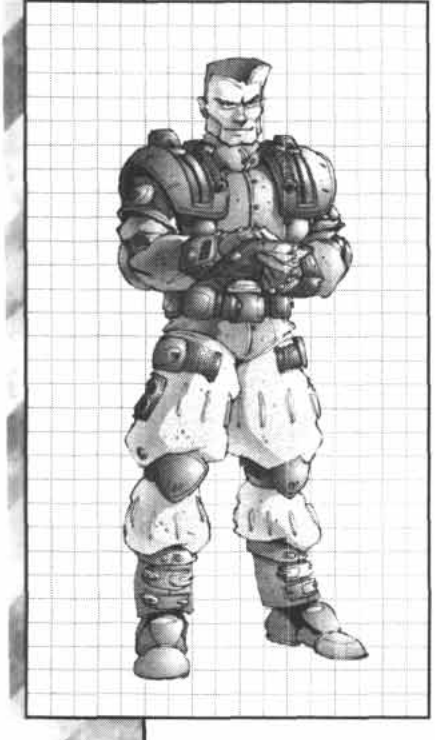
Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	3	0	Electronic Warfare	1	1	Navigation	2	2
Bureaucracy	1	2	Etiquette	1	1	Notice	2	1
Communications	1	2	Gunnery (aircraft)	2	1	Small Arms	1	0
Dodge	1	0	Hand-to-Hand	1	0	Tactics	2	1
Drive	1	0	Leadership	1	1	Teaching	2	1

• Description

Teaching aircraft piloting requires more than passing skills. While being a test pilot requires raw talent and nerves of steel, teaching someone how to pilot an aircraft requires technical knowledge, patience and a good dose of authority. Many rookies join the air force with the hope of becoming hot shot mavericks — a stereotype created and encouraged by holofilms such as *Top Fox* and *Steel Eagles*. It is the instructor's job to break that stereotype and to mold them into efficient, disciplined pilots. Naturally, to become a piloting instructor, an aircraft pilot is expected to have had quite a bit practical experience and usually has a correspondingly high rank.

Typical equipment: G-suit, flight helmet w/oxygen mask.

SYSTEM OPERATOR



• Typical Attributes

AGI	0	APP	0	BLD	0	CRE	1	FIT	0
INF	1	KNO	1	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Bureaucracy	1	1	Electronics	1	1	Gunnery (aircraft)	1	1
Communications	2	1	Electronic Warfare	2	1	Navigation	2	1
Computer	2	1	Etiquette	1	1	Notice	1	1
Drive	1	0	Foreign Language	2	1			

• Description

System operators are reputed to be discreet individuals, although this is yet another stereotype fostered by the media. System operators are quiet professionals whose skills are indispensable in combat aircraft, but whose operations have a less glamorous and visible effect. Their duties include navigation, computer operation, radio communication and electronic warfare (ECM and ECCM systems). While it is not a prerequisite, many of them are proficient in basic electronics and understand a foreign language — a particularly useful skill when assigned to spying missions. System operators may only be support personnel for the public at large, but any smart pilot will appreciate the true value of a competent operator.

Typical equipment: G-suit, flight helmet w/oxygen mask, personal computer.

TEST PILOT

• Typical Attributes

AGI	1	APP	0	BLD	0	CRE	1	FIT	1
INF	0	KNO	0	PER	1	PSY	0	WIL	2
STR	0	HEA	1	STA	30	UD	3	AD	3

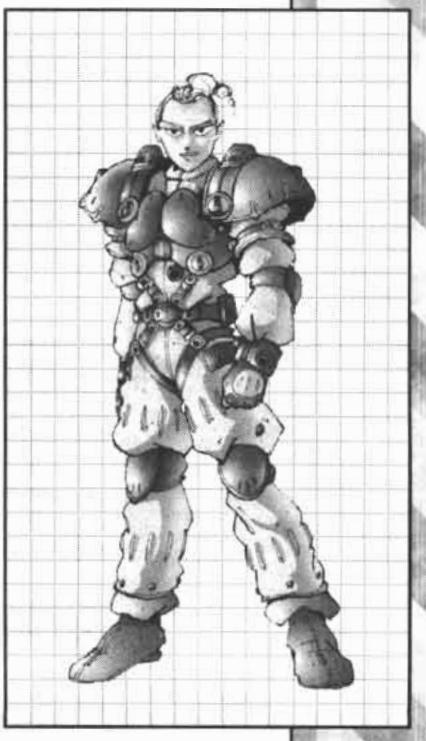
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Aircraft Pilot	3	1	Electronic Warfare	2	1	Navigation	2	0
Athletics	1	1	First Aid	1	0	Tactics	1	1
Communications	2	0	Gunnery (aircraft)	2	1	Tinker	1	1
Drive	1	1						

• Description

Many test pilots are unpredictable, follow no rules and are annoyingly arrogant about their status. Because their skills are usually prized and because they regularly risk their lives testing new aircraft, they are often allowed a bit more leeway, much to the dismay of their less erratic wingmates in the regular military. Not all test pilots are this chaotic, however. Some of them are extremely methodical and compensate for their lesser skills and creativity with careful study and thorough preparation. While the end result is much the same, they are often more prized for their social skills and professionalism, and usually find more employment outside the military.

Typical equipment: G-suit, flight helmet w/oxygen mask, 9 mm pistol.



WEAPONS TECHNICIAN

• Typical Attributes

AGI	0	APP	0	BLD	0	CRE	1	FIT	0
INF	0	KNO	2	PER	1	PSY	0	WIL	0
STR	0	HEA	0	STA	25	UD	3	AD	3

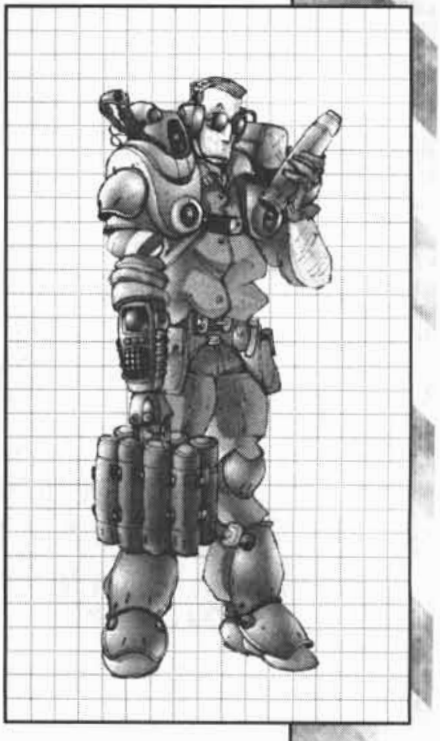
• Typical Skills

Skill	Level	Attr.	Skill	Level	Attr.	Skill	Level	Attr.
Computer	2	2	Electronic Warfare	1	1	Notice	1	1
Demolitions	1	2	Gunnery (aircraft)	1	1	Small Arms	1	0
Electronics	2	2	Mechanics (weapons)*	3	2	Tinker	2	1
*(specialization)								

• Description

Weapons technicians often serve aboard larger craft (crew of three and up) or beside regular hangar technicians. Their job is to either ensure that weapon systems are running smoothly aboard bombers or armed transports, or to maintain and replace weapons and ammo on the ground. They occasionally embark on test flights (with the appropriate danger pay) when new and complex weapons are being tested. While they are seldom tested under heavy fire, they are expected to perform well under pressure and to be able to repair weapon systems rapidly should they fail in combat.

Typical equipment: protective cloth (Armor Rating 5, 10 against fire), tech gear, electronics tool kit, mechanical tool kit and dataglove.



NEW EQUIPMENT

This section covers the equipment that might be useful to the players during a roleplaying session. This list is not all-inclusive, nor is it intended to be. The Gamemaster can create any item his players may seek by simply taking an equivalent in the real world today (or other science-fiction games) and transferring it to Silhouette statistics. The list below is for generic items. The Gamemaster can customize them to simulate different models and/or manufacturers. He has the final word on the abilities, cost and availability of all equipment in his campaign.

8.1 AIRCRAFT-RELATED EQUIPMENT

The following sections cover personal and heavy equipment. Personal equipment is presented in a generic, no-brand manner. Usually, the more popular an item is, the more models there should be. Heavy equipment follows a similar rule, although there are about half as many heavy equipment manufacturers as there are personal equipment manufacturers. Gamemasters should also remember that heavy equipment requires a lot of maintenance in order to keep on working properly.

8.1.1 PERSONAL EQUIPMENT

• Oxygen Mask

This is a lightweight polymer unit that fits over the mouth and nose and is linked to a small oxygen tank worn on the back, at the belt or under the hip. Characters who are equipped with an oxygen mask may ignore all inhaled poison gas (including smoke) and can survive in a thin atmosphere (down to 50% normal pressure), though the mask will not protect its user against hard vacuum. Oxygen masks have no effect on poisons absorbed through the skin.

The standard tank contains enough compressed oxygen for one hour. To extend this, the mask can be plugged into a larger tank (often built into the cockpit), or be connected to the plane's life support system (if one is present). Some large tanks offer up to six hours of oxygen, which can be stretched to nine hours with controlled breathing.

• Goggles

Goggles are usually worn when flying an open cockpit aircraft, often in conjunction with a face mask or scarf for complete protection. An absolute must for all Badlands ultralight and floater flyers. Goggles are easily available in a wide variety of styles and colors. While many wear them out of necessity, there are also a good number of "civilized" poseurs who wear them for the "cool" look.

• Altimeter

An altimeter is a small, watch sized instrument that displays the current altitude. Several models exist, some more reliable than others (depending on the method used to determine altitude). A few are helmet mounted with a Heads-Up Display to keep the hands free. Some more expensive and useful models also provide air pressure, wind direction and speed.

• G-suit

A G-Suit is a garment fitted with special pressure bags designed to force the blood to circulate normally to the brain during high gee maneuvers. A pilot without a G-Suit is at -1 for all Fitness checks due to maneuvering.

Each G-Suit must be individually fitted to the person wearing it to be of any use. The strong weave of the suit offers 10 points of Armor protection. G-Suits can be combined with other protection suits as well as armor for 1.5 times the total cost of all protection and armor.

• Flight Helmet

Flight Helmets are sturdy head gear made out of tough polymer or composite material. The Light Flight Helmet includes a standard communicator and an adjustable anti-glare visor. Many Light Helmets are designed in such a way that wearing night-vision goggles with the helmet is possible.

The Flight Helmet is somewhat sturdier than its lighter cousin and also has a built-in communication system. A laser-crystal screen is added to protect the eyes of the pilot from sudden glare and to display flight and targeting information from the craft's onboard computers. The helmet also features attachment points for a standard oxygen mask.

• Parachute

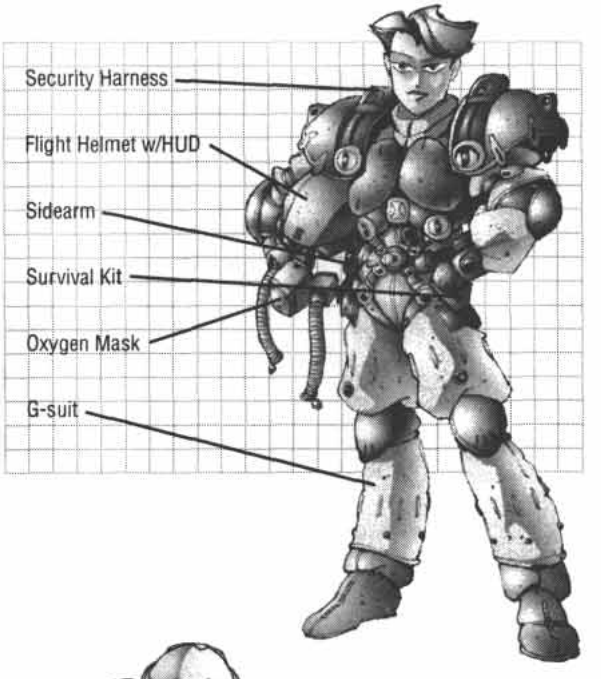
The parachute is a cloth hemisphere that increases atmospheric drag to decelerate a person's fall (see *Airdropping*, page 22). A standard parachute kit contains the main parachute, one reserve parachute and the necessary harness. The parachute can support up to 250 kg.

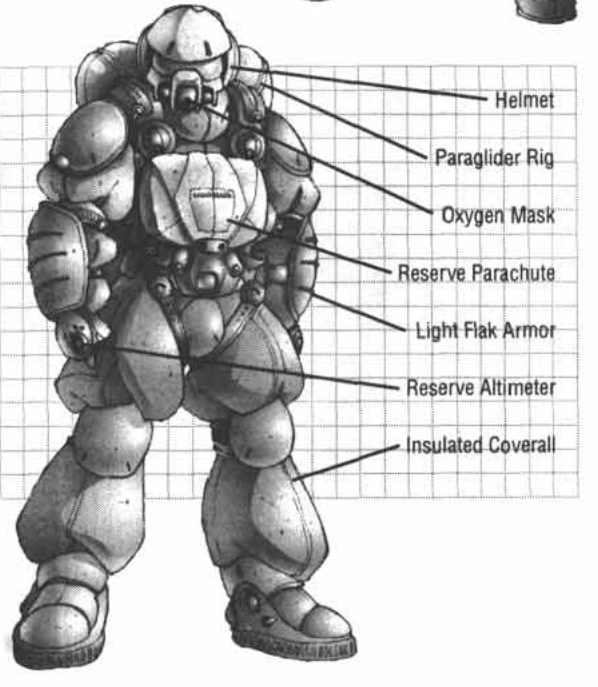
If recovered, the parachute can be reused if carefully repacked in its bag. Roll Parachuting skill versus a threshold of 2 to correctly repack the parachute and harness. If this test is failed, the parachute is damaged and the subsequent landing difficulty is increased by one. If the roll is fumbled, the parachute does not open next time.

• Paraglider

The paraglider is a specially-shaped parachute that forms an air-filled "wing" of sorts. By pulling on control wires placed on the harness, the paratrooper can modify the shape of the wing and thus gain some control over his descent (see *Airdropping*, page 22). A paraglider kit contains the paraglider, one reserve parachute and the necessary harness. The paraglider can support up to 250 kg.

If recovered, the paraglider can be reused if carefully repacked in its harness. Roll Parachuting skill versus a threshold of 3 to correctly repack it. If failed, the paraglider is damaged — increase landing difficulty by one. If the roll is fumbled, the paraglider does not open.





• HALO Rig

HALO stands for High Altitude Low Opening, a technique in which the paratrooper leaves the aircraft at a very high altitude (between 7.5 and 10 km) and free-falls below radar cover before opening the parachute. HALO rigs allow paratroopers to be deployed with very little chance of detection. As a result, they are widely employed for stealth and infiltration missions.

Because of the conditions associated with high altitude drops — lack of oxygen and freezing temperatures — this kit is required for any parachute drops above 7500 meters.

The HALO kit contains an oxygen mask and tank, an integrated helmet with a HUD display of altitude, position and the deployment of friendly and enemy forces as relayed by satellite and/or spy plane (when possible), a backup digital altimeter, an insulated coverall augmented with light flak armor (+15 armor) and a paraglider. A small, chest-mounted, parachute is provided as a back-up.

8.1.2 HEAVY EQUIPMENT

• Skyhook Rig

The Skyhook Rig is an ingenious modification of the standard Airlift Winch that allows aircraft to pick up ground personnel without landing or going to hover flight. The system consists of two parts, one aircraft-mounted, the other worn by the person to be picked up.

The ground unit is a sturdy harness attached to a length of flexible cable. The cable is held aloft by a small helium balloon that is inflated moments before pick up. A small locator flare (or radio beacon) is usually attached to the balloon to help the pilot calculate his trajectory. A special V-shaped attachment in the nose of the plane snags the cable, allowing the person to be reeled into the aircraft.

The aircraft-mounted skyhook is a V-shaped apparatus, most often placed on the nose of the plane. In addition to an Airlift Winch of at least Rating 2, the plane must have a proper cargo bay for the recovery process (at least 10 m^3). Installing a skyhook rig on an aircraft is a challenging task — roll Mechanics versus a threshold of 5. If failed, apply the MoF to any future pick-up attempt.

For pick-up, the person or object must weigh no more than 250 kg and the plane must fly no faster than its Stall speed or 150 kph (5 MPs), whichever is lower. A Piloting roll versus a threshold of 4 is required to properly snag the cable. A failure means the pilot missed the cable and must come round again for another pick-up attempt. A fumble means something went wrong — the cable snapped, got caught in the aircraft's wing, etc. The shock of pick-up is no more severe than the opening of a parachute. For safety reasons, there should not be any obstructions within 500 meters and the Wind Force should not exceed one (1).

• Vehicle Parachute Kit

The Vehicle Parachute Kit consists of several parachutes, a shock-absorbing pallet and a set of retrorockets. The exact size of the above equipment depends on the weight of the vehicle, and so Vehicle Parachute Kits come in three categories: Light (0 to 4 tons), Medium (5 to 14 tons) and Heavy (15 to 25 tons).

After the parachutes open, a small sensor is deployed underneath the vehicle. When the sensor registers that the vehicle is within three meters of the ground, the retrorockets fire, slowing it down to almost zero speed and lessening the impact. What is left of the shock is absorbed by the pallet placed under the vehicle. Walker vehicles use their legs instead of a pallet, reducing the weight of the kit by two-thirds (see *4.2.2 Cargo*, p. 22).

Characters aboard a vehicle during such a drop must make a Fitness roll versus a threshold equal to twice the Ground MP cost of the landing site. If missed, use the Margin of Failure to calculate damage, taking the Size of the vehicle as the Damage Multiplier. A Parachuting skill roll versus the same threshold can be made to reduce the impact: each point of MoS "buys off" one point of the Fitness check's MoF.

• VLAE Kit

VLAE stands for Very Low Altitude Extraction, a technique in which the aircraft flies very low and simply drops the cargo from its rear ramp (see page 22). The VLAE kit contains a shock-absorbing pallet and a set of drogue parachutes. Both can be retrieved and reused multiple times. The light VLAE kit is suitable for vehicles up to Size 7, while the standard kit is suitable for all vehicles up to Size 14.

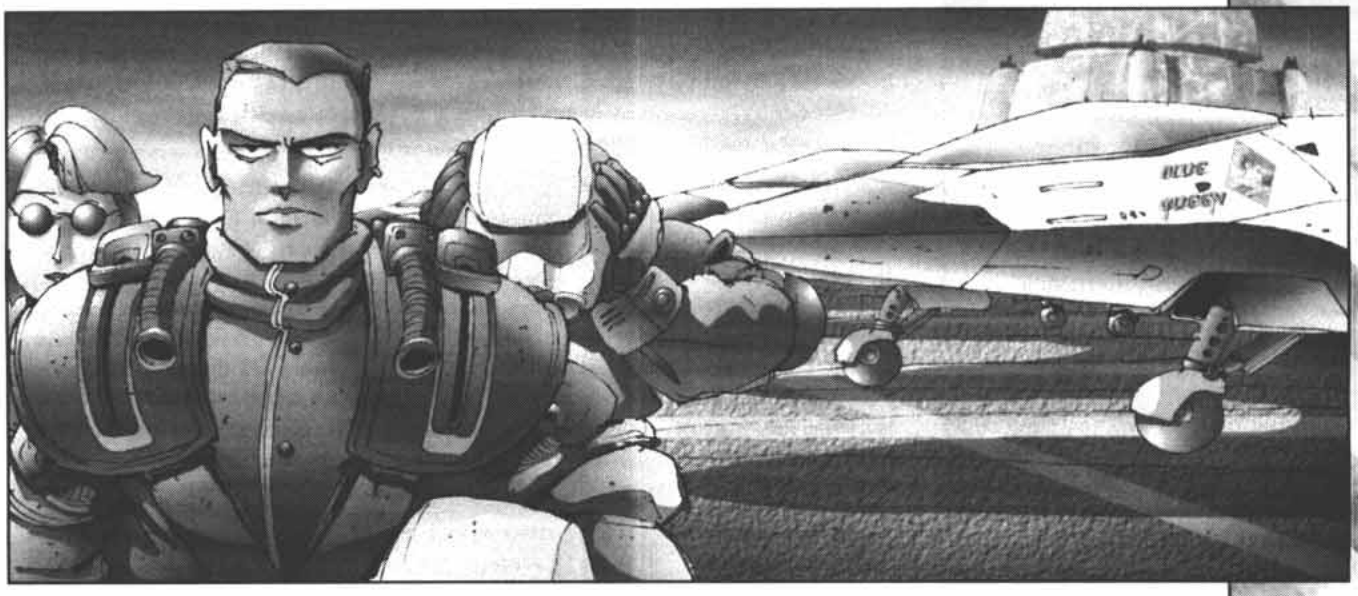
EQUIPMENT WEIGHT AND COST

Equipment	Mass (kg)	Cost (Marks/Dinars)
Oxygen Mask	0.5	50
Oxygen Tank	0.5	10
Goggles	0.2	10
Altimeter	0.2	30
G-Suit	10	800
HALO Kit	15	900
Parachute	10	400
Paraglider	12	600
Skyhook Rig (person)	15	1000
Skyhook Rig (aircraft)	300	10,000
Light Vehicle Parachute Kit	300	4000
Medium Vehicle Parachute Kit	600	8000
Heavy Vehicle Parachute Kit	900	12,000
Light VLAE Kit	1000	6000
Standard VLAE Kit	1500	8000

None of the personal items noted here are particularly hard to find, except the G-suit, which is normally available only to military pilots (but a few used suits might make their way to the black market). The vehicular equipment, on the other hand, is somewhat harder to come by. In general, only military forces will have access to these items, though none of them have a restricted status.

PERSONAL ARMOR

Body Armor	Mass (kg)	Cost (Marks/Dinars)	Armor Rating	Encumbrance	Concealable
Light Flight Helmet	1	70	8	0	no
Flight Helmet	2	100	12	0	no
G-Suit	10	800	10	-1	no



FIRE IN THE SKY

Konnor Garysson put down his cigarette, finished off his tumbler of *Fort James Special* whiskey and pressed PLAY on the remote.

A younger and bolder version of himself appeared on the trideo viewer — no gray hair on his temples, twenty pounds lighter, fire in his eyes instead of his gut. Thunderous artillery exchanges exploded from the speakers.

"This is Konnor Garysson reporting to you live from the assault on Baja," the collection of light said. Even its voice was stronger, "As you can see, the combined Terranovan assault on the second Earth beach-head is underway. I'm stationed here with the 42nd Heavy Gear Regiment and I've been told we're about to move into the thick of things."

The young reporter launched into a brief and skillful recap of the taking of Baja by Earth forces and the Terranovan counter-offensive. Konnor wondered when he had lost that knack for stunning clarity. He poured himself another whiskey and continued to watch. The truly exciting stuff was about to begin.

"We're just waiting for the aerial assault to begin — and here it comes!"

The camera angle suddenly swung up as dozens of low-flying *Azrael* bombers streaked over the regiment toward the occupied city below. The trideo image gave a stunning view as they streaked over the Earth positions, seeming to lay clumps of black eggs. A second later those "eggs" hatched into massive orange fireballs. As the sky lit up with anti-aircraft fire, the young reporter returned to the screen.

"We've just been given the order to move out although the bombing runs don't seem to be over. It looks like we will bringing you reports from the fire zone." He looked positively happy to be marching of into a killing field on live trideo.

As the Gears began to move out, their position came under fire. The image swung as an Earth artillery barrage fell slightly short. The massive detonations seemed to be marching straight for them. The reporter on the screen didn't say a word, letting the spectacular images tell the story for him. In the distance, massive Earth hover-tanks darted from the cover of shattered buildings just long enough to send rounds slamming into the column of Gears. As the surviving machines broke into a defensive position, Terranovan attack craft swept in to provide air support.

Konnor finished his whiskey and lit a cigarette. The smoke drifted towards the trideo screen, distorting the scenes of destruction. Konnor made himself another drink and froze the image. There it was. The precise moment that had won him and his camera operator Lisa such acclaim. They had barely noticed the sound over the din of the Gears opening fire, but a quick tilt up had revealed a crippled Terranovan fighter in a nose-dive right over them. Zooming in, Lisa had caught the precise moment the second Earth anti-aircraft missile had hit the fighter and transformed it into a ball of flame hurtling down at them. The world had seen the crash as if they were standing three hundred meters away. Only Konnor had seen the shrapnel slam into Lisa an instant later.

He turned away and took another drink — just like he had done during all those posthumous tributes to Lisa.

9.1 AIR BRIGADE ORGANIZATION

Both Northern and Southern hemispheres on Terra Nova rely heavily on aircraft to control the battlefield. Often based on large landships that roam the Badlands deserts, aircraft of various types serve as support to ground units or as strike forces on the front lines. Without the immense power of aircraft, one side would be helpless before the other. However, despite their long-standing enmity, both armies adopted a similar structure after the War of the Alliance. Although the ranks and traditions are different, the organization and procedures of both militaries tend to be much the same.

MILITARY RANKS

Category	Northern Rank	Southern Rank	Role
General Officers			
	Air Commodore	Commodore	Air Division Commander
Senior Officers			
	Group Captain	Capitaine	Air Brigade Commander
	Wing Commander	Commandant	Wing Commander
Junior Officers			
	Squadron Leader	Chef d'Escadrille	Squadron Commander
	Flight Lieutenant	Sous-Chef d'Escadrille	Flight Commander
	Flight Sub-lieutenant	Lieutenant	Aircraft Pilot
	Air Cadet	Cadet	Officer Recruit
Senior Non-Commissioned Officers			
	Air Warrant Officer	Adjudant	Air Division NCO
	Flight Sergeant	Air Sergeant, 1st Class	Air Brigade NCO
	Sergeant	Air Sergeant , 2nd Class	Wing NCO
Junior Non-Commissioned Officers			
	Flight Corporal	Caporal	Squadron NCO
	Airman/woman, 1st Class	Airman/woman, 1st Class	Flight NCO
	Airman/woman, 2nd Class	Airman/woman, 2nd Class	Aircraft Pilot
	Air Recruit	Recrue	Recruit

• Air Brigade

An air brigade is the smallest military unit capable of independent action for an extended period of time. It is commanded by a group captain in the North and by a capitaine in the South. Air brigades are composed of up to ten combat wings, one support wing and a command wing.

• Wing

Wings are the air force equivalent of a regiment. Most wings have strong personal traditions and often commemorate past events. Northern wings are led by wing commanders while Southern wings are led by commandants. A wing is normally composed of two to four squadrons.

• Squadron

The air force equivalent of a company section. In the North, air squadrons are led by a squadron leader while in the South, they are led by a chef d'escadrille. They are assisted by a flight corporal in the North and a caporal in the South. Most squadrons are composed of two to four flights.

• Flight

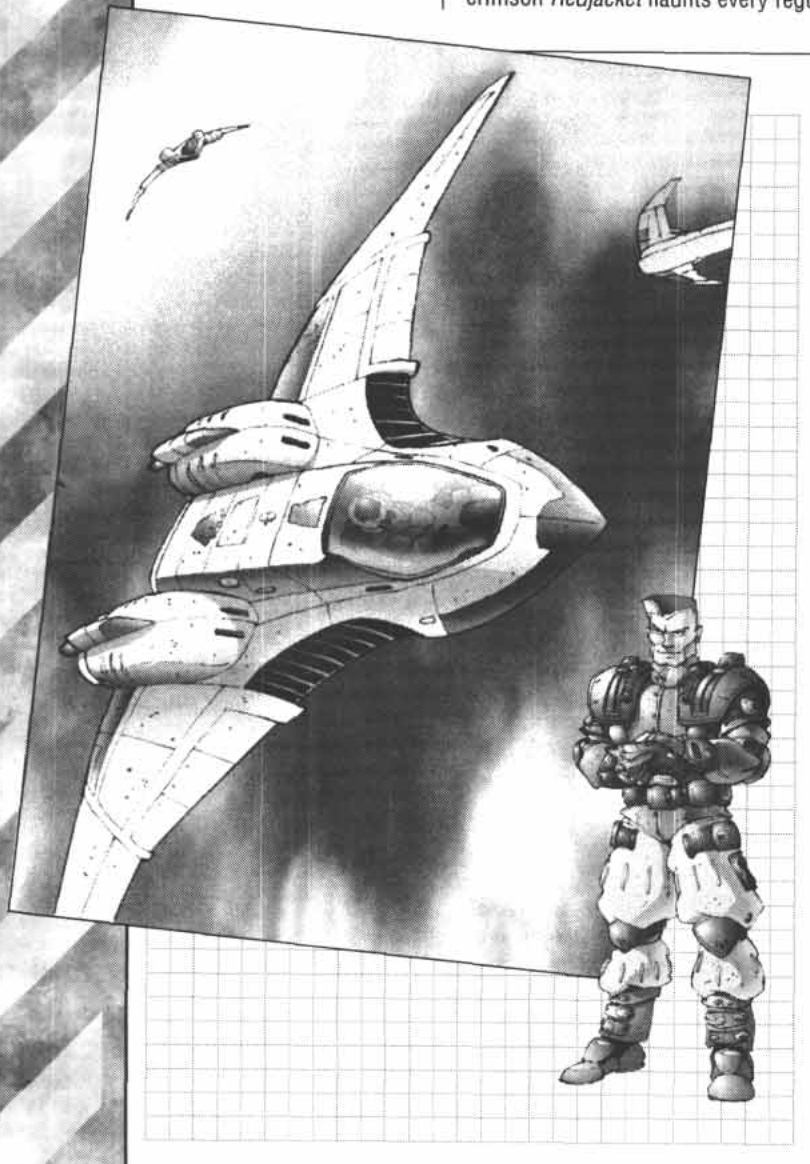
There are several types of flights (interception, recon, ground attack, hunter-killer, harasser, etc), most of which are composed of five to six aircraft. They are led by a flight lieutenant in the North and by a sous-chef d'escadrille in the South. All pilots are expected to be officers (flight sub-lieutenant in the North, lieutenant in the South).

9.2 26TH NORTHERN GUARD AIR CAVALRY

The 26th Northern Guard Air Cavalry is typical of the Rapid Deployment Air Wings usually attached to Border divisions. The 26th is known as the *Aces of Hearts* and is divided into seven units: two fighter wings and five ground attack wings. The 26th also features a large transport section to ferry associated troops and materiel, using *Goliath* cargo planes and *Rock Beetle* helicopters. All of the 26th's aircraft are paired two by two, so every pilot has a wingman.

The *Aces* are stationed in Kossuth, near the border of the United Mercantile Federation. Their main function is to fly recon and intercept missions over the sector and lend assistance to any allied unit within their operating range. The 26th is also considered "mobile" by the Guard high command, which means that some of its squadrons can be sent out to border airbases as needed.

The *Aces*' current leader is Garth Allington, a tall, dark man with closely cropped hair and piercing blue eyes. At nearly 70 cycles, he is still in superb physical condition and regularly flies missions with his men, much to the dismay of the Guard's high command. His gleaming crimson *Redjacket* flaunts every regulation.



AIR BRIGADE COMPOSITION

Air Brigade	Fighter Wing x 2 Attack Wing x 5 Support Wing Command Wing
Wing	**Squadron Included**
1st Fighter (TV = 1,236,945)	Interdiction x 2
2nd Fighter (TV = 1,204,809)	Interdiction x 1 Attack x 1
1st Attack (TV = 1,759,009)	Attack x 3
2nd Attack (TV = 1,791,145)	Attack x 2 Interdiction x 1
3rd Attack (TV = 656,325)	Anti-Armor x 3
4th Attack (TV = 371,790)	Observation x 3
5th Attack (TV = 561,480)	Anti-Armor x 2 Observation x 1
Squadron Types	**Flight Included**
Interdiction (TV = 618,472)	Interception x 2 Recon x 1
Attack (TV = 586,336)	Ground Attack x 3 Recon x 1
Anti-armor (TV = 218,775)	Hunter-Killer x 3 Harasser x 1
Observation (TV = 123,930)	Harasser x 2

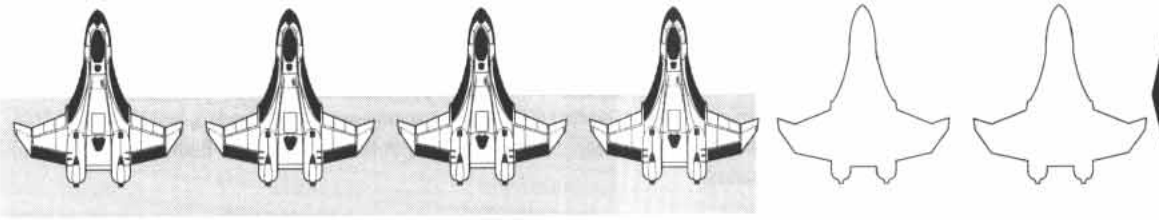
COLOR SCHEME

The 26th's aircraft are painted according to their function. Interceptors are painted a dull blue-grey color to blend in with the sky, while ground attack aircraft have their upper surfaces painted in the standard Guard camouflage for the area.

The pilots of the *Aces* wear the standard Northern Guard uniform. Their light beige G-suit is topped with a darker earth-colored jacket; armored knee and shoulder-pads are left a gunmetal gray. Most pilots adorn one of these plates with the unit's logo or tuck an appropriate playing card into their safety harness or jacket.

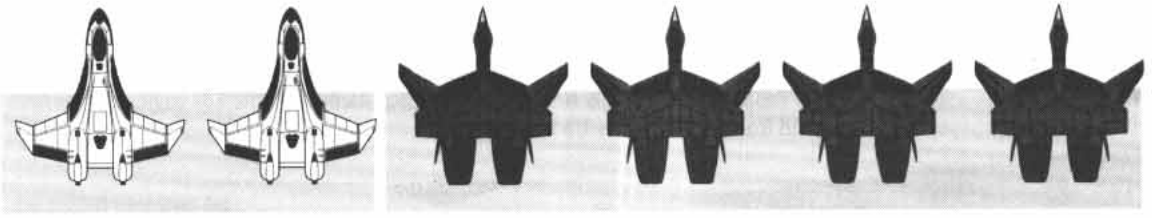
26TH NORTHERN AIR CAVALRY TYPICAL FLIGHTS

INTERCEPTION (THREAT VALUE: 187,824)



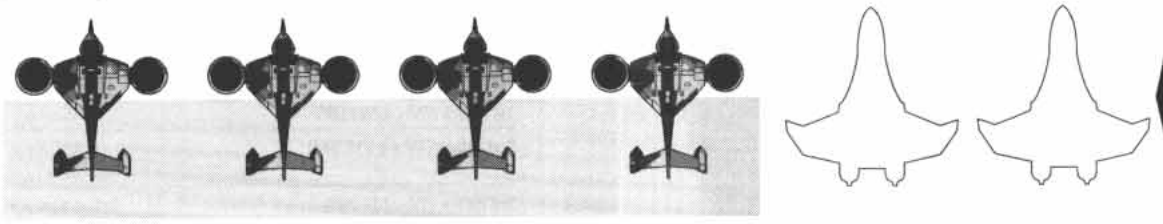
- Eagle-4 x Lvl 2

GROUND ATTACH (THREAT VALUE: 114,504)



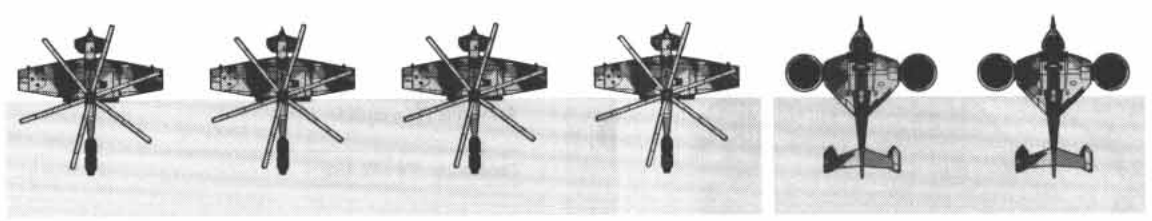
- Eagle-2 x Lvl 2
- Redjacket-4 x Lvl 2

HARASSER (THREAT VALUE: 61,905)



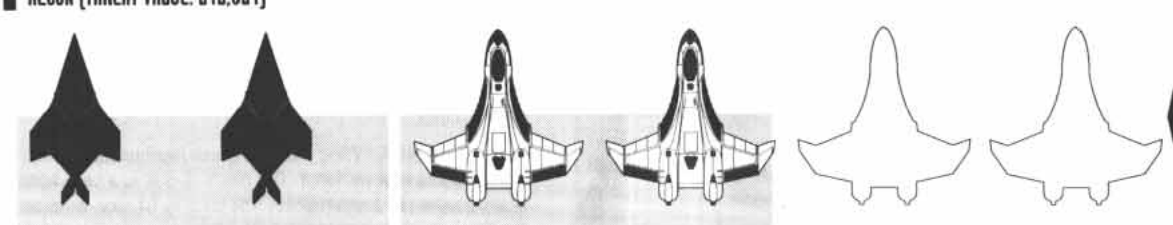
- Dragonfly-4 x Lvl 3

HUNTER-KILLER (THREAT VALUE: 52,270)



- Scorpion-4 x Lvl 2
- Dragonfly-2 x Lvl 2

RECON (THREAT VALUE: 242,824)



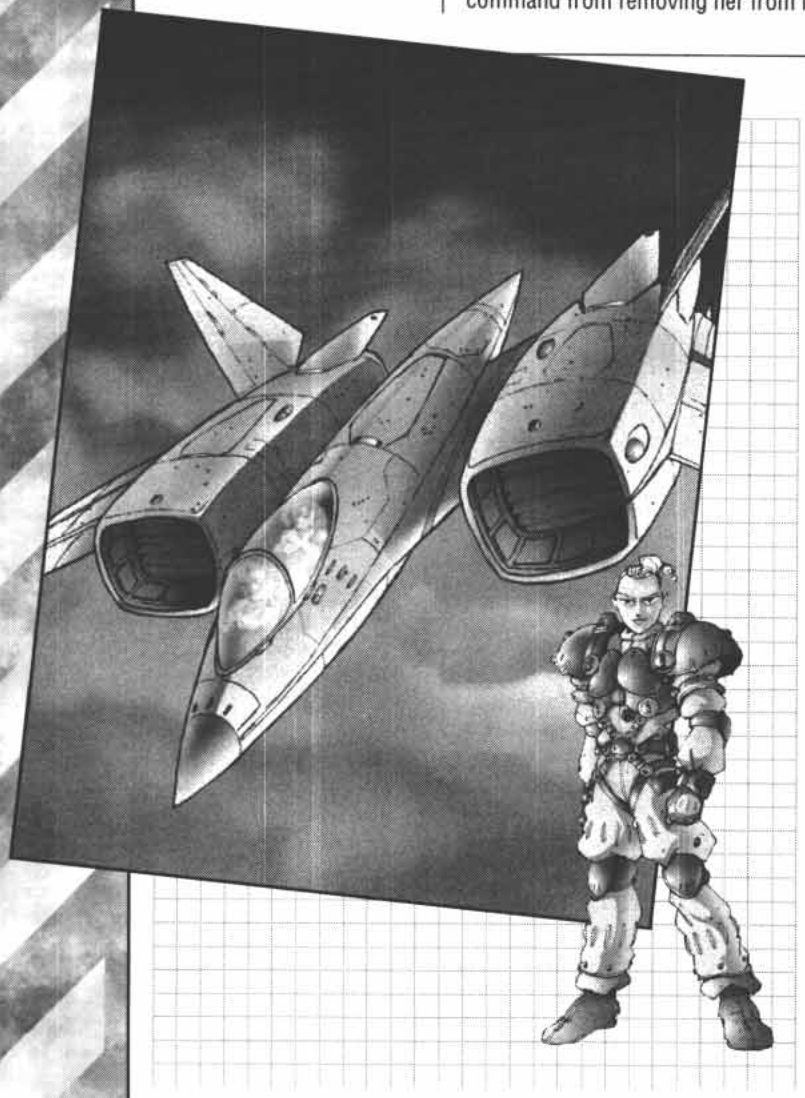
- Shadowfox-2 x Lvl 3
- Eagle-2 x Lvl 3

9.3 5TH MILICIA AIR WING

The MILICIA has never had a high priority in the eyes of the AST or any other Southern League. This is most evident in their supply of aircraft, where the interleague army is sorely lacking in air power. It does, however, field a substantial number of short-range, ground attack aircraft. The 5th also has a few cargo planes and helicopters to ferry troops and materiel when required. Because they know that spare parts and other supplies are slow in coming, the technicians of the Air Wing have learned to become expert scroungers and tinkerers. They often boast that they could keep a plane airworthy in the middle of the Badlands with only oil and rubber bands.

The 5th MILICIA Air Wing is currently stationed in Skavara, but many of its squadrons are constantly touring a circuit of forward airfields to cover more territory with less planes and men. In recent cycles, the 5th has been assigned to fly ground support missions over Basal territory, an unpopular assignment that has divided the ranks of the unit.

Commandant Edith Hachenberg is doing her best to keep her people together in a difficult time, and she is doing a very good job. Her men all love her and would follow her *Aspic* to the gates of Hell if they had to. Hachenberg is a compassionate leader and strongly disagrees with the Basal operation. Only her success and popularity with the 5th have kept the high command from removing her from her post.



AIR BRIGADE COMPOSITION

Air Brigade	Fighter Wing x 1 Attack Wing x 4 Support Wing Command Wing
Wing	**Squadron Included**
1st Fighter (TV = 5,765,640)	Interdiction x 3
1st Attack (TV = 4,644,096)	Attack x 3
2nd Attack (TV = 5,017,944)	Attack x 2 Interdiction x 1
3rd Attack (TV = 182,763)	Anti-Armor x 3
4th Attack (TV = 55,350)	Observation x 3
Squadron Types	**Flight Included**
Interdiction (TV = 1,921,880)	Interception x 2 Recon x 2 Ground Attack x 3
Attack (TV = 1,598,032)	Interception x 3 Recon x 2
Anti-armor (TV = 60,921)	Hunter-Killer x 3 Harasser x 1
Observation (TV = 18,450)	Harasser x 2

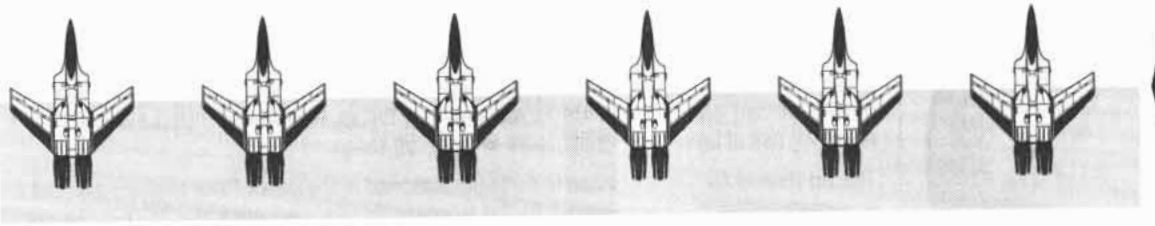
COLOR SCHEME

The 5th's aircraft are painted a dull blue-grey color on their lower surfaces to blend with the sky, while the tops are painted in a brownish-tan camouflage pattern. Most of the interceptors do not sport the camouflaged upper surface pattern, however, replacing it with a slightly darker shade of the lower surface color.

Pilots of the 5th Air Wing wear the green flight uniform of the Southern MILICIA air force. The pilot's G-Suit is a very light khaki, covered by a green jacket. The security harness worn by Southern pilots is painted a light green as well. This color scheme is derived from the jungles of the Southern hemisphere.

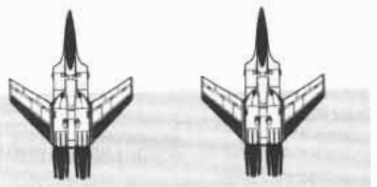
5TH MILICIA AIR WING TYPICAL FLIGHTS

INTERCEPTION [THREAT VALUE: 415,956]

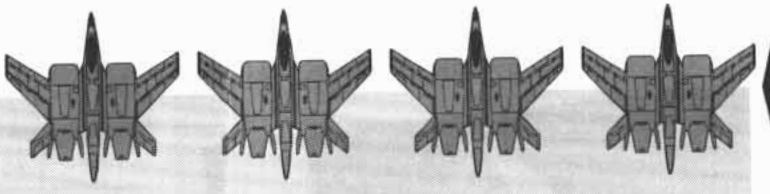


- Aspic-6 x Lvl 2

GROUND ATTACH [THREAT VALUE: 263,268]

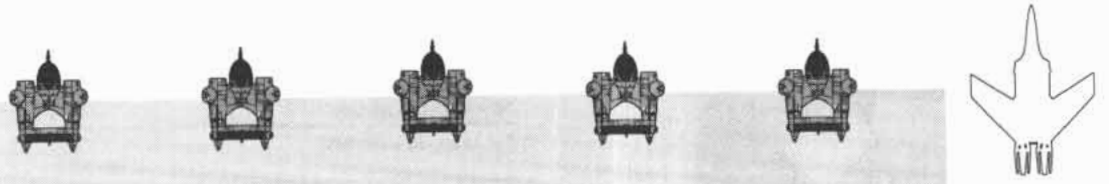


- Aspic-2 x Lvl 2



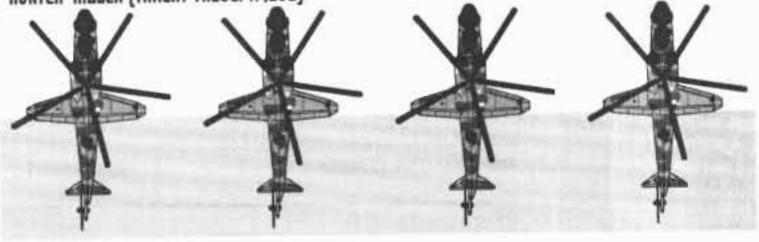
- Quetzal-4 x Lvl 2

HARASSER [THREAT VALUE: 9,225]

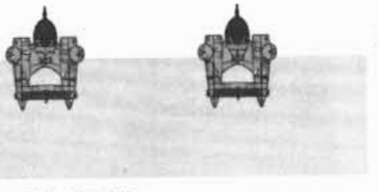


- Varis -5 x Lvl 3

HUNTER-KILLER [THREAT VALUE: 17,232]

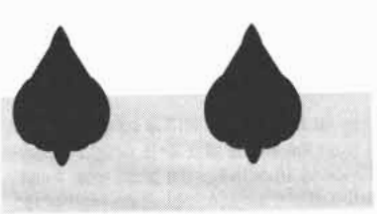


- Titan-4 x Lvl 2

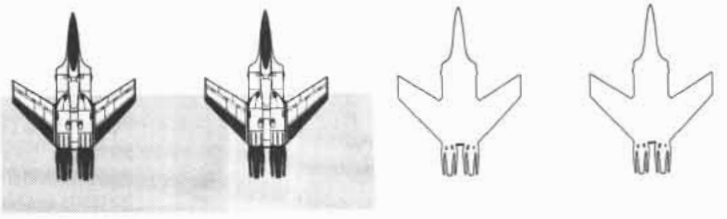


- Varis -2 x Lvl 2

RECON [THREAT VALUE: 150,082]



- Ghost-2 x Lvl 3



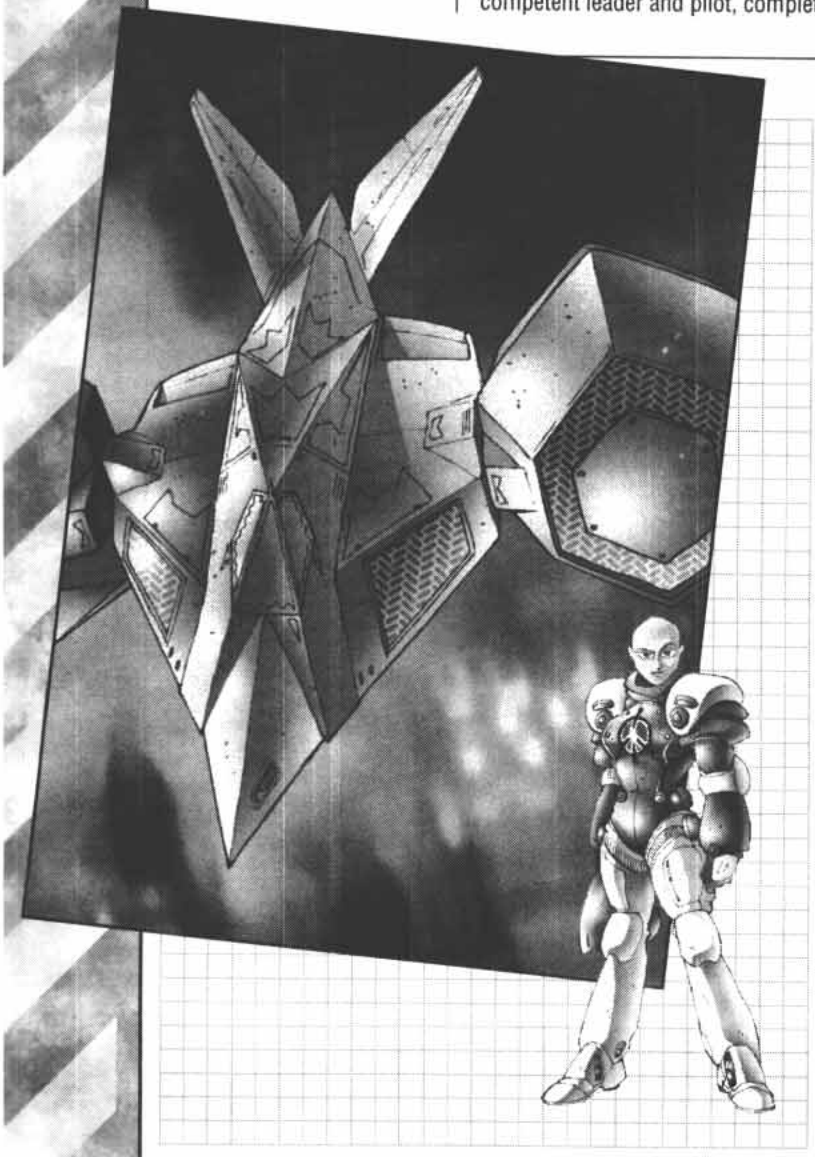
- Aspic-2 x Lvl 2

9.4 1ST PAXTON AIR SERVICE GROUP

Although Paxton does not maintain a proper air force, Peace River does field a certain number of aircraft for patrol and interception purposes. Because few — if any — Badlands communities have access to any kind of aircraft, most of the warplanes in Paxton's inventories are either ground attack or VTOL craft, more suited to ground support than air combat. What few air superiority aircraft they have are polar models that were bought many cycles ago, most of them *Eagle* and *Aspic* fighters. Unlike most military forces, Paxton also makes extensive (and effective) use of light commercial flyers in its recon wings.

The 1st Paxton Air Service Group is normally stationed at the Peace River airport itself, but it is sometimes sent on maneuvers in the Western Desert, patrolling the PRDF's Security Zone. When the Group is out on such patrols, the engineers establish field airbases at strategic locations throughout the desert.

The 1st is led by Commander Jerry Everett, an excentric pilot with a knack for showing off. Everett plays on the hero mystique that surrounds pilots and clearly loves the attention he gets. Although his superiors frown on such displays, they cannot deny that he is an extremely competent leader and pilot, completely devoted to Peace River and the Paxton way of life.



GROUP COMPOSITION

Group	Fighter Wing x 2 Attack Wing x 5 Support Wing *Command Wing*
Wing	**Squadron Included**
1st Fighter (TV = 465,706)	Interdiction x 2
2nd Fighter (TV = 242,898)	Interdiction x 1 Attack x 1
1st Attack (TV = 30,135)	Attack x 3
2nd Attack (TV = 252,943)	Attack x 2 Interdiction x 1
3rd Attack (TV = 2,316,276)	Anti-Armor x 3
4th Attack (TV = 1,734)	Observation x 3
5th Attack (TV = 20,668)	Anti-Armor x 2 Observation x 1
Squadron Types	**Flight Included**
Interdiction (TV = 232,853)	Interception x 1 Recon x 1
Attack (TV = 10,045)	Strike x 3 Recon x 1
Anti-armor (TV = 772,092)	Hunter-Killer x 3 Harasser x 1
Observation (TV = 578)	Recon x 2

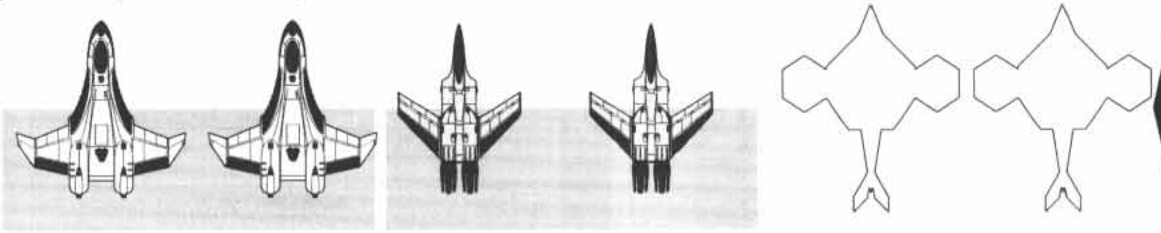
COLOR SCHEME

The Air Service paints all its vehicles in the rocky tan color of the desert surrounding Peace River. The only exception to this rule are the *Black Wind* hoppers, which always retain the natural black color of their RAM covering.

Pilots for the Paxton Air Service, like all the conglomerate's personnel, benefit from the efforts of a large design department. Considered walking advertising, the pilots wear a stylish white and black G-suit and jacket combination, highlighted by the red Paxton Air Service logo on their chests.

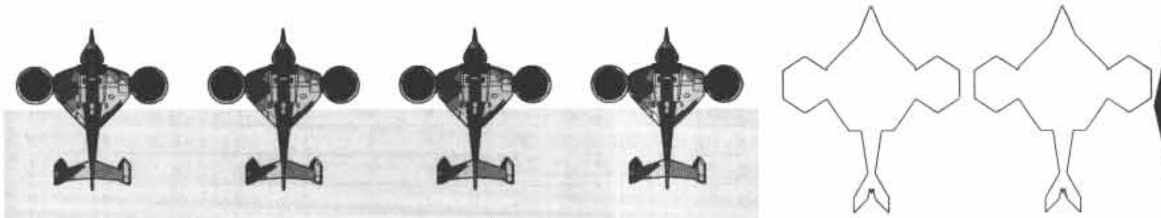
1ST AIR SERVICE TYPICAL FLIGHTS

INTERCEPTION (THREAT VALUE: 232,564)



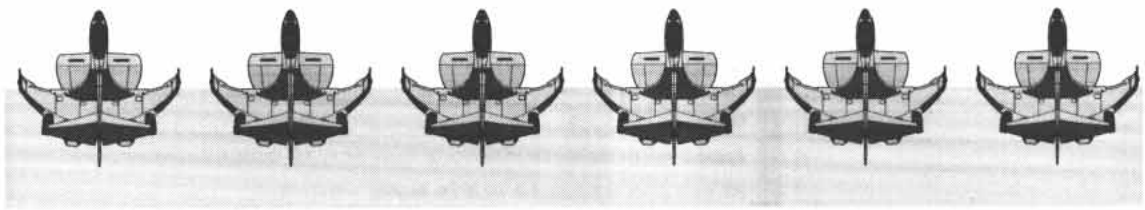
- Eagle-2 x Lvl 2
- Aspic-2 x Lvl 2

HARASSER (THREAT VALUE: 61,965)



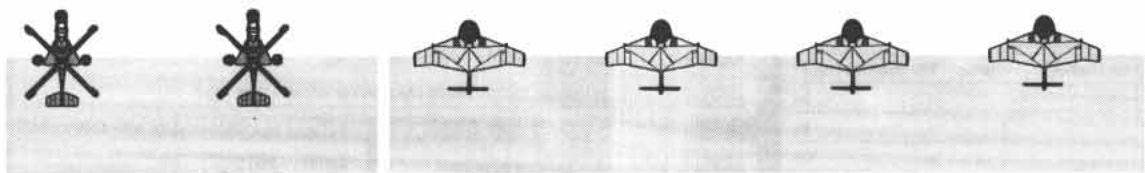
- Dragonfly-4 x Lvl 3

STRIKE (THREAT VALUE: 3,252)



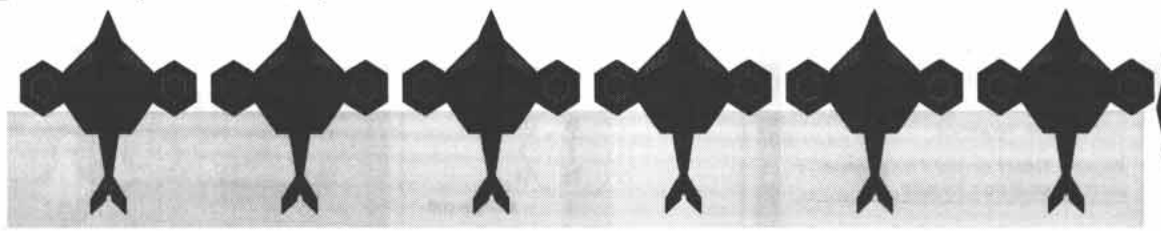
- Sand Cobra-6 x Lvl 2

RECON (THREAT VALUE: 289)



- Flea-2 x Lvl 3
- Flitter-4 x Lvl 2

HUNTER-KILLER (THREAT VALUE: 236,709)



- Black Wind-6 x Lvl 3

ALTITUDE LOSS TABLE (AIR WAR)

# of Rounds	Drop
1	18
2	32
3	36
4+	36

# of Rounds is the number of rounds the aircraft has remained stalled.

Drop is the maximum possible number of 250m altitude levels lost during the round. The maximum total altitude loss is 36 levels per round.

AIR WAR IMPACT SPEED MODIFIERS

Impact Speed	Damage Modifier
0	-2
1	0
2	+1
3	+2
4-19	+3
20-199	+4
200+	+5

ALTITUDE LOSS TABLE (DOGFIGHTING)

# of Rounds	Drop
1	4
2	10
3	18
4	24
5	32
6+	36

***# of Rounds** is the # of rounds the aircraft has stalled.*

***Drop** is the number of 50 m altitude levels lost during the turn. Maximum number of altitude levels lost in one turn is 36.*

TURN RADIUS CONTROL TABLE (DOGFIGHTING)

Turn Radius	Piloting	FIT	Requires Action?
Safe	–	–	No
3/4 of Safe	4	–	No
2/3 of Safe	5	4	Yes
1/2 of Safe	7	6	Yes

*Use the **Turn Radius** row that is equal to or lower than the tightness of the current turn. Use the corresponding values for Combat and Top speed, as explained in the text.*

***Piloting** gives the threshold against which the pilot must test his Aircraft Pilot skill.*

***FIT** gives the threshold against which the pilot must make his Fitness roll.*

***Requires Action?** dictates if the maneuver requires an action from the pilot.*

AIRCRAFT CONTROL LOSS TABLE (AIR WAR)

Die roll	Effect
1	Nothing more than a good scare. (Pilot loses 1 action.)
2	Aircraft Sideslips, as per maneuver. Roll randomly for left or right.
3	Aircraft Skids (turns one hexside, but keeps going in the same direction) for a number of hexes equal to the roll of one die. Roll randomly for left or right if necessary. If the aircraft runs out of MPs during the skid, it must make them up by beginning the next movement phase with the remainder of the skid.
4	Aircraft suffers Light Structural Damage.
5	Aircraft loses a number of altitude levels equal to the roll of one die.
6-7	Aircraft Stalls.
8-9	Aircraft suffers Light Structural Damage and Stalls.
10	Aircraft suffers Heavy Structural Damage.
11	Aircraft Suffers Heavy Structural Damage and Stalls.
12+	Aircraft falls into an uncontrollable spin. It suffers Heavy Structural Damage and will plummet to the ground and crash unless the pilot makes a Piloting roll vs. a threshold of 10.

BOMBING DISTANCE TABLE (AIR WAR)

Speed / Alt.	1	2	3	4	5	6-7	8-10	11-15	16-20	21-30	31+
1	0	0	0	0	1	1	1	1	1	1	1
2	0	1	1	1	1	1	2	2	2	3	3
3	1	1	1	1	2	2	2	3	3	4	4
4	1	1	2	2	2	2	3	4	4	5	6
5	1	2	2	2	3	3	4	4	5	6	7
6-7	2	2	3	3	3	4	5	6	7	8	9
8-10	2	3	4	4	5	5	6	8	9	11	13
11-15	3	4	5	6	7	8	9	11	13	15	18
16-20	4	6	7	8	9	11	13	15	18	21	25
21-30	6	8	10	12	13	15	18	21	25	29	35
31+	8	12	14	16	18	21	25	30	35	41	49
Delay	0	0	0	0	0	0	0	0	1	1	2

***Speed** is equal to the number of (horizontal) hexes the aircraft moved in the preceding round.*

***Alt.** is the aircraft's altitude level (in 250 m hexes).*

***Delay** is the delay in combat rounds before the attack is actually resolved.*

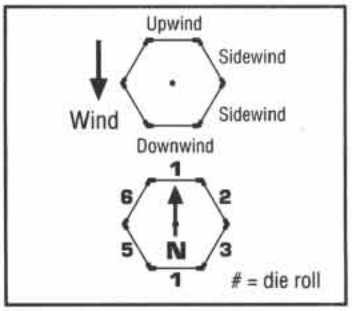
BOMBING DISTANCE TABLE (DOGFIGHTING)

Altitude	1	2	3	4	5	6-7	8-10	11-15	16-20	21-30	31+
Delay	0	0	0	1	1	1	1	2	2	2	3

***Altitude** is the aircraft's altitude level (in 50m increments).*

***Delay** is the delay in combat rounds before the attack is actually resolved.*

RANDOM WIND DIRECTION (OPTIONAL RULE)



RANDOM WIND FORCE TABLE (OPTIONAL RULE)

Die Roll	Wind Force
1-3	No wind
4	Wind Force One
5	Wind Force Two
6	Wind Force Three

AIRCRAFT MAXIMUM SPEED TABLE

Aircraft Type	Combat Speed	Top Speed	Stall Speed
Light Commercial Plane	15	30	7
Civilian Jet Plane			
Size 1-15	25	50	12
Size 16+	22	44	10
Military Planes			
Air Superiority Fighter	40	80	16
Fighter-Bomber	33	66	14
Large Bomber	21	42	9
Troop Transport	19	38	6
VTOL Fighter	23	46	0
Attack Helicopter	7	14	0
Recon Helicopter	6	12	0
Medium-Lift Helicopter	5	10	0
Hopper	7	14	0
Lighter-than-air	3	6	0

These values are the maximum speed possible for new designs, unless the model is a prototype.

TYPICAL AIRCRAFT MANEUVER SCORES

Aircraft Type	Maneuver Score
Aerobatics aircraft	+2
VTOL plane	+1
Light propeller plane	+1
Air Superiority Fighter	0
Fighter-Bomber	-1
Medium Bomber	-2
Troop Transport	-3
Large Bomber	-4
Recon Helicopter	+2
Hopper	+2 to -1
Attack Helicopter	+1
Medium-lift Helicopter	0
Troop Transport Helicopter	-1
Lighter-than-air	-5

Calculate Turn Radii for both Air War and Dogfighting scales, unless it is a VTOL aircraft (i.e. a Stall Speed of 0).

AIRCRAFT WEAPON LIST

Name	Code	Rating	Range	DM	Acc.	RoF	Ammo	Min. Size	Special
Light AA Cannon	LAAC	121	2/4/8/16	x8	0	+6	0.28	4	–
Medium AA Cannon	MAAC	176	3/6/12/24	x10	0	+4	0.51	4	–
Heavy AA Cannon	HAAC	230	3/6/12/24	x12	0	+3	0.68	5	–
Anti-Gear Missile	AGM	756	3/6/12/24	x15	+1	0	15.12	4	Guided
Anti-Aircraft Missile	AAM	2066	8/16/32/64	x10	+1	0	8.30	7	Guided, Min. Range 10
Airburst Missile	ABM	508	3/6/12/24	x10	0	0	2.00	6	AE=1
Light Bomb Rack	LB	135	0/0/0/0	x10	-2	3	0.05	4	Guided, AE=0
Medium Bomb Rack	MB	257	0/0/0/0	x15	-2	2	0.11	5	Guided, AE=0
Heavy Bomb Rack	HB	841	0/0/0/0	x20	-2	1	0.20	7	Guided, AE=1
Fuel-Air Bomb Rack	FAB	2758	0/0/0/0	x35	-1	0	11.00	11	AE=2, Slow Burn
Cluster Bomb Rack	CB	369	0/0/0/0	x8	0	2	0.06	6	AE=2
Hvy Cluster Bomb Rack	HCB	884	0/0/0/0	x10	0	1	0.10	8	AE=3

CREW AND ACTIONS

Min. Crew Size	Additional Actions	Total Actions
1	0	1
2	1	2
4	2	3
8	3	4
16	4	5
32	5	6
64	6	7
128	7	8
256	8	9
512	9	10

A vehicle's crew can get more actions by penalizing **all** their action test rolls by one (1) for each additional action taken. For example, a single crewman could fire twice, with a -1 on both attacks, or three times with a -2 on all attacks. These additional actions **must** be declared at the beginning of a round, in Step One.

MOVEMENT MODIFIERS

Stationary	+2
Half Combat Speed or less	+1
Combat Speed	+0
Top Speed	-3

TARGET SPEED MODIFIERS

Hexes Moved	Defense Modifier
0	-3
1-2	-2
3-4	-1
5-6	+0
7-9	+1
10-19	+2
20-99	+3
100-999	+4

RANGE MODIFIERS

Point Blank	Special range (same hex)	+1
Short	(from 1 hex to base range)	0
Medium	(from prev. to **two** times base range)	-1
Long	(from prev. to **four** times base range)	-2
Extreme	(from prev. to **eight** times base range)	-3

DEFENSE ARC MODIFIERS

If attack is in the defender's Front	0
If attack is from defender's Rear Flank	-1
If attack is from defender's Rear	-2

VEHICLE RECORD SHEET

A

NAME:

VEHICLE DESCRIPTION

- VEHICLE TYPE:
- THREAT VALUE:
  - OFFENSIVE:
  - DEFENSIVE:
  - MISCELLANEOUS:
- SIZE:
  - ORIGINAL DEFAULT SIZE:
- CREW:
  - BONUS ACTION:
- COST:
  - PRODUCTION TYPE:
  - INDV. LEMON DICE:

MOVEMENT

- PRIMARY MOVEMENT MODE:
  - COMBAT SPEED:
  - TOP SPEED:
  - STALL SPEED
- SECONDARY MOVEMENT MODE:
  - COMBAT SPEED/TOP SPEED:
- MANEUVER:
- DEPLOYMENT RANGE:

ELECTRONICS

- SENSORS:
  - SENSOR RANGE:
- COMMUNICATION:
  - COMMUNICATION RANGE:
- FIRE CONTROL:

ARMOR

- LIGHT DAMAGE:
- HEAVY DAMAGE:
- OVERKILL:

CREW

- PILOT (LVL/ATTR):
- GUNNERY (LVL/ATTR):

PERKS

NAME	RATING	GAME EFFECT

FLAWS

NAME	RATING	GAME EFFECT

DEFECTS

NAME	RATING	GAME EFFECT

WEAPONS

NAME	CODE	FIRE ARC	S	M	L	EX	Acc	Dam	Qty	Ammo	Special

DAMAGE

10 20 30 40 50 60 70 80 90 100

HEAVY GEAR

HEAVY GEAR ERRATA SHEET

For those who bought the first printing of the HG rulebook, there have been a few minor changes to the text, some of which affect the rules. Here is a list of those changes.

On p. 48, section 3.5.2 Skill Tests, first paragraph, fifth line: the reference to page 55 should read "page 50" instead.

On p. 55, section 3.7 Combat, second paragraph: replace "into rough 5-second combat rounds" by "into 6-second combat rounds."

On p. 56, section 3.7.4 Ranged Combat, Attack Example, third paragraph, 4th line: replace "a total modifier of -2" by "a total modifier of -4"; 6th line: "a final attack total of 5" should read "a final attack total of 3"; 9th line: "margin of success of 5" is actually "margin of success of 3."

On p. 63, section 3.8.2 Disease, Effects, 4th paragraph, 8th line: replace "a margin of success of 8" by "a margin of 8." You can't fail anything with a margin of success of 8.

On p. 65, section 3.8.4 Fire, Sample Flammability Ratings: magnesium flares are INDEED rating twelve. It was not a mistake. They are difficult to ignite, but they burn VERY well once ignited.

On p. 66, section 3.9.2 Spending XPs, Skill Improvement Costs table, level 4, Complex: the value should be 32, not 36.

On p. 74, section 4.1.6 Medical Equipment, Field Medic Gauntlet illustration: the stats for this piece of equipment are not provided. It is considered to be part of the Field Surgical Kit and has the equivalent bonus value of a First Aid Kit when used on its own.

On p. 93, section 5.9.1 Attacker Modifiers, A Second Attack Example, first paragraph, 7th line: "the total -9 penalty" becomes "the total -8 penalty"; 8th line: "...is only 1" becomes "...is only 2"; second paragraph, 6th line: "...total of 1" becomes "...total of 2"; 7th line: "a margin of success of 1" becomes "a margin of success of 2."

On p. 96, section 5.9.4 Evasive Maneuvers, 5th line: "...the vehicle from attacking" becomes "...the vehicle from taking any other action."

On p. 97, section 5.9.7 Burst Fire, Saturation Fire, second paragraph, 3rd line: add "(or 8 rockets)" after "ammunition"; 5th line: add "(or 4 rockets)" after "ammunition."

On p. 98, section 5.10 Damage, Damage vs Armor Table, 3rd row, 3rd column: add "-1 to Armor"; 4th row, 3rd column: add "-2 to Armor."

On p. 100, section 5.11.1, Infantry Weapon Table, 3rd column: the values listed are multipliers and should be preceded by the symbol "x."

On p. 112, section 6.2.13 Campaigns, Repair Examples, 3rd paragraph, 2nd line: add this sentence at the end: "Because the *Hunters* have the *Easy to Modify* Perk, add +2 to all skill rolls."

On p. 119, section 7.1 Introduction, 5th paragraph, 2nd line: "(page 232)" becomes "(page 231)."

On p. 123, section 7.3.5 Step Five: Select Weapons, Heavy Gear Vehicle Weapon List, 'Hand Grenade' entry: 3rd column entry "11" becomes "N/A"; 8th column "-" becomes "11."

On p. 127, section 7.3.11 Step Eleven: Calculate Threat Value, Targeting System Multiplier table, 2nd column: the values listed are multipliers and should be preceded by the symbol "x."

On p. 128, section 7.3.12 Step Twelve: Calculate Default Size and Cost, 4th paragraph (starting with "Specialist vehicles...") is replaced by "The minimum value for the sum of Sensor Score + Communications Score + Total Perk/Flaw is 0. If the total is less than zero, then use zero instead."

On p. 129, section 7.3.13 Step Thirteen: Select Actual Size and Pre-Production Cost, Size to Mass Table: mass range for Size 6 becomes "4.5 - 7.4"; mass range for Size 7 becomes "7.5 to 10."

On p. 146, section 7.5 Perks, Emergency Medical, 5th line: "...this perk prevents the "crew stunned"..." becomes "...this perk prevents the first "crew stunned"..."

On p. 159, section 8.1.2 Northern Military Units, Heavy Gear Regiment, Military Police Squadron, Modifications, 3rd line: "(Front, Left)" becomes "(2 Front, 2 Left)"; Paratroopers, 6th line: add "hours" after "1000."

On p. 173, section 8.3.2 Southern Military Units, Heavy Gear Regiment, Military Police Squadron, Modifications, 3rd line: "(Front, Left)" becomes "(2 Front, 2 Left)."

On p. 213, section 10.4 Striders, Mammoth, Weapons, SB-90 Assault Gun: "SBC" becomes "SC" (remove the 'B').

On p. 237-250, some of the Threat Values and Costs of the various vehicles have been miscalculated. Here is a correction table:

Gear	TV	Off.	Def.	Misc.	Cost	Note
Jaguar	628	1064.0	552.5	268.0	471,000	MAC short range=2
Hunter	380	449.7	297.4	392.0	221,667	
Grizzly	889	2174.9	257.5	236.0	635,000	
Cheetah	625	380.4	799.7	696.1	468,750	
Black Mamba	671	1099.9	618.3	295.2	503,250	Flaw=Weak Facing, MAC Dam=x10
Jäger	380	449.7	298.0	392.0	221,667	
Spitting Cobra	818	1960.6	327..04	167.0	525,857	
Iguana	584	336.4	464	950.2	389,333	
Badger APC	214	405.6	68.6	169.1	80,250	
Caïman APC	190	223.7	73.3	273.1	70,500	
Elan	58	0.0	40.1	133.4	29,000	
Camel	75	0.0	28.7	197.0	37,500	Ground Speed=6/12
Mammoth	1500	3393.3	313.5	793.9	3,666,667	Maneuver=-2, SB-90 Gun=SC
Naga	1645	4490.0	300.9	144.1	1,233,750	

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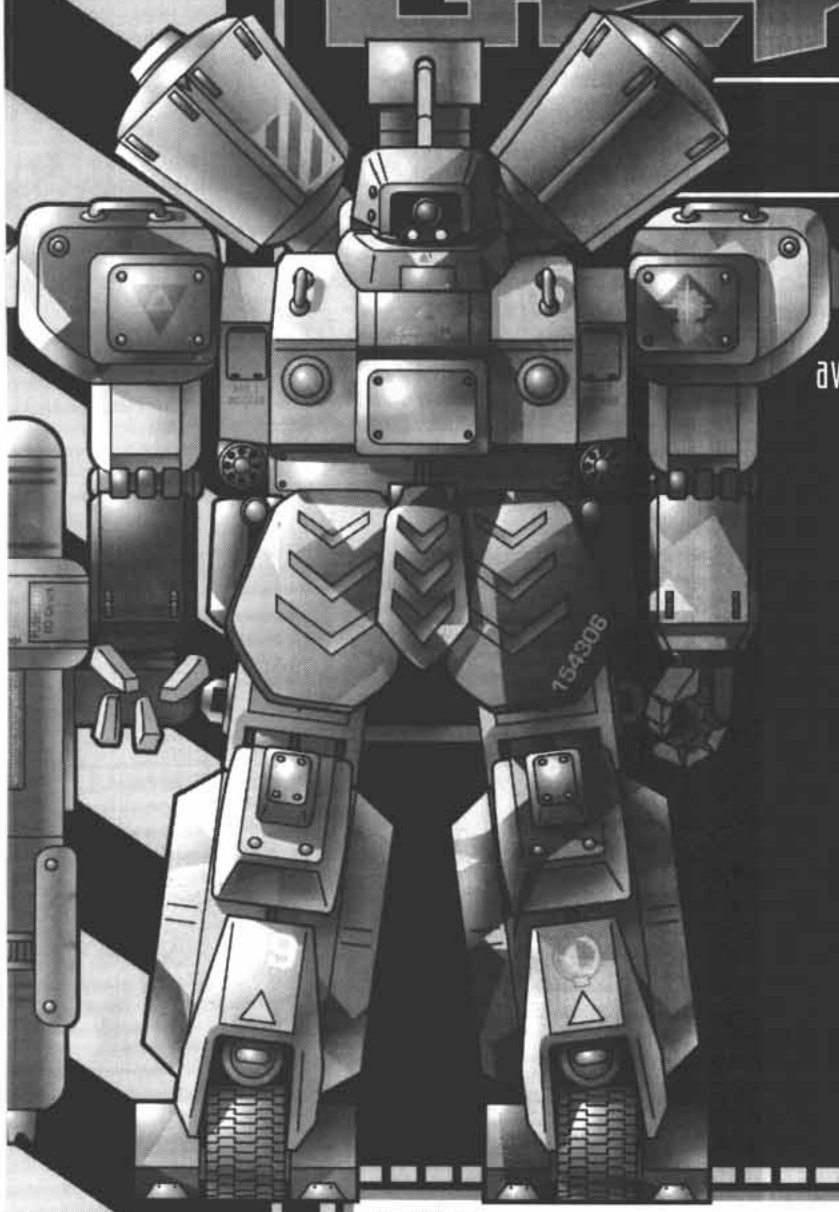

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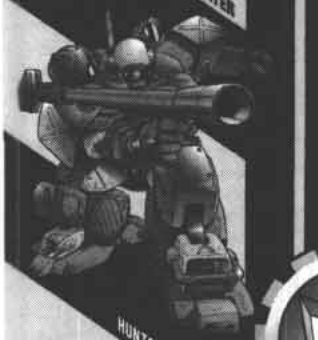

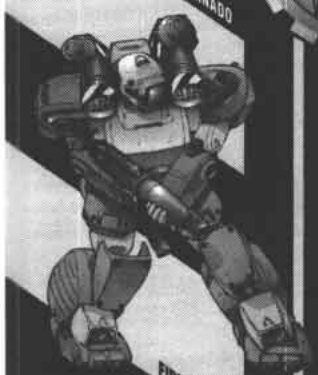

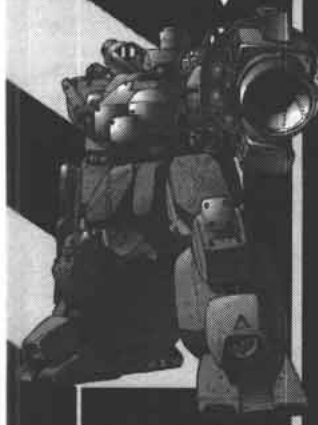

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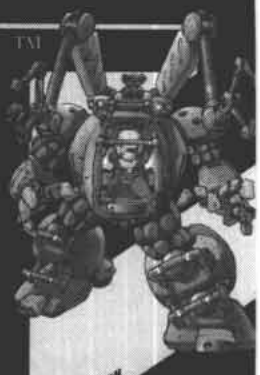

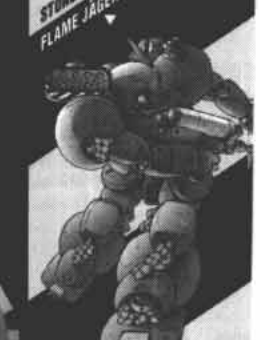

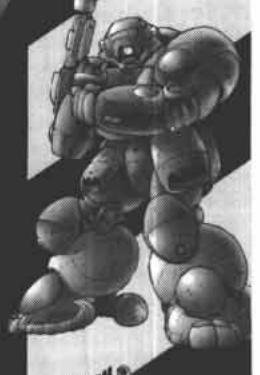

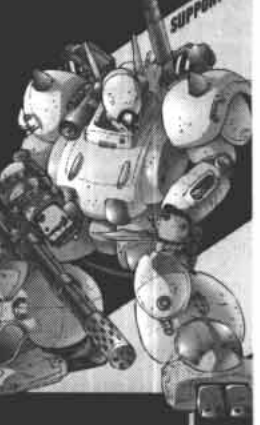

NORTHERN GUARD

ITEM #	DESCRIPTION
■ 1200	Hunter
■ 1201	Assault Hunter
■ 1202	Jaguar
■ 1203	Strike Jaguar
■ 1204	Cheetah
■ 1205	Strike Cheetah
■ 1206 ▲	Grizzly
■ 1207 ▲	Assault Grizzly
■ 1208	Hunter Commando
■ 1209	Bricklayer
■ 1210	Fire Jaguar
■ 1211 ▲	Rabid Grizzly
■ 1212 ▲	Kodiak
■ 1213	White Cat
■ 1214 ●	Light Artillery
■ 2050 ◆	Northern Box Set

SOUTHERN MILICIA

ITEM #	DESCRIPTION
■ 1300	Jäger
■ 1301	Blitz Jäger
■ 1302	Black Mamba
■ 1303	Long Fang BM
■ 1304	Iguana
■ 1305	Blitz Iguana
■ 1306 ▲	Spitting Cobra
■ 1307 ▲	Striking Cobra
■ 1308	Stone Mason
■ 1309	Flammjäger
■ 1310	Snakeye BM
■ 1311 ▲	Support Cobra
■ 1312	Razorfang BM
■ 1313 ▲	King Cobra
■ 1314 ●	Light Artillery
■ 2051 ◆	Southern Box Set

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