



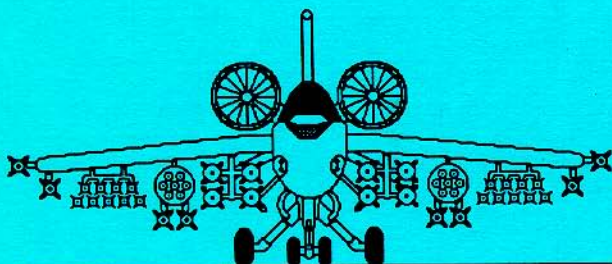
The ADJUTANT

RM-90-02

\$ 5.00

Imperial Armed Forces
Vehicle Guide
Altair Sub-Sector

Set Number Two,
Aircraft,
Rotary & Fixed Wing



Acknowledgments

Anyone who has ever tried to design new and innovative vehicles for a science fiction game realize the complexities involved. Great amounts of time are spent in calculating and designing all the components that make up futuristic combat vehicles. Especially aircraft. We have all stayed up until the wee hours of the morning before the gaming session vainly trying to get the last little details worked out for gadget hungry players. As GMs, we have all been placed in this unenviable position.

It is my intent to save you the time and aggravation required to put vehicles into your campaign. I hope you find this and future guides useful. My thanks and deepfelt gratitude go to the following individuals for their help in working as many of the "bugs" out of this package as is possible;

Jonathan Krost, for his production assistance

Ferdinand Metzger, for his valuable technical assistance and experience as an aviator

Steve Popp, for being a good ground target & flying the prototypes

Thanks to these friends and the rest of the Marina Gaming Club without whose help this project would never have been.

Mark Schmidt

Other guides planned in this series will include:

RM-90-01	Air Cushioned Vehicles
RM-90-03	Tracked Vehicles
RM-90-04	Wheeled Vehicles
RM-90-05	Grav Vehicles
RM-90-06	Waterborne Vehicles
RM-90-07	Orbital Assault & Landing Vehicles
RM-90-08	Exotic Vehicles
RM-90-09	Infantry Weapons

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Introduction

Thank you for your purchase of this vehicle guide. It contains rotary and fixed wing aircraft designed for use with the Traveller® and the Striker® science fiction role playing systems. However, the specifications are comprehensive enough that conversion to other systems should cause no problems.

With the advent of small, functional fusion drives, aircraft ranges were dramatically increased. All ranges are combat radius. This allows for a return trip. The further the distance from base the shorter the loiter time. The main constraint on maximum time aloft is the endurance of the crew which is usually 8 to 10 hours. All the vehicles in this guide are designed at tech level 13, with the exception of the Zebulon designs. They are included as a reference should they be encountered in battle. The Imperial aircraft all have survival vests and small arms with ammunition for each crewmember.

There are two types of aircraft represented in this guide: Fixed wing and Rotary wing. The fixed wing aircraft are STOVL (Short TakeOff - Vertical Landing) capable by using vectored thrust, ducted nozzles for manoeuvrability. The rotary wing aircraft are based on late 20th century designs, but because of the increased power from fusion engines, the rotors have been reduced in size and placed inside armored drums. These rotors are variable pitch and the entire drum rotates up to 75° to give forward thrust. While independent control is possible, the rotors are normally all slaved together or in pairs to allow a stable platform. Caution should always be exercised when moving around a Rotor drum when it is in operation. If you move too close to the top when the rotors are unfeathered, or "biting air", you will be sucked into the intake and "blenderized". At the other end, the amount of air being pushed down to allow the aircraft to lift can easily slam the strongest individual to the ground.

To make the vehicles move, the rotors, or fans, are run up to operating speed. The rotors are then tilted to cause air to move through the drum and create vertical thrust. When lift has been achieved the drums are rotated slightly causing horizontal thrust. Each fan can be independently controlled so high manoeuvrability can be achieved by a skilled pilot. Because of the complexity, all flight controls are "fly by wire", or computer assisted, to allow the pilot to watch what is going on outside the craft instead of being engrossed with the mechanics of flying.

The Fixed Wing aircraft use a similar process, but simply vector the thrust by use of ducted nozzles or variable louvers on the exhaust ports. As these nozzles are rotated, thrust is sent to the horizontal or vertical plane. These aircraft are also equipped with fly by wire avionics utilizing the latest in HOTAS and HUD technologies. Physical defensive measures include chaff and flare dispensers and Electronic ECM/EW systems with Radar/Radio Jammers are also installed. In an emergency, crews are equipped with advanced ejection seats. With these, if it

becomes necessary to "punch out" or eject, the crews have a 10-second steerable, rocket motor at the base of the seat. This allows the crew to move away from the damaged aircraft. The seat has a 9 G acceleration for the duration of the rocket burn and can make vertical climbs.

Why use aircraft instead of starships? It is a simple matter of economics and logistics. Space capable vessels are very expensive compared to atmospheric vehicles. In an extended conflict, you do not want to have space capable vessels tied down to the planet for air superiority, ground support or supply missions. Especially when several of the atmospheric craft can be purchased for the price of one orbital ship. Another consideration is performance. An aircraft is much more maneuverable by design than a space vessel.

Why use conventional munitions? Again, cost. Besides, conventional bombs are usually available on a local basis and even if they are not, planetary bombardment from orbit is an incredibly damaging process on a strategic scale. At some point, you always have to send down the ground troops, and they should have as much support as possible. One additional thought, bombs are not stopped by anti-laser aresols.

An old 20th century Terran axiom has been proven time and time again: "He who controls the skies, controls the battle." Because of this fact, air-to-air actions tend to be quite intense in an effort to establish superiority, and ground units try to collect as much "Triple A" as they can to fend off devastating attacks from above.

I hope this brief explanation helps in the use of this guide in your campaigns. I will be happy to answer any questions or clarify an unclear point, simply enclose an S.A.S.E. with your questions and I will return an answer to you. Look for future sets outlining other vehicle families.

Also write for a sample issue of The ADJUTANT, a newsletter written for Traveller Army, Marine and Mercenary characters. Published six times a year, each issue is full of rules variants, suggestions, personal weapons, etc. At only \$9.00 per year, it's one of the best deals in the Imperium.

Mark Schmidt

Effects of Ordnance

<u>Type</u>	<u>Wt.(kg)</u>	<u>Cost (cr)</u>	<u>Effect</u>
Iron Bomb	100	720	25m rad w/50 mm pent
	250	1440	50m rad w/ 50 mm pent
	500	2880	100m rad w/60mm pent
	1000	5760	150m rad w/50mm pent
CBU	500	14000	150 x 350m area w/6 d6 dam & 20mm pent
	1000	25000	200 x 500m area w 6 d6 dam & 20mm pent
FAE	1000	5800	100 x 200 m area w/20 d6 dam & 100mm pent
IR-LGB	1000	12500	3 meter burst pent 200 m rad w/50mm pent
10cm IR Guided Missile	50	335	440mm pent
7cm Un-Guided Rocket	20	145	110mm pent 10 meter burst rad w/10mm pent

Effects of Munitions

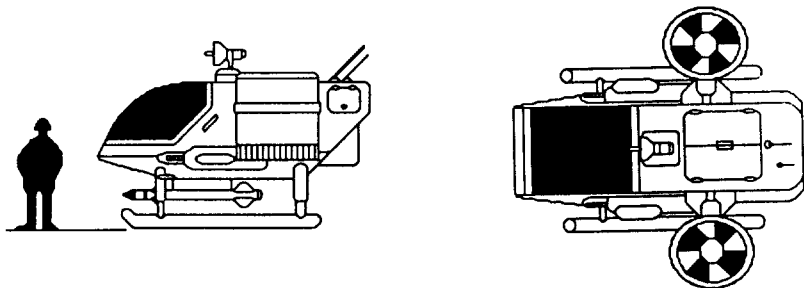
<u>Type</u>	<u>Wt.(kg)</u>	<u>Cost (cr)</u>	<u>Effect</u>
5.55mm	2.5/100	120/100	20mm pent
20mm	.4	2.5	140mm pent
40mm	2	12	210mm pent

M-951

The M-951 "Gnat" is a RW-VTOL capable Recon/Scout vehicle . It can stay airborne for up to 48 hours and has a range in excess of 20,000 km. Propulsion is supplied via a fusion power plant driving 2 VTFs with internal blades. A crew of 2, pilot & observer/weapons officer, operate this vehicle into hostile territory to gather intelligence and scout forward positions in conflicts covering large areas. It is lightly armed but has excellent defensive capabilities due to its electronics and high manouverability. In the event the vehicle is forced down in hostile territory, a full E&E package is installed for both crewmembers. Advanced ejection seats are also installed.

SPECIFICATIONS:

Dimensions:	5 m L x 5 W x 3.5 m H
Combat Weight:	17.34 metric Tons
Power Plant:	Fusion, 1 megawatt output
Fuel Req.:	72 liters/hour, 3,500 liters carried (1/4 ton)
Endurance:	48 hours (10 hour max. for crew)
Max. Speed:	850 kph
Min. Speed:	0 (VTOL)
Cruise Speed:	700 kph
NOE Speed:	170 kph
Max. Eff. Rng:	20,400 km
Weapons:	2 5.55mm LMGs (fixed foward firing), 2 M-410 "Wild Card" Multirole Missile (seeM-914)
Fire Rate:	10 Rounds / turn per gun, 1 missile
Feed Device:	Electric drive from 2000 round linked belt stored in ammo bins
Crew:	2 - Pilot, Observer / Weapons Officer
Electronics:	5 pwr Radio, AWLS/AWTR, HOTAS/HUD, IFF, INS
Offensive	Mk XII T4
Defensive:	Mk IX EW
Cargo:	50 kg
Agility:	23
Turn Rate:	104° at cruise speed, 360° hover
G Rating:	+/- 12
Transport Volume:	1020 m3
Price:	18.05 Million Cr

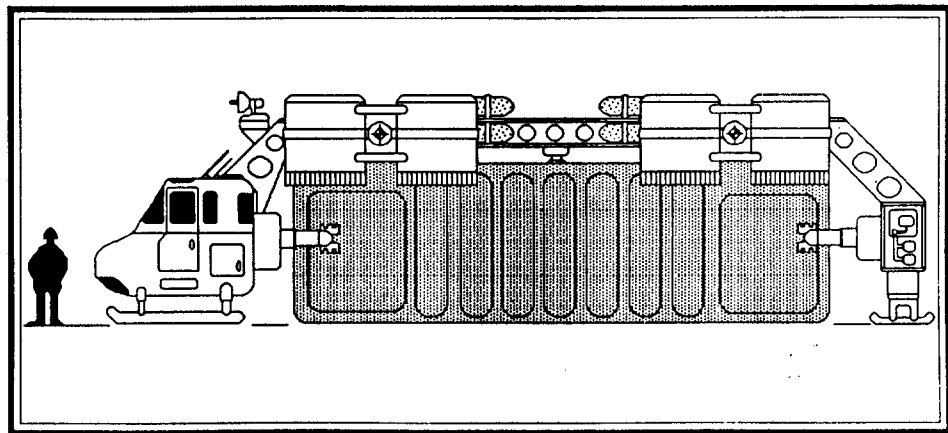


M-960

The M-960 "Skyhook" is a RW-VTOL, Heavy Lift Cargo carrier assigned to RMH Squadrons. It can carry a 298 ton payload of cargo or vehicles . Propulsion is supplied via a fusion power plant driving 8 VTF with internal blades and an LID enhancement. A crew of three, pilot, co-pilot and crew chief, operate this vehicle, delivering much needed supplies, vehicles or other cargo from rear areas to FEBA locations. It is usually escorted by a RWGAP when flying near the front lines. It has no defense other than an ECM package. Using magnetic and pneumatic cargo locks it can pick up any of the Air Cushioned, Grav., Wheeled or Tracked vehicles under 298 tons currently in inventory. Its primary cargo role is the transport of the MUCC-5 Universal Cargo Container. When loaded, the maximum angle of deflection of the fans is 60°.

SPECIFICATIONS:

Dimensions :	18.5 m L x 7 W x 5 m H
Combat Weight:	27 metric Tons empty, up to 325 tons (max.) loaded
Power Plant:	Fusion, 127 megawatt output
Fuel Req.:	1296 liters/hour, 28,000 liters carried (2 tons)
Endurance:	21.6 hours
Max. Speed:	230 kph
Min. Speed:	0 (VTOL)
Cruise Speed:	200 kph
NOE Speed:	not available (with added avionics package 120 kph)
Max. Eff. Rng:	2160 km
Weapons:	none, (may be fitted with a 5.55 mm LMG)
Crew:	3 - Pilot, Co-Pilot, Crew Chief/Cargo Handler
Electronics:	5k pwr Radio, AWLS/AWTR, ECM, HUD, IFF, INS
Cargo:	Up to 298 tons, (one large vehicle or one MUCC-5 Cargo Container)
Agility:	5
Turn Rate:	57° at cruise speed, 180° hover
G Rating:	+/- 7 empty, +/- 3 loaded
Transport Volume:	540 m3, disassembled
Price:	12 Million Cr



M-956

The M-956 "Hopper" is a RWAC-VTOL aircraft assigned to RMA and Air Cavalry Squadrons. It can deliver 20 combat ready soldiers with 5 tons of cargo or 6.5 tons of cargo with no passengers to the FEBA. Propulsion is supplied via a fusion power plant driving 4 VTFs with internal blades. A crew of four, pilot, co-pilot, crew chief/gunner and gunner/cargo handler, operate this vehicle into battle to insert combat troops, pick up wounded, deliver supplies, etc. Entry or exit of the craft is achieved by two side doors or through rear doors. While fuel use is high, this vehicle has become a workhorse because of the wide variety of roles it can assume.

SPECIFICATIONS:

Dimensions:	10.5 m L x 5 W x 4 m H
Combat Weight:	27 metric Tons
Power Plant:	Fusion, 3 megawatt output
Fuel Req.:	200 liters/hour, 7,000 liters carried (1/2 ton)
Endurance:	6.5 hours
Max. Speed:	300 kph
Min. Speed:	0 (VTOL)
Cruise Speed:	250 kph
NOE Speed:	120 kph
Max. Eff. Rng:	800 km
Weapons:	Two 5.55mm LMGs
Fire Rate:	10 Rounds / turn per gun
Feed Device:	500 round linked belt in ammo bin
Crew:	4 - Pilot, Co-Pilot, Crew Chief, & Gunner
Passengers:	20
Electronics:	5k pwr Radio, AWLS/AWTR, Mk IX EW, HUD, IFF, INS
Cargo:	3.25 tons w/passengers, 6.5 tons w/out
Agility:	5
Turn Rate:	57° at cruise speed, 360° hover
G Rating:	+/- 5
Transport Volume:	1620 m3
Price:	10,470,500 Cr

Options:

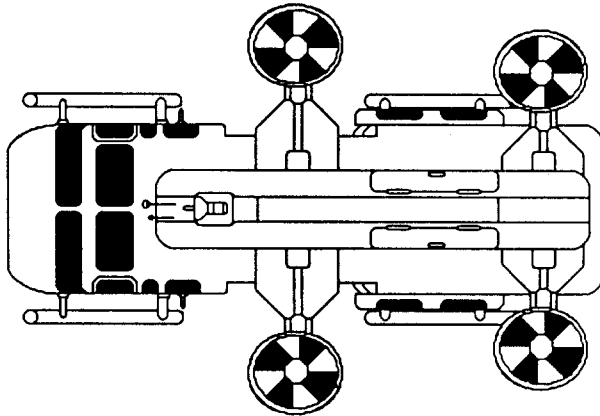
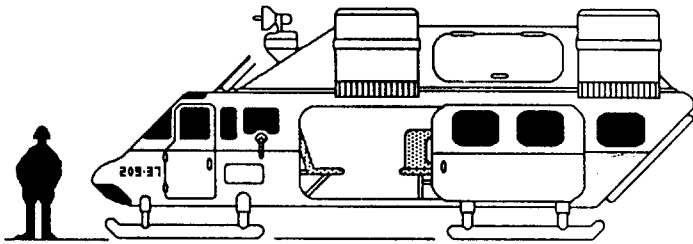
M-956A Ambulance, 12 stretcher & 2 corpsmen, 10.5 million cr

M-965B Cargo Lifter, (Light), with 1 ton winch & lift straps, 10.25 million cr

M-956C Gunship (added wings mounting weapons pods, see opposite), 11 million cr

M-956D Flying Comand Post, with Battle Computer and Commo equipment, 12 million cr

M-956E Search & Rescue with rescue winch & basket, 10.5 million cr



Gunship Configuration

per wing:

- 1) Dual 5mm LMGs fed via electric drive from 1000 round drum magazine
- 2) 20mm RFC "tank buster" fed via electric drive from 500 round magazine
&
- 3) 16 tube, 2.75" unguided rocket pod
- or
- 4) 2 Wild Card MRM pod
- or
- 5) 250 kg CBU

M-969

The M-969 "Wasp" belongs to the RWGAP class of vehicles. Capable of VTOL flight its primary role is in CAS and SEAD. It can operate without refueling, with a full load of ordnance, for up to 32 hours and has a range of 12,500 km, although 8 hours is the normal maximum per mission for the crew. Propulsion is supplied via fusion power plant driving 4 VTFs with internal blades. When stationary, the forward fans pivot out up to 5° to allow rapid pivoting of the vehicle. A crew of 2, pilot & weapons officer, fly this vehicle into FEBA locations to eliminate enemy defensive positions or to blunt enemy attacks. It is heavily armed & has excellent defensive capabilities due to its electronics, armored cockpit & high manouverability. In the event the vehicle is forced down in hostile territory, a full E&E package is installed for both crewmembers. Advanced ejection seats are also installed. One note of interest; one of the LMGs is mounted at the rear of the craft for supression of ground fire after a target fly-over and to discourage rear attacks by other aircraft.

SPECIFICATIONS:

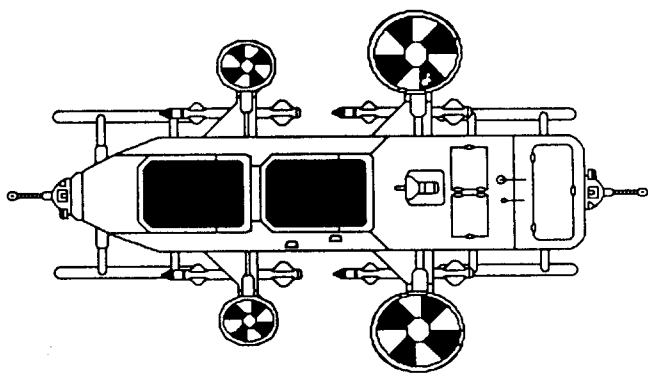
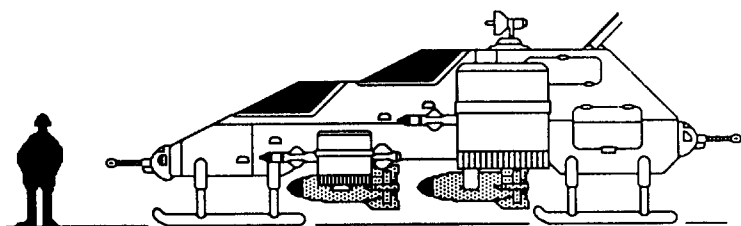
Dimensions:	11 m L x 6.25 W x 3.5 m H
Combat Weight:	40 metric Tons
Power Plant:	Fusion, 9 megawatt output
Fuel Req.:	108 liters/hour, 3,500 liters carried (1/4 ton)
Endurance:	32.4 hours
Max. Speed:	900 kph
Min. Speed:	0 (VTOL)
Cruise Speed:	750 kph
NOE Speed:	170 kph
Max. Eff. Rng:	50,400 km
Weapons:	2 5.55mm LMGs (turret w 180° arc), 4 M-410 "Wild Card" Multirole Missiles (see M-914) & up to 1,000 kg of ordnance
Fire Rate:	10 Rounds / turn per gun, full load of bombs or in pairs
Feed Device:	Electric drive from two 2000 round linked belts stored in bins
Armor:	50mm tub around crew compartment
Crew:	2 - Pilot, Weapons Officer
Electronics:	5k pwr Radio, AWTR/AWLS, INS
Offensive:	Mk XII T4
Defensive:	Mk IX EW, ARBS, ECM/EW, INS,
Cargo:	0 kg
Agility:	15
Turn Rate:	87° at cruise speed, 360° hover
G Rating:	+/- 4
Transport Volume:	2400 m3
Price:	25,616,000 Cr

Typical Ordnance:

Two 500 kg GBU's or,

Four 250 kg general purpose Iron Bombs or,

One 1,000 kg FAE munition



M-914

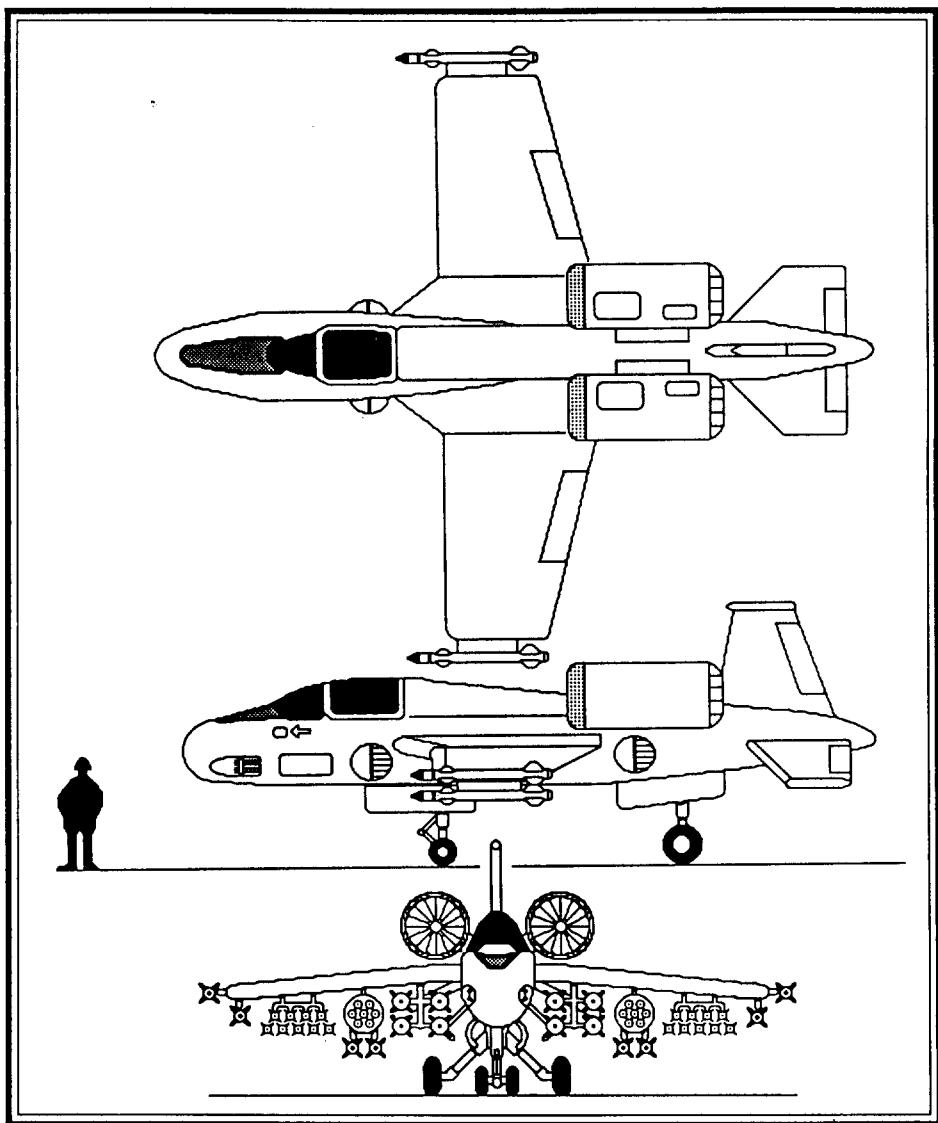
The M-914 "GASP" is specifically designed for CAS / SEAD roles, although it can assist CAP forces under extreme need. It can operate unrefueled for up to 6 days, although 8 hours per mission is the normal limit on the pilot. Propulsion is supplied via a fusion power plant driving 2 High Performance Turbofans. 2 VTNs with LID enhancements are installed for VTOL flight. It is armed with 8 "Wild Card" missiles, 16 10cm IR guided missiles, 18 7cm unguided rockets and two internal 20mm, 6 barreled, HPV-RFC. 5,000 HEAP or HEI shells are fed via an electric drive from bins stored in the fuselage. It also has excellent defensive capabilities due to its electronics, armored cockpit, and high maneuverability. In the event the vehicle is forced down in hostile territory, an advanced ejection seat is installed with a full E&E package for the pilot.

SPECIFICATIONS:

Dimensions:	12.25 m L x 10.5 W x 4.5 m H
Combat Weight:	18.5 metric Tons
Power Plant:	Fusion, 3 megawatt output
Fuel Req.:	108 liters/hour, 7,000 liters carried (1/4 ton)
Endurance:	64 hours, (8 hours max. for crew)
Max. Speed:	900 kph
Min. Speed:	0 kph (VTOL)
Cruise Speed:	750 kph
NOE Speed:	375 kph
Max. Eff. Rng:	24,000 km
Weapons:	two 6- barrel 20mm, HPV-RFC 8-M-410 "Wild Card" Multirole Missiles Up to 4,000 kg ordnance (standard load given below) 1,800 kg bombs, 14 10cm IR Missiles, 18 7cm unguided rockets
Fire Rate:	337 Rounds / turn per gun (16 targets ea) & 4 missiles or 4 bombs & 6 rockets / turn
Feed Device:	Electric drive from 5000 round linked belt stored in ammo bins, MER
Armor:	50mm tub for pilot & critical systems
Crew:	1 - Pilot
Electronics:	5k pwr Radio, AWLS/AWTR, INS, Map Box
Offensive:	Mk XII T4
Defensive:	Mk IX EW, Chaff & Flares 7 ea.
Cargo:	0 kg
Agility:	39
Turn Rate:	61° at cruise speed
G Rating:	+ 10 / - 8
Transport Volume:	1080 m ³ , wings folded 720 m ³
Price:	19.53 Million Cr

M-410 "Wild Card" AAM / AGM

This is a multi-role weapon. It can engage air or ground targets fed to it by the Weapons Officer onboard the parent vehicle. The T4 system provides target selection via the WO to the missiles. From a stand-off range of 30 kilometers, 4 targets may be engaged simultaneously. The missiles on-board computer is equipped with STAFF. Should the operator get a threat warning from a closer target, in-flight missiles can be vectored to the new target as long as they have not passed it.



M-410 Specifications:

Warhead: Equiv. to 120 kg, 190 mm Penet., 6 m burst rad. w/ 30 mm frag. penet.
Fuse: Variable; Delayed (hard targets) or proximity (air or soft ground targets)
Guidance: STAFF, Enhanced Tele-Video / EO / Radio
Range: 1 to 30 km
Weight: 120 kg
Price: 4,500 cr

Alternate Ordnance:

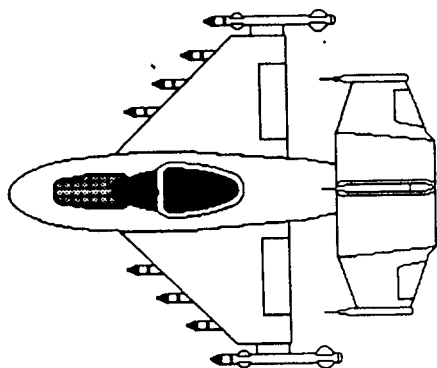
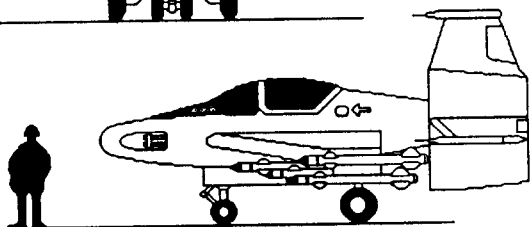
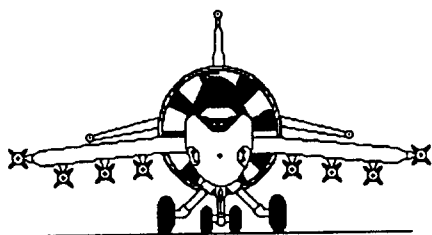
CBU
 FAE
 IR-LGB

M-922

The M-922 "Scorpion" is a CAS / SEAD platform designed specifically for infantry support . It can operate for up to 48 hours without refueling and has a range in excess of 26,000 km. Propulsion is supplied via a fusion power plant driving a dual, counter-rotating pusher fan, mounted at the rear of the craft's fuselage. A single crewman flies this vehicle over hostile territory to scout forward positions, and lend air cover for infantry and mechanized infantry manouvers. It is moderately armed and has excellent defensive capabilities due to its electronics and high manouverability. In the event the vehicle is forced down in hostile territory, a full E&E package is installed. An advanced ejection seats is also installed. While not STOVL equipped, this craft uaes only 240 meters to takeoff or land. Because of the small size of this vehicle, it is often attached to Mechanized Infantry Regiments as organic air support. It may be carried in the Universal Cargo Container carried by the Skyhook or in some of the ground cargo vehicles.

SPECIFICATIONS:

Dimensions:	8 m L x 6 m W x 2 m H
Combat Weight:	15 metric Tons
Power Plant:	Fusion, 3 megawatt output
Fuel Req.:	72 liters/hour, 3,500 liters carried (1/4 ton)
Endurance:	48 hours (10 hour max. for crew)
Max. Speed:	700 kph
Min. Speed:	140 kph
Cruise Speed:	575 kph
NOE Speed:	250 kph
Max. Eff. Rng:	13,800 km
Weapons:	one 5.55mm 3-Barrel RFC (fixed foward firing), 8 M-410 "Wild Card" Multirole Missile (see M-914)
Fire Rate:	10 Rounds / turn per gun, 1 missile
Feed Device:	Electric drive from 1,000 round linked bel stored in ammo bins
Crew:	1 - Pilot
Electronics:	5 pwr Radio, AWLS/AWTR, HOTAS/HUD, IFF, INS
Offensive	Mlk XII T4
Defensive:	Mk IX EW
Cargo:	0
Agility:	41
Turn Rate:	90° at cruise speed
G Rating:	+/- 8
Transport Volume:	900 m3, wings folded 370 m3
Price:	17.2 Million Cr



M-927

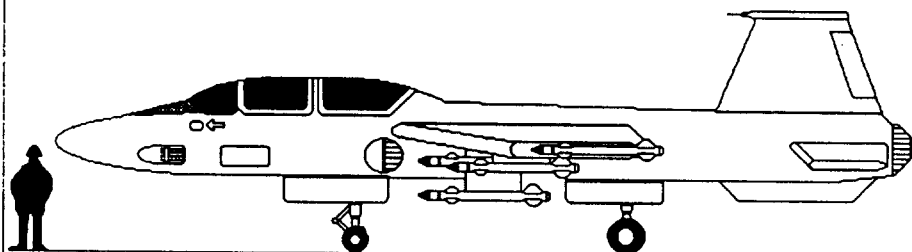
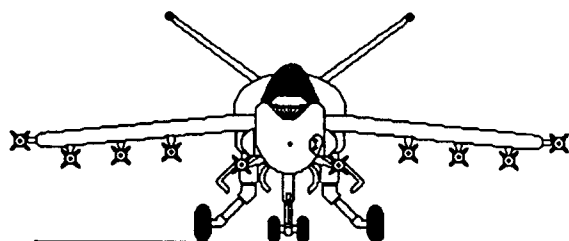
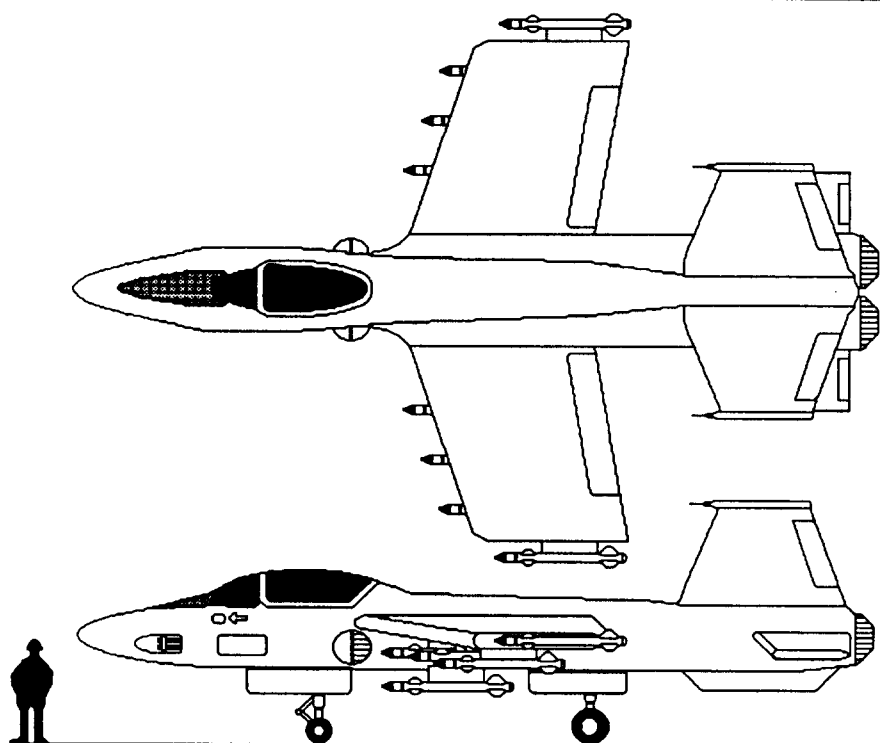
The M-927 "Viper" is a STOVL capable CAP / SEAD platform. Its primary role is to secure and maintain air superiority, although it can assist ground forces when needed. It can operate without refueling for over 100 hours, 8 hours being the normal limit per mission on the pilot. Propulsion is supplied via fusion power plant driving two High Performance Turbofans. Installed are 2 VTNs with LID enhancements just forward of the wing, and thrust-deflector louvers on the rear exhaust nozzles allowing STOVL maneuvers. A pilot operates the fighter version of this vehicle into the FEBA to eliminate enemy air craft while a two man crew flies the fighter/bomber version to neutralize ground targets. It is armed with "Wild Card" missiles and an internal 20mm, 6 barrelled, HPV-RFC. 5,000 HEAP shells are fed via electric drive from a bin stored in the fuselage. It also has excellent defensive capabilities due to its electronics, armored cockpit & high maneuverability. An advanced ejection seat is installed for the crew. A full E&E package is also installed in the event the vehicle is forced down over hostile territory.

SPECIFICATIONS:

Dimensions:	15 m L x 10 W x 4.5 m H, (F/B - 17 m L)
Combat Weight:	19 metric Tons, (21 F/B)
Power Plant:	Fusion, 3 megawatt output
Fuel Req.:	108 liters/hour, 14,000 liters carried (1 ton)
Endurance:	129 hours, (8 hours max. for crew)
Max. Speed:	2576 kph
Min. Speed:	140 kph (VSTOL)
Cruise Speed:	1932 kph
NOE Speed:	not allowed
Max. Eff. Rng:	124,614 km
Weapons:	One 6-barrel, 20mm HPV-RFC 6 M-410 "Wild Card" Multi Role Missiles, (see M-914) 4 M-410-ER MRM (see below)
Fire Rate:	337 rounds / turn (16 targets) 4 missiles / turn
Feed Device:	Electric drive from 5000 round linked belt stored in ammo bin
Armor:	50 mm for crew & critical systems
Crew:	1 - Pilot (Fighter) / 2 - Pilot & B/N (Fighter/Bomber)
Electronics:	5k pwr Radio, AWLS, AWTR, INS
Offensive:	Mk XII T4
Defensive:	Mk IX EW, Chaff & Flares, 8 ea.
Cargo:	0 kg
Agility:	39
Turn Rate:	87° at cruise speed
G Rating:	+/- 12
Transport Volume:	1080 m3, wings folded 720 m3
Price:	18.75 Million Cr (Fighter), 19 Million (Fighter/Bomber)

M-410-ER Wildcard Multi Role Missile

This is an extended range version of the regular M-410. It is able to engage targets from a stand-off range of 85 km. It weighs 140 kg, costs 4,700 cr and has the same warhead as the M-410.



M-927T, M-927FB

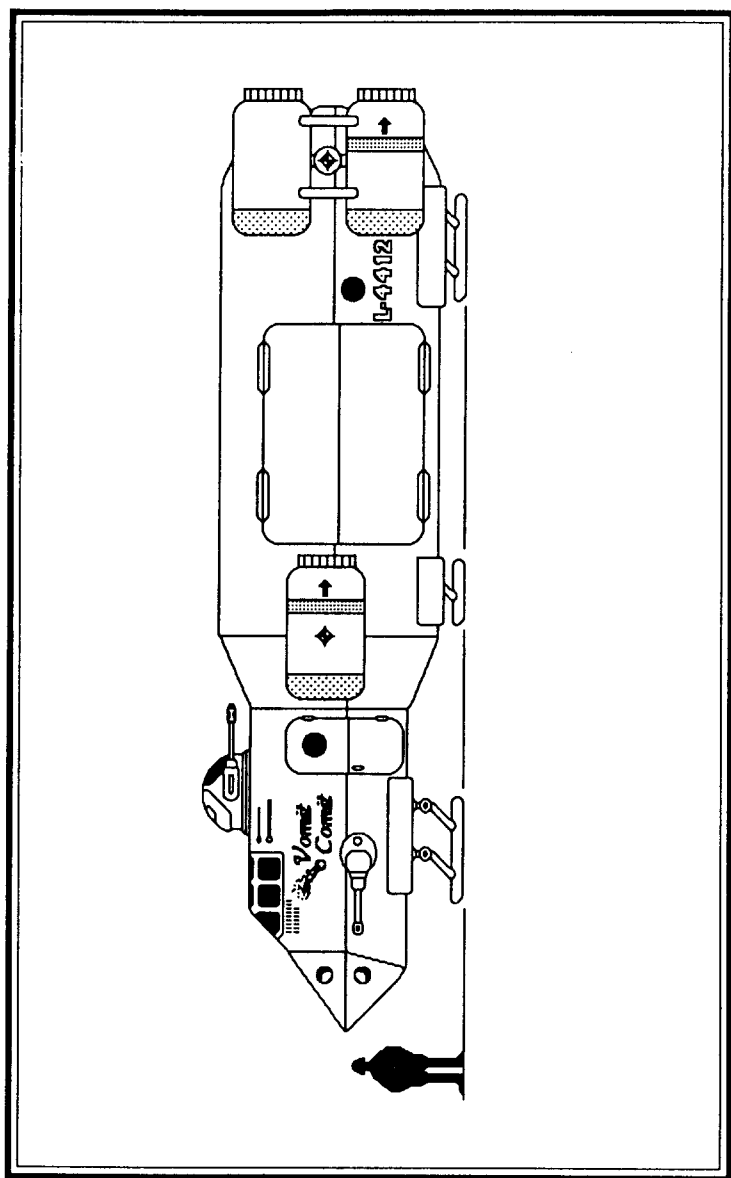
Two seated version for training and Fighter/Bomber Role. Back seat contains B/N - EW Officer. Add 250,000 cr to price, up to 4000 kg of bombs, and remove 2 wild-cards.

M-1020

The M-1020 is an orbit capable planetary assault platform assigned to RMH Squadrons. Its primary role is to deposit ground forces or supplies when and where needed. It can operate for up to 21 hours without refueling. Propulsion is supplied via a fusion power plant driving 6 directional-thrust nozzles allowing VTOL capability. The craft is launched from the mother ship and allowed to "drop" into the atmosphere. Re-entry Heat Dissipation is accomplished with shield generator powered by the fusion plant until power to the thrusters is required. A crew of 7 can deliver up to 64 combat troops or 2 small vehicles with crews or 64 tons of cargo to FEBA locations. Troops exit the cargo bay via split doors on either side of the vehicle. It is armed with twin 20mm, single barreled, HPV-RFCs in a manned turret. 2,500 HEAP Rounds are fed via an electric drive from bins stored below. There is also a remote turret housing a 40mm HPV-RFC on either side of the forward fuselage. These can be slaved to the point defense computer or operated independently and carry 1,000 rounds of HEAP or HEI delivered by an electric drive. Should escape become necessary, the pilot, co-pilot and turret gunner stations have ejection seats, while the engineers and gunners use escape hatches located on the roof and belly of the flight deck. All carry a self contained E&E package. The belly and lower half of this craft is equipped with 100 mm of armor with an effective value of 350 mm. The belly, by virtue of its flat shape also acts as a wing providing additional lift.

SPECIFICATIONS:

Dimensions:	16.5 m L x 6 m W x 5.5 m H
Combat Weight:	400 metric Tons, (loaded)
Power Plant:	Fusion, 127 megawatt output
Fuel Req.:	1296 liters/hour, 14,000 liters carried (2 tons)
Endurance:	21 hours, (12 hours max. for crew)
Max. Speed:	2500 kph
Min. Speed:	0 (VTOL)
Cruise Speed:	1935 kph
NOE Speed:	100 kph
Max. Eff. Rng:	41,800 km (after atmosphere entry)
Weapons:	2 single barrel 20mm, HPV-RFCs; 2 single barrel 40mm, HPV-RFCs
Fire Rate:	20mm - 56 Rounds / turn / gun; 40mm - 28 Rounds / turn / gun
Feed Device:	20mm - Electric drive from 2,500 round bins 40mm - Electric Drive from 1,000 round bins
Armor:	Actual 100 mm, Rated at 350 mm
Crew:	7 - Pilot/Cmndr, Co-Pilot, 2 Engrs., 3-Gunners
Electronics:	AWLS/AWTR, IFF, INS,
Offensive:	Mk XII T4
Defensive:	Mk IX EW, Point Defense Fire Control, Chaff & Flares 20 ea.
Cargo:	64 tons or 64 passengers
Agility:	34
Turn Rate:	79° at cruise speed
G Rating:	+/- 5
Transport Volume:	24,000 m3
Price:	157,966,000 Cr

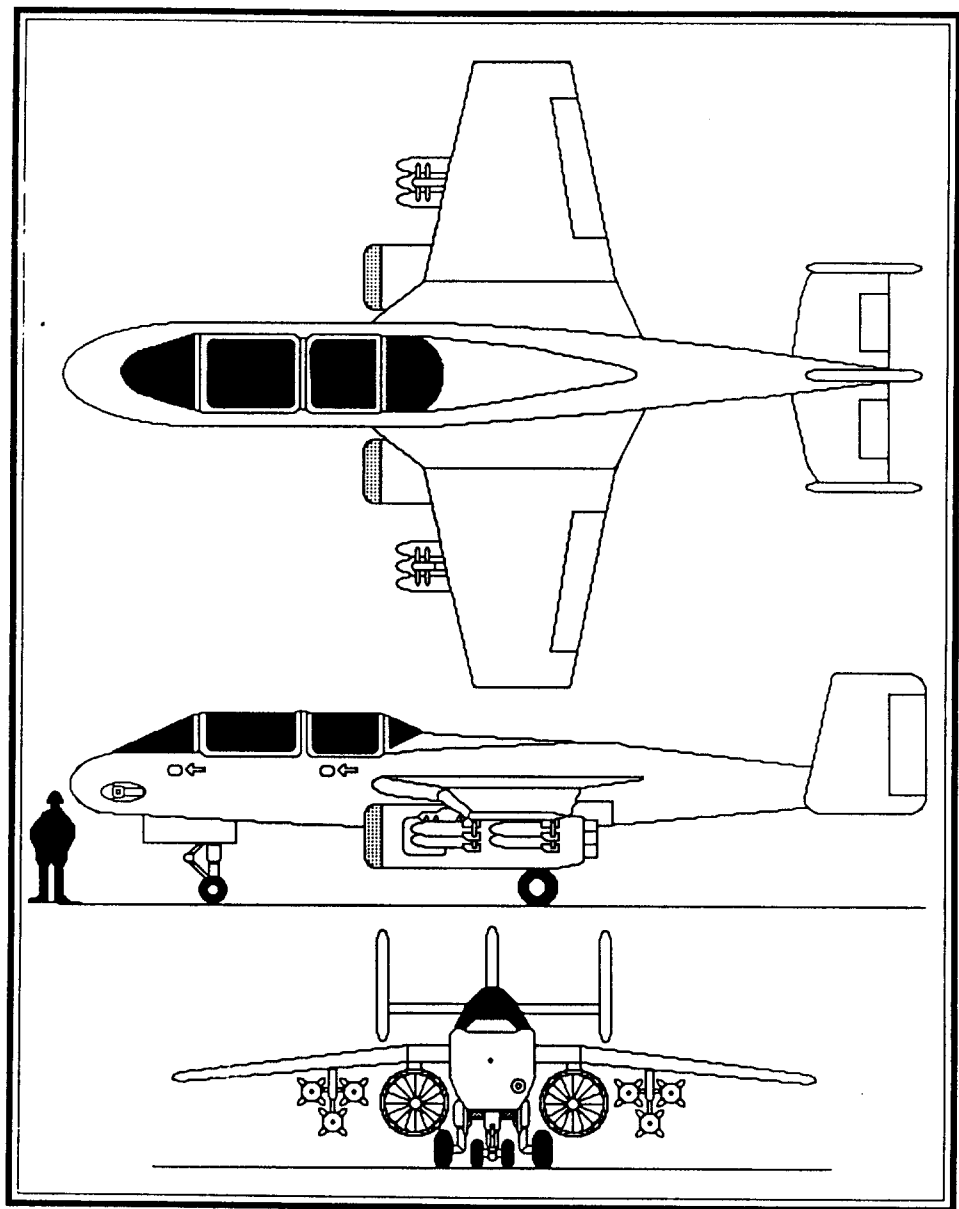


ZM-5

The M-5 "Goblin", is the primary CAS / SEAD aircraft encountered so far in the war against the Zebulon Empire. It is estimated that this aircraft can remain airborne with a full load of ordnance for up to 10 hours, although 6-8 hours appears the upper limit for the aircrews. Propulsion is supplied by two tech level 9 fusion power plants each driving a high performance turbofan under the wings. It is armed with 3,000 kg of ordnance mounted on 2 inline triple mount racks per wing with an additional 3,000 kg in an internal bomb bay. An internal 20mm, single barreled, high velocity RFC provides defense. Approx. 750 HEAP rounds are fed, via gas operated drive, from a bin stored in the forward fuselage. Advanced ejection seats have been observed in use when this model has been disabled.

SPECIFICATIONS:

Dimensions:	13 m L x 11.5 W x 4 m H
Combat Weight:	20 metric Tons
Power Plant:	2 Fusion plants, 4 megawatt output total
Fuel Req.:	48 liters/hour, 480 liters carried
Endurance:	10 hours, (6-8 hours max. for crew)
Max. Speed:	800 kph
Min. Speed:	176 kph
Cruise Speed:	700 kph
NOE Speed:	0 kph
Max. Eff. Rng:	3500 km
Weapons:	1-barrel 20mm, High Velocity RFC, 470mm penetration 12-250 kg bombs wing mounted & 12 bay mounted (or 6,000 kg of mixed ordnance)
Fire Rate:	15 Rounds / turn 2 to 22 bombs / turn (in even numbers)
Feed Device:	Gas drive from 750 round linked belt stored in ammo bin in nose & MER for bombs
Armor:	crew comp. 25mm on 5 sides
Crew:	2 - Pilot, B/N
Electronics:	1k pwr Radio, AWTR, ARBS, ELINT, INS, TES, TOGS
Defensive:	EW/ECM, Chaff & Flares 10 ea.
Cargo:	4 tons in bomb bay
Agility:	18
Turn Rate:	57° at cruise speed
G Rating:	+ 7 / -5
Transport Volume:	1200 m3, with wings folded 800m3
Price:	10.0 Million Cr (est.)



ZM-7

The M-7 "Gremlin", is the primary CAP aircraft encountered so far in the war against the Zebulon Empire. It is estimated that this aircraft can remain airborne with a full load of ordnance for up to 12 hours, although 4-6 hours appears the upper limit for the aircrew. Propulsion is supplied by 2 tech level 9 fusion power plants driving a high performance turbofan suspended under each wing. It is armed with six AIMs and an internal 20mm, single barreled, high velocity RFC. Approx. 750 HEAP rounds are fed, via gas operated drive, from a bin stored in mid fuselage. This craft has capable defensive capabilities due to its armored cockpit and ability to take punishing flight maneuvers. An advanced ejection seat has been observed in use when this model was disabled.

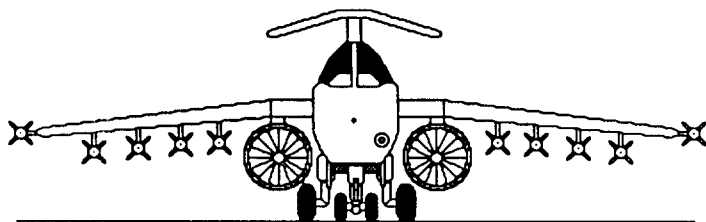
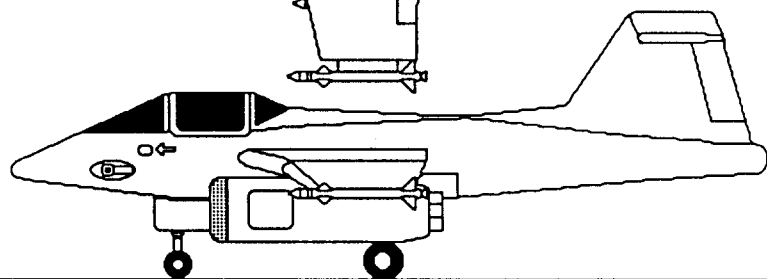
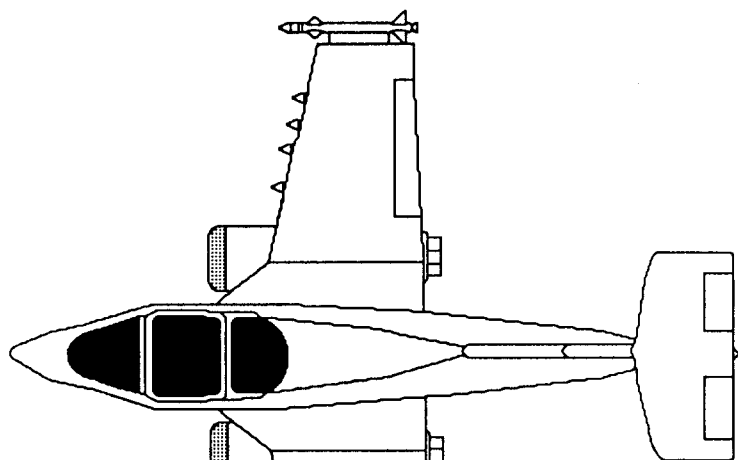
SPECIFICATIONS:

Dimensions:	12.75 m L x 12.25 W x 5 m H
Combat Weight:	13 metric Tons
Power Plant:	2 Fusion plants, 4 megawatt output total
Fuel Req.:	12 liters/hour, 576 liters carried (1/4 ton)
Endurance:	12 hours, (4-6 hours max. for crew)
Max. Speed:	800 kph
Min. Speed:	176 kph
Cruise Speed:	700 kph
NOE Speed:	Not allowed
Max. Eff. Rng:	4200 km
Weapons:	3-barrel 20mm, High Velocity RFC, 470mm penetration 10 AAMs
Fire Rate:	150 Rounds / turn (7 targets) 2 missiles turn
Feed Device:	Gas drive from 750 round linked belt stored in ammo bin behind pilot
Armor:	Cockpit only, tub design with 25mm on 5 sides
Crew:	1 - Pilot
Electronics:	1k pwr Radio, FLIR, INS, TES, TOGS
Defense:	EW/ECM, Chaff & Flares 5 ea.
Cargo:	0 kg
Agility:	39
Turn Rate:	61° at cruise speed
G Rating:	+ 9 / -5
Transport Volume:	1080 m3, with wings folded 720 m3
Price:	9.46 Million Cr (est.)

Pestilence AAM

Specifications:

Warhead:	Equiv. to 90 kg, 170mm penetration, 6 meter burst radius with 25mm frag. pent.
Fuse:	Proximity
Guidance:	IR
Range:	500 meters to 10 km
Weight	100 kg
Price:	4,000 cr (est.)

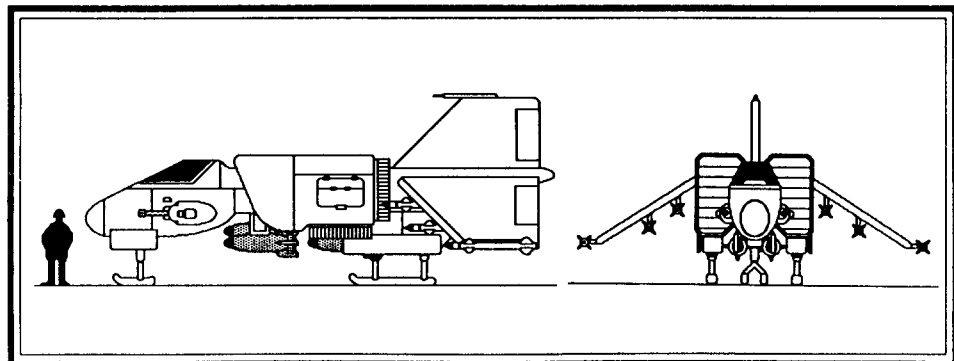


M-925

The M-925 "Hornet" is a multi-role platform designed specifically for use in vacuum or near vacuum environments. It can operate for up to 48 hours without refueling and has a range in excess of 27,000 km. Propulsion is supplied via a fusion power plant to two downward and two lateral thrust nozzles with variable shutters. These are located on the side of the craft's fuselage and allow for full range of combat manouvers. A single crewman flies this vehicle over hostile territory to scout forward positions, and lend air cover for ground troops. In the event the vehicle is forced down in hostile territory, a full E&E package is installed. An advanced ejection capsule is also installed which allows the crewman to take his atmosphere with him. The typical ordnance carried on this craft are either gravity iron bombs or rocket assisted packages.

SPECIFICATIONS:

Dimensions:	12.5 m L x 9m W x 5 m H
Combat Weight:	17 metric Tons
Power Plant:	Fusion, 3 megawatt output
Fuel Req.:	72 liters/hour, 3,500 liters carried (1/4 ton)
Endurance:	48 hours (10 hour max. for crew)
Max. Speed:	2576 kph
Min. Speed:	0 kph, VTOL
Cruise Speed:	1932 kph
NOE Speed:	250 kph
Max. Eff. Rng:	185,400 km
Weapons:	two 20 mm RFC (fixed foward firing), 6 M-410 "Wild Card" Multirole Missile (see M-914) and up to 1500 kg of ordnance
Fire Rate:	10 Rounds / turn per gun, 2 missiles or bomb load
Feed Device:	Electric drive from 1,000 round linked belt stored in ammo bins
Crew:	1 - Pilot
Electronics:	5 pwr Radio, AWLS/AWTR, HOTAS/HUD, IFF, INS
Offensive:	Mlk XII T4
Defensive:	Mk IX EW
Cargo:	0
Agility:	39
Turn Rate:	90° at cruise speed, 360° at hover
G Rating:	+/- 10
Transport Volume:	1020 m3, wings removed 340 m3
Price:	18.5 Million Cr



Glossary of Terms

AAA	Anti-Aircraft Artillery, usually called "triple-A"
A/A	Air to Air
ACM	Air Combat Manouver, (Dogfighting)
A/G	Air to Ground
AAM	Air to Air Missile
AAR	Air to Air Refueling, "gas'n up"
AEW	Airborne Early Warning
AGL	Above Ground Level, altitude, called "angels", ie: Angels 5 means at 5000 meters AGL
AIM	Air Intercept Missile
Alert Five	Aircraft armed, fueled & ready to launch in 5 minutes
Alpha Strike	All out air strike involving the entire Air Wing
AOA	Angle Of Attack, degree to which aircraft can be flown above unloaded conditions, see V-Max
ARBS	Angle Rate Bombing System, computer to assist pilot (HUD crosshairs show where bombs will impact)
ASM	Air to Surface Missile
AWLS	All Weather Landing System
AWTR	All Weather Terrain following Radar
Bandit	Slang for unidentified A/A contact
Bingo	Minimum fuel needed to get back to base
B/N	Bombardier / Navigator, also called the "backseater"
Bogey	Confirmed enemy A/A contact
CAG	Commander, Air Group, "air wing's boss"
CAP	Combat Air Patrol, "air to air"
CAS	Close Air Support, ground suport within 1500 meters
Chaff	Small metal bits dispensed to confuse radar tracking systems
CBU	Cluster Bomblet Unit
Codex	Two digit ID# on aircraft tail
Deck	Slang for the Ground, called also "the Hard Deck"
ECM	Electronic Countermeasures
ECCM	Electronic Counter-Countermeasures
E & E	Escape and Evasion, after being shot down
ELINT	Electronic Intelligence, sensor data for passive search
Envelope	Maximum parameters of aircrafts flight characteristics, "pushing the envelope" is flying beyond the recommended maximums
ESM	Electronic Support Measure, passive EW sensors
EW	Electronic Warfare
FAC	Forward Air Controller, coordinator on ground or in air
FAE	Fuel Air Explosive, type of munition
FEBA	Forward Edge of Battle Area, the front lines!
FLIR	Forward Looking Infra-Red, Sensors for TADS/TOGS
FOD	Foreign Object Damage, damage to compressor fan blades caused by intake of debris (birds, bullets, trash, people?!)
Fox #	Called by pilot; AAM is locked on and ready to fire, eg: "Fox 1 ready"
G's	Force exerted when aircraft is pulled through a manouver. 1 G= the force of Terra's Gravity, 2 G's = twice Terra's Gravity, etc.
G-Rating	Maximum number of G's an aircraft can endure without possible damage
Going Ballistic	Acceleration in the Vertical Plane; "going straight up"

Going to Guns	Slang, arming RFC and activating TADS system		
Helo	Slang for Rotary Wing Aircraft		
HEAP	High Explosive, Armor Piercing		
HEI	High Explosive, Incendiary		
Hit the silk	Slang, Ejecting from a damaged craft, also called Bailing-Out		
HOTAS	Hands On Throttle And Stick, cockpit design that allows pilot to fly without taking hands off the flight controls		
Hot Pump	Refueling an aircraft on ground while engines are running, ("Alert 5" status)		
HPV-RFC	HyperVelocity, Rapid Fire Cannon		
HUD	Heads Up Display, vital flight information is displayed on shield in front of canopy, used with HOTAS		
IFF	Identification - Friend or Foe, electronic signal for ID		
in Six	in the "Six o'clock position, ie: behind and below another plane, usually a blind spot ("there's a bandit in your six!")		
INS	Inertial Navigation System		
IR	Infra-Red		
Iron Bomb	Conventional high explosive ordnance with fragmentation		
Jink	Slang, violent maneuver or course correction to avoid being locked on		
kg	Kilogram, equals 2.2 pounds		
kph	Kilometers per hour, each kph = .62 miles per hour		
Leashed	enemy engaged with RFC, refers to the tracer trail		
LGB	Laser Guided Bomb		
LID	Lift Improvement Device, modification to VTOL craft to improve performance		
LMG	Light Machine Gun		
LZ	Landing Zone, (hot LZ= enemy fire on LZ during Landing Operations)		
L3TV	Low Light Level Television, optical sensor package for low light ops.		
MFD	Multi Function Display		
MER	Multiple Ejection Rack, bomb rack with time delay release to allow dropping of entire rack of ordnance		
Mil Setting	Optimum fuel-economy throttle setting, used at cruise speed		
Modex	3 digit ID# on aircraft nose		
NOE	Nape Of Earth, see Terrain Mask		
Ordnance	Term for munitions, bombs, missiles, etc.		
PGM	Precision Guided Munition		
PK	Probability of Kill, targeting system; HUD indicator, shows best time to shoot		
Plane Guard	Helo flying SAR during launch & landing operations		
RFC	Rapid Fire Cannon		
RW	Rotary Wing		
RWAC	Rotary Wing Assault Carrier, troop carrier		
RWGAP	Rotary Wing Ground Assault Platform		
SAM	Surface to Air Missile		
SAR	Search And Rescue		
SEAD	Suppression of Enemy Air Defenses, "See-Ad"		
Squadron Designators: (*= A for Army, M for Marines, N for Navy)			
R*A	Rotary Wing, Attack	R*H	Rotary Wing, Heavy Transport
V*F	Fixed Wing, Fighter	V*FB	Fixed Wing, Fighter / Bomber

V*AQ	Fixed Wing, Attack / EW	V*GR	Fixed Wing, Refuel/Transport
V*EW	Fixed Wing, Early Warning		
Splash	Slang for Shooting down an enemy aircraft		
STAFF	Smart Target Activated, Fire & Forget		
STOVL	Short Take Off / Vertical Landing		
T4	TADS / TEAMS / TES / TOGS		
TADS	Target Acquisition and Designation System, sighting and targeting computer		
TEAMS	Tactical Electronic Aircraft Missile System, like the TES but for missiles		
Terrain Mask	Flying NOE to avoid ground radar, lasers, etc		
TES	Target Engagement System, sights for guns		
TOGS	Thermal Observations & Gunnery System, IR sight		
Turn & Burn	Slang, 180° course correction then full power applied		
TWS	Track While Scan, allows radar tracking while continuing passive radar/IR scan		
Vampire	Incoming hostile guided missile		
VID	Visual Identification of a Bandit		
VTF	Vectored Thrust Turbo Fan		
VTN	Vectored Thrust Nozzle		
VTOL	Vertical Take Off or Landing		
V-MAX	Maximum Velocity airframe can withstand before damage occurs (the wings come ripping off)		
Zombie	Aircraft Flying on Autopilot		
Zone 5	Maximum thrust setting, see also "going Ballistic" & "Turn & Burn"		

Explanation of Terms

ARBS, ECCM, TEAMS, TOGS...?! Arrggg! you say. What is all this *@#%?! I didn't buy this guide to learn government speak. Actually once you start to use these abbreviations, you'll be surprised how fast they stick. Let us explain how they work.

The T4 System is the package of controls and sensors that allow the crew to identify and engage targets. Within this system are Optical (L3TV), Infra-Red (FLIR) and Laser (LGB) sighting sub-systems.

The defensive measures allow you to attempt to break target locks by enemy air or ground forces. If you are unable to break a lock, then flares or chaff can be dropped to attempt a last ditch effort to avoid being "Splashed".

All Fixed wing and some rotary wing aircraft are equipped with a Mk. XII T4 offensive package. It contains the following Sensor/Computer sub-systems:

TADS, TEAMS, TES, TOGS
ARBS w/MER & L3TV, FLIR w/PK & TWS

These vehicles are also equipped with a MK IX EW Defensive package that contains the following measures:

ECM/ECCM, ELINT w/AEW, IFF

Physical defensive measure include Chaff and Flares.

Below is a list of what these "techspeak" terms can do for you in games terms.

OFFENSIVE

- ARBS required to bomb ground, (+pilot's skill level to hit target).
- L3TV Allows night or subdued-light bombing with no penalties
- TEAMS Locks missile on hostile target w/8+ (+ EW officer's skill level)
- TES 8+ for gun lock (+ pilot's skill level)
- TOGS IR backup if no optical sight possible, 6+ to lock
- TWS allows tracking of targets without going to active sensors (a lock), passive sensors are not detectable

DEFENSIVE

- ECM -2 to opponents attempt to target vehicle by radio or radar.
- ECCM +2 to relock if opponent's ECM breaks lock, -2 to opponent's roll if opponent's ECCM relocks
- ELINT Passive Radar sensors, can detect enemy aircraft or their active sensors out to 250 km (8+)
- IFF Responds to TADS query with electronic "pass word"
- Chaff 10+ to decoy incoming radar guided missile or break ground based TADS radar
- Flares 10+ to decoy incoming IR guided missile or break hostile ground based IR sweep

GENERAL

- INS Always able to return to starting point
- MFD Crew able to select what info. is displayed in cockpit
- V-MAX If aircraft is pushed into V-MAX condition, roll 10+ on 2 d6 to avoid damage to airframe. If roll is less than 10, damage occurs, reduce speed and maneuverability by half. If roll is less than 4 or less, catastrophic damage occurs, eg: hit the silk!