Orion Aerospace LTD

Technical Readout 3069

By Colonel Johannes Mohr (AFFS Reserve)

Publication Year: 3069

Avalon Press Inc.

AF-47 Lightning Heavy Aerospace Fighter

Mass: 90 T Move: 6/9 SI:9 Engine: Orion 360XL HS: 31 (62) Fuel: 6T (480)
Armor: Carbonax © 13 T (120/85/85/85)

Weapons
2 X Laser Cannon NOSE HT:32 30/30/30/30
1 X ER Large Laser LW HT:12 8/8/8
1 X ER Large Laser RW HT:12 8/8/8
2 X ER Med Laser AFT HT:10 10/10/0
2 X Decoy Launcher AFT HT:0 0/0/0

Ordinance Bay: 2 T
8 X 500 lb Bombs
16 X 250 lb Bombs
10 X Arrow V Missiles

Hardpoints: 4 (2 Ea LW / RW)
Black Knight EWS
TargeTrak II TTS

Developed in response to an AFFS need for an advanced heavy aerospace fighter, the prototype *Lightning* first flew in February 3068. It performed up to design specifications, and a little more. By January 3069, it was in full production.

The *Lightning* mounts two of the new Laser Cannons in the nose, with an ER Large Laser in each wing. There are also two ER Medium Lasers aft. Two decoy launchers dispense flares that mimic it's heat signature or aluminum foil chaff packs that confound radar. Equipped with an internal Black Knight EWS, the *Lightning* is extremely difficult to track and target. A TargeTrak II system gives the pilot an edge when targeting an enemy craft. Six tons of fuel give it extended range, and the standard two ton ordinance bay lets it wreak havoc on the battlefield. There are also four under-wing hardpoints for carrying extra fuel or an under-wing laser TAG pod.

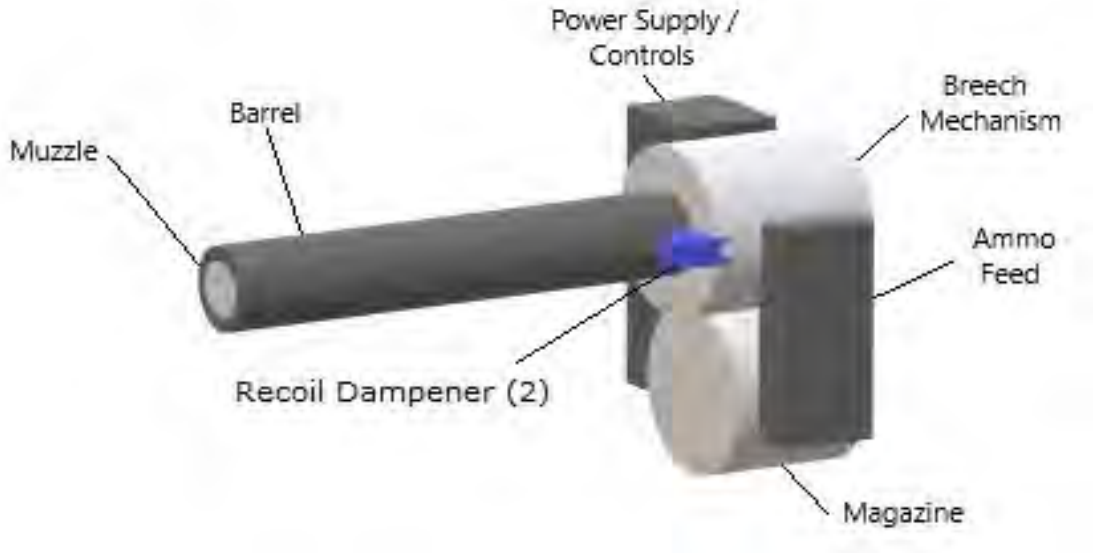
Unit Cost: 19,000,000 C-Bills

Image: Wikipedia. Soviet built Su-47 prototype

ER Gauss Rifle (EGauss)

Another Extended Range weapon from the R&D department of Orion Aerospace, this version of the Gauss Rifle adds 6 % to the length of the barrel and some extra turns to the accelerator coil. This gives the EGauss a maximum range of 25 hexes (750 m on the ground or in atmosphere, 12.5 km in space). Carbonax © materials kept the mass the same 15 tons, but the heat increased to two. It fires the standard 250 lb (114 kg) hardened steel slug, for 15 damage points (small scale) or 1.5 fire factors (capital scale). The cost only increased by 6 %.

TYPE: Extreme Range Ballistic Weapon
MASS: 15 Tons (15 Criticals)
HEAT: 2
RANGE: 6/12/18/25
DAMAGE: 15 / 1.5
AMMO: 8 / Ton
COST: 315,000 C-Bills
AMMO COST: 20,000 C-Bills / Ton (8)
AVAILABILITY: 3068

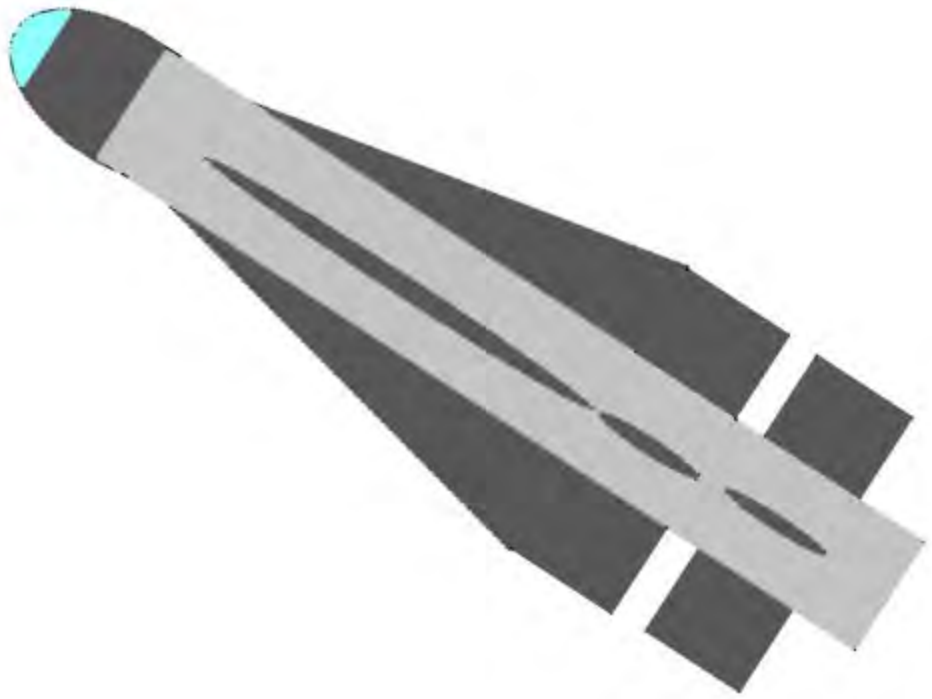


Arrow VB (A-5B)

This version of the Arrow V Missile adds a ‘drop-away’ booster stage, increasing the range from 10 km to 15 km. This increases the mass to 500 lb (227 kg) so you only get four to the ton. The 20 kg Pentaglycerine warhead has a proximity detonator, exploding when within 25 m of the target. The guidance system is Imaging Infrared (IIR), memorizing the size, shape and intensity of the target’s heat signature.

Developed for use on dropships, jumpships and space stations, the A-5B gives these units an extreme range missile weapon. It is not capable of orbital bombardment, lacking the heat shielding required. It can, however, be fired from the surface to intercept incoming capital missiles. It is highly recommended that the magazine be equipped with CASE (Cellular Ammunition Storage Equipment) to minimize the risk of a ‘cook-off’ if the magazine is hit.

TYPE: Extreme Range Missile
MAX RANGE: 15 km
MASS: 500 lb (227 kg)
VELOCITY: Mach 3
WARHEAD: 20 kg pentaglycerine, proximity detonator (<25m)
GUIDANCE: Imaging Infrared (IIR)
DAMAGE: 100 (small scale) 10 (capital scale)
HEAT: 10
LAUNCHER: 15 Tons (15 criticals)
MISSILE INTERCEPT: Yes
ANTI-AIRCRAFT: Yes
COST: Launcher 450,000 C-Bills
Ammo 30,000 C-Bills / Ton (4)
AVAILABILITY: 3068



Odin

Named after the king of the Norse gods, the *Odin* lives up to its namesake. At 6,500 tons, it is one of the largest aerodynes ever built. Packing more firepower than many warships, and armor to match, the *Odin* is to be feared by any ship commander.

The *Odin* carries six aerospace fighters, but unlike other fighter carriers it can launch or recover them while in atmospheric flight. Using maglev catapults, launch and recovery can be done in level flight or while hovering on VTOL.

The crew cabins are spacious, single occupancy. With the VTOL acting as a transit drive, the *Odin* has a very comfortable ride. A twenty ton bomb bay makes it an unholy terror on the battlefield. It also carries a platoon of marines for boarding actions. Equipped with a tug/tow adapter, the *Odin* can perform salvage and recovery operations.

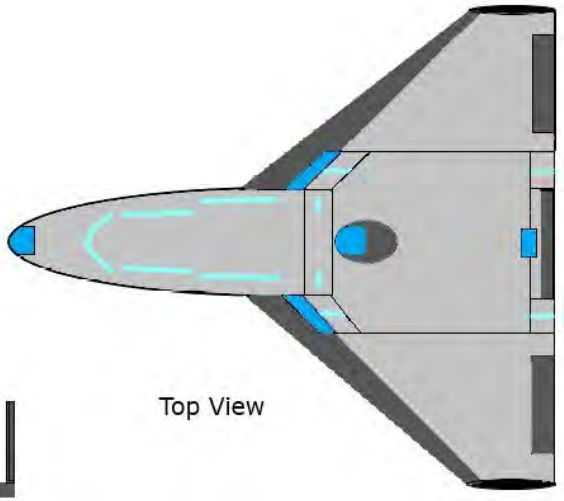
The prototype *Odin* first flew in July 3066, shortly before Orion Aerospace shut down to deprive Archon Katherine of it's facilities. A couple 'glitches' occurred with the catapults, but were corrected by the time the facilities shut down.

TYPE: Military Aerodyne
TECH: IS Advanced
USE: Heavy Assault
INTRO: 3068
MASS: 6,500 Tons
LENGTH: 225 m
WINGSPAN: 220 m
SAFE THRUST: 6
MAX THRUST: 9
SI: 20
FUEL: 350 Tons (190 B/D)
TONS/BD: 1.84
HEAT SINKS: 360
ARMOR: Carbonax © 230 AP
    Fore: 60
    Sides: 60 / 60
    Aft: 50
WEAPONS: Each Arc (5)
    3 X Laser Cannon 5/5/5/5
    3 X EGauss 5/5/5/5
    1 X A-5B 10/10/10/10
    2 X Med Pulse Laser 1/0/0/0
    2 X Decoy Launcher (AFT)
EACH BAY (5)
    21/20/20/20
AMMUNITION
    60 T Gauss Ammo (480)
    50 T A-5B Ammo (200)
DuoTrak FCS
TargeTrak II TTS
BOMB BAY: 20 Tons
    80 500 lb Bombs
CREW: 23
MARINES: 28
ESCAPE PODS: 8

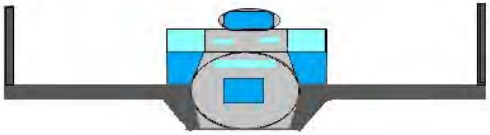
BAY DATA
Bay 1 Fighters (6) 4 Doors
Bay 2 Marines (28)
Bay 3 Cargo 579T/Bombs 2 Doors

COST: 236,000,000

Side View



Top View



Front View

Mercury IIC/M

This updated version of the *Mercury* jumpship utilizes the new Silicon Core K-F Drive. It greatly reduces the cost of both versions. With its enormous grav deck, the crew and passenger cabins are each 100 square meters, single occupancy. There is a tremendous amount of space for recreational facilities as well.

The *Mercury II* still carries enough fuel to travel an average of 600 light years before refueling. The average recharge time is eight days. Both versions carry 80 passengers, to accommodate the crews of docked dropships. This makes for a luxurious journey.

Both versions carry two small craft, and the M variant adds six aerospace fighters. The C variant is armed with six EGauss Rifles and 12 medium pulse lasers. The M variant is armed with 12 Laser Cannons, 12 EGauss Rifles and 18 medium pulse lasers. The C mounts 133 tons of crystal-steel armor, the M mounts 133 tons of Carbonax © armor. Both versions still have the large hydroponics deck, and a recycling deck.

Production of both versions began in mid 3069. Orion Aerospace's two 150,000 ton yards are both running 24/7. A third yard, 250,000 ton capacity, will be operational by the end of 3069. With the vastly reduced cost of the Silicon Core K-F Drive, both versions should prove to be very attractive to smaller merchant cartels and military units.

INTRO: 3069
TECH: IS Advanced
MASS: 120,000 Tons
SI: 2
LOA: 320 m
SAIL DIA: 940 m
FUEL: 320 T (162 BD/20 Jumps/ 600 LY)
TONS/BD: 1.975 (SK)
THRUST: 0.1 / 0.2 Gee
SAIL INTEGRITY: 3
DRIVE INTEGRITY: 3
HEAT SINKS: 98 (IIC) 144/288 (IIM)
GRAV DECK: 1 (80m, 40,192 sq m)
DOCKING COLLARS: 2
ARMOR (IIC) Crystal-Steel (108 AP)
- Fore: 20
- Fore Sides: 18/18
- Aft Sides: 18/18
- Aft: 16

ARMOR (IIM) Carbonax © (188 AP)
- Fore: 35
- Fore Sides: 31/31
- Aft Sides: 31/31
- Aft: 29

WEAPONS (IIC) Ea of 6 Arcs
- 1 X EGauss Rifle 2/2/2/2
- 2 X Med Pulse 1/0/0/0

WEAPONS (IIM) Ea of 6 Arcs
- 2 X LasCannon 4/4/4/4
- 2 X EGauss Rifle 4/4/4/4
- 3 X Med Pulse 2/0/0/0

AMMO (Both)
- 60 T Gauss Ammo (480)

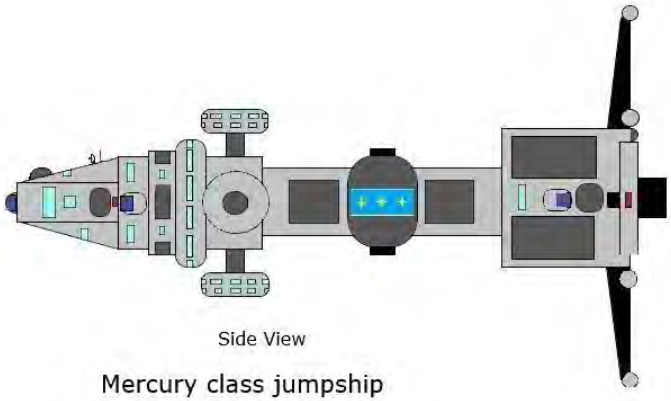
BAY DATA (IIC)
- Bay 1: (2) SM Craft
- Bay 2: Passengers (80)
- Bay 3: Cargo 10,903 T

BAY DATA (IIM)
- Bay 1: (6) FTR (2) SC
- Bay 2: Passengers (80)
- Bay 3: Cargo 9,617 T

CREW (IIC) 18
CREW (IIM) 32
LIFEBOATS (IIC) 15
LIFEBOATS (IIM) 18

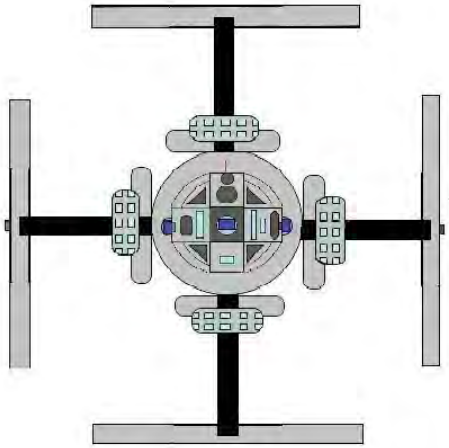
COST (IIC) 180,000,000
COST (IIM) 192,000,000

AVAILABLE: Late 3069

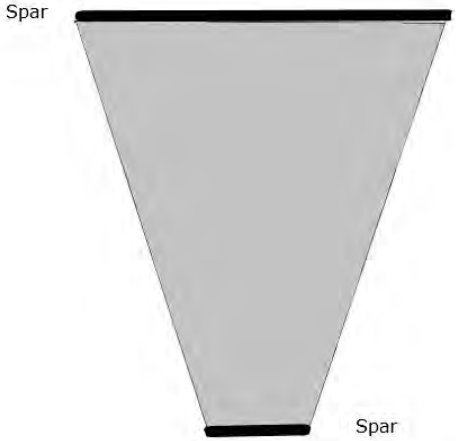


Side View

Mercury class jumpship



Front View



Jumpsail Vane (4)

Extended

Jump Sail Booms Shown Retracted

Neptune IIC/M

Like the *Mercury II*, the *Neptune II* uses the new Silicon Core K-F Drive, greatly reducing the cost of both versions. The same 80 m diameter grav deck provides 100 square meter cabins for both the crew and 80 passengers, single occupancy. The fuel capacity allows for 20 jumps, an average of 600 light years before refueling. The average recharge time is eight days.

Both versions retain the large hydroponics deck and a recycling deck. The *IIC* is clad with 167 tons of crystal-steel armor, the *IIM* 167 tons of Carbonax © armor. The *IIC* carries two small craft, the *IIM* adds 36 aerospace fighters, a complete tactical wing.

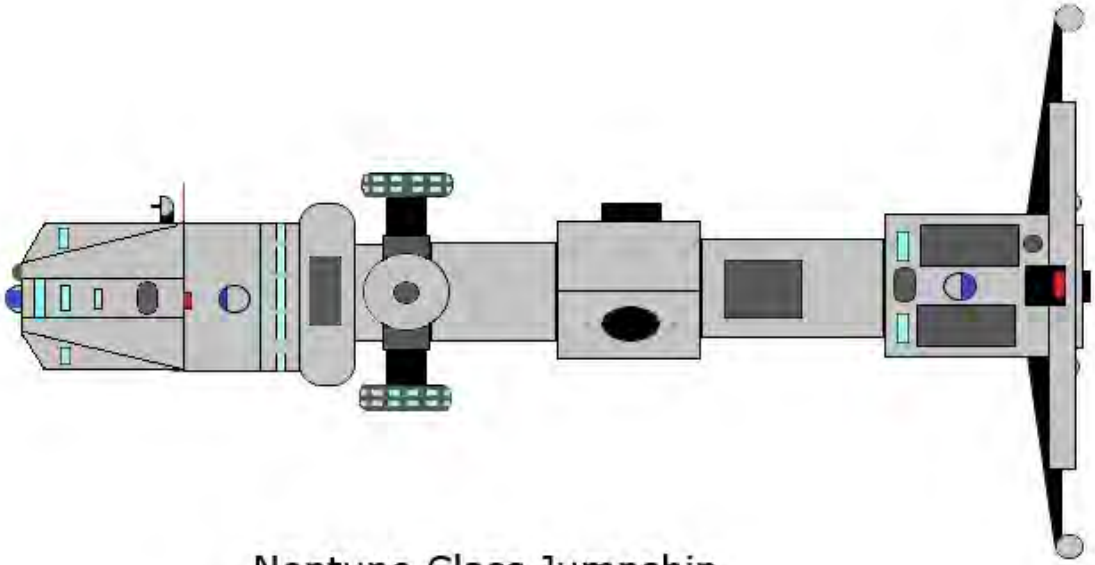
The *Neptune IIC* is armed with six ER PPCs and 12 Anti-Missile systems. The *IIM* mounts 18 Laser Cannons, 18 EGauss Rifles, 6 A-5B missile launchers, and 18 Medium Pulse Lasers. The *IIM* is classified as a combat jumpship.

Both versions become available in late 3069, though a backlog of orders will delay delivery. Orion Aero's board of directors is contemplating the construction of a fourth shipyard to help meet demand. The *Neptune II* should be popular with mid-sized merchant cartels and military units.

INTRO: 3069
TECH: IS Advanced
MASS: 150,000 Tons
LOA: 500 m
SAIL DIA: 1,010 m
FUEL: 320 Tons (162 BD/ 20 Jumps/ 600 LY)
TONS/BD: 1.975 (SK)
SK THRUST: 0.1 Gee
SAIL INTEGRITY: 4
DRIVE INTEGRITY: 4
DOCKING COLLARS: 3
SI: 2
HEAT SINKS: *IIC* 105
IIM 228 / 456
ARMOR *IIC* Crystal-Steel 134 AP
Fore: 25
Fore-Sides: 22/22
Aft Sides: 22/22
Aft: 21
ARMOR *IIM* Carbonax © 236 AP
Fore: 45
Fore Sides: 40/40
Aft Sides: 40/40
Aft: 31
WEAPONS *IIC* (ea of 6 arcs)
1 X ER PPC 1/1/1/0
2 X AMS 1/0/0
AMMO
AMS 20T (240)
WEAPONS *IIM* (ea of 6 arcs)
3 X LasCannon 5/5/5/5
3 X EGauss 5/5/5/5
1 X A-5B 10/10/10/10
3 X Med Pulse 2/0/0/0
AMMO
EGauss 60 T (480)
A-5B 100 T (400)

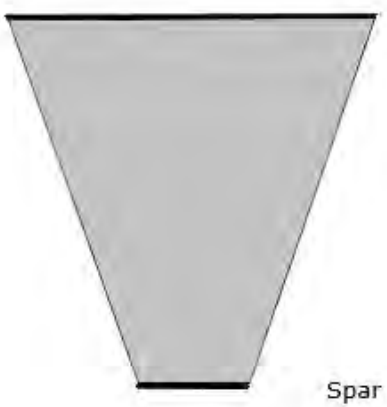
CREW *IIC*: 20
IIM: 100
LIFEBOATS *IIC*: 15
IIM: 30
BAY DATA *IIC*
Bay 1: 2 Sm Craft 2 Drs
Bay 2: Passengers (80)
Bay 3: Cargo 13,123 T 2 Drs
BAY DATA *IIM*
Bay 1: 36 Ftr 2 SC 12 Drs
Bay 2: Passengers (80)
Bay 3: Cargo 6,618 T 2 Drs

COST *IIC:* 195,000,000
COST *IIM*: 220,000,000



Neptune Class Jumpship

Jump Sail Booms
shown retracted



Jump Sail Vane (4)
Deployed

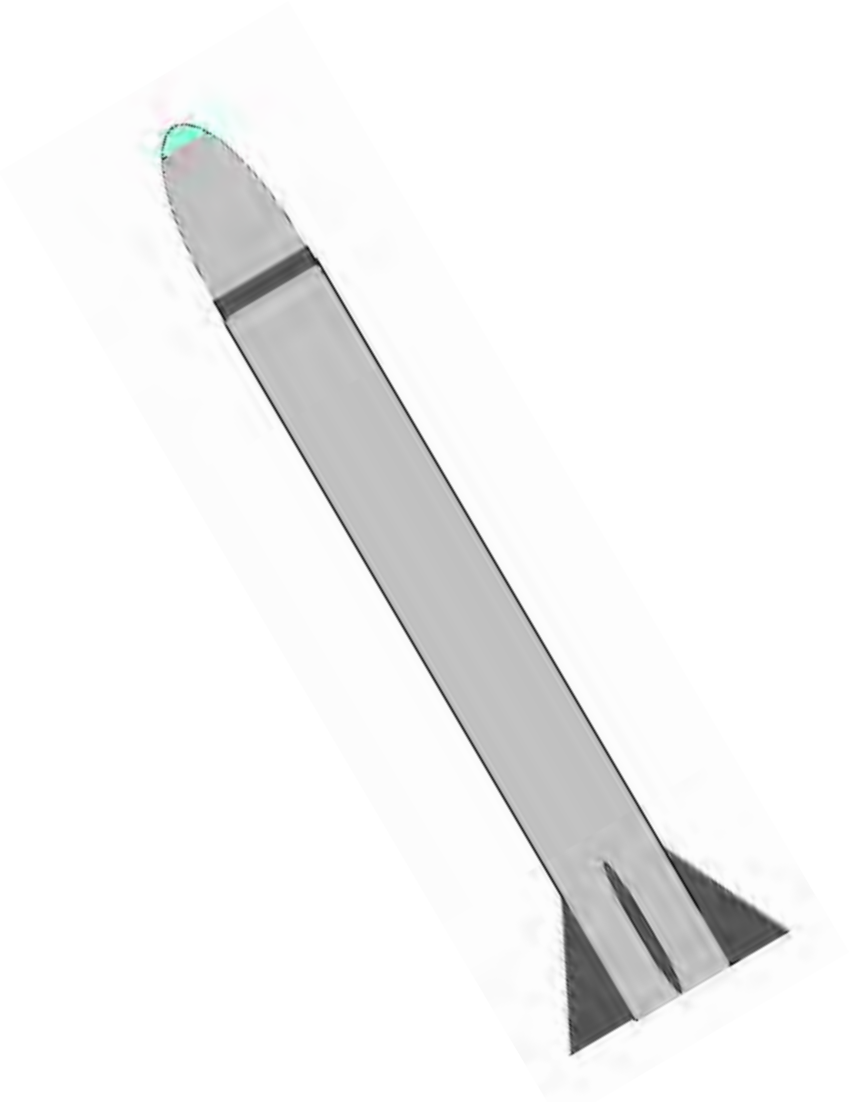
MK-1 Torpedo

Patterned after the *Barracuda* capital missile, the *MK-1* incorporates several improvements. The guidance system is Imaging Infrared (IIR) that locks on to the target's heat signature-size, shape and intensity. It is impossible to fool.

The warhead is pentaglycerine, with a damage potential of 10 (capital) or 100 (standard). The detonator is a proximity type, exploding when within 25 meters of the target. The blast wave and shrapnel are what causes the damage.

The *MK-1* has the heat shielding for orbital bombardment, though this is prohibited by the Ares Conventions. Since there are groups that do not adhere to this rule, this weapon is for use against them. Sale is restricted solely to the AFFS.

INTRO: 3069
TECH: Inner Sphere Advanced
TYPE: Capital Missile
RANGE: 20/30/40/50 (500m hexes)
HEAT: 10
VELOCITY: Hypersonic
GUIDANCE: Imaging Infrared (IIR)
WARHEAD: Pentaglycerine
DAMAGE: 10 (capital) 100 (standard)
DETONATOR: Proximity (<25m)
MASS: Launcher 90 T/Missile 30 T
COST: Launcher 90,000/Missile 9,000 Each
ORBITAL BOMBARDMENT: Yes
MISSILE INTERCEPT: Yes
SURFACE-TO-ORBIT: Yes
ANTI-AIRCRAFT: Yes
NUCLEAR CAPABLE: Yes (50 kiloton)
(Not available from Orion Aerospace)



TARGETS: Ships, Fighters, Small Craft, Stations, Ground Targets

Range Data: sarna.net

Watchdog SDS

Patterned after the *Capitol* class System Defense Station (SDS), the *Watchdog* was originally designed to protect Orion Aero's orbital facilities after the close call with the *FCS Murmansk* in 3067. It's small size and low cost have proven attractive to the AFFS, however, and they have ordered several.

The *Watchdog's* port-side docking collar is equipped with a K-F boom, allowing transport via jumpship (with the grav decks shut down). Once in the destination system, it can be towed to it's final position by a dropship equipped with a tug-tow adapter, though at a maximum thrust of 0.5 gees. Then the grav decks can be spun up.

Two 150 meter diameter grav decks provide spacious single-occupancy cabins for the crew of 90 and 40 passengers. The *Watchdog* carries 36 aerospace fighters and 4 small craft. The majority of the weapons are standard scale that reach to extreme range, but it does mount a single Light Naval Gauss Rifle in the nose weapon bay.

At 30,000 tons, the *Watchdog* can be assembled four at a time in one of the 150,000 ton shipyards. At a unit cost of 88,000,000 C-Bills, it provides a serious deterrent to any vessel that gets within range. The sensor range is 220,000 km.

(Range Data for the LNGauss: sarna.net)

TYPE: System Defense Station (SDS)
TECH: IS Advanced
INTRO: 3070 (projected)
MASS: 30,000 Tons
DIAMETER: 175 m
SI: 15
SK THRUST: 0.1 G
FUEL: 1,000 Tons (506 BD)
TONS/BD: 1.975 (SK)
HEAT SINKS: 441
DOCKING COLLARS: 2
ARMOR: Carbonax © 250 T
    Fore: 90
    Fore-Sides: 90 / 90
    Aft Sides: 90 / 90
    Aft: 85
WEAPONS (Ea of 6 Arcs)
    3 X Laser Cannon 5/5/5/5
    3 X EGauss 5/5/5/5
    1 X A-5B 10/10/10/10
    3 X Med Pulse Laser 2/0/0/0
NOSE 1 X Lt. Naval Gauss 15/15/15/15
    RANGE 14/28/40/56 (500m Hexes)
AMMO
    EGauss 100 T (800)
    A-5B 200 T (800)
    LNGauss 100 T (500)
GRAV DECKS: 2 (150m Diameter)
CREW: 90
PASSENGERS: 40
LIFEBOATS: 20
BAY DATA
    Bay 1: Ftrs 36 SC 4 (12 Doors)
    BAY 2: Passengers (40)
    Bay 3: Cargo 10,769 T (2 Doors)
COST: 88,000,000 C-Bills
DuoTrak FCS
TargeTrak II TTS

Mule-IIC/P/T

This version of the venerable *Mule* class freighter uses Orion Aero's Carbonax © in the structure to save 35% of the mass of a metal structure. The engines are fitted with the more efficient heat-expansion fuel-feed system.

All three versions are basically the same, the only difference being the payload. The *IIC* is a standard freighter, carrying 7,995 tons of cargo. The *IIP* is a passenger conversion, carrying 350 first-class passengers and 4,089 tons of cargo. The *IIT* is a tanker, carrying 5,000 tons of bulk liquid (fuel, fresh water, etc) and 2,995 tons of other cargo. All three have a crew of 15.

All three versions mount 36 tons of crystal-steel armor, six Gauss Rifles, and 12 Medium Pulse Lasers. They all carry 350 tons of fuel, for 190 burn-days at 1 Gee. The crew and passenger cabins are spacious, single occupancy. All three versions mount a tug/tow adapter, but are limited to 0.5 Gee when using it.

Orion Aerospace has been using these since 3056, and resumed production in late 3067 to meet the demand for a multi-role civilian spheroid to help with the relocation of Civil War POWs under the amnesty program. The low cost and payload capacity are proving very popular.

TYPE: Civilian Spheroid
USE: Cargo/Passenger/Tanker
TECH: IS Advanced
INTRO: 3056
MASS: 11,200 Tons
DIAMETER: 160 m
SI: 10
SAFE THRUST: 3
MAX THRUST:5
FUEL: 350 Tons (190 B/D)
TONS/BD: 1.84
ARMOR: All Three Versions
    Fore: 16
    Sides: 16 / 16
    Aft: 14
WEAPONS: Ea of 6 arcs
    1 X Gauss Rifle 2/2/2/0
    2 X Medium Pulse 1/0/0/0
HEAT SINKS: 59
CREW: 15
ESCAPE PODS
    IIC / IIT: 2
    IIP: 60
BAY DATA (IIC)
    Bay 1: N/A
    Bay 2: Cargo 3,997 T (2 Doors)
    Bay 3: Cargo 3,998 T (2 Doors)
BAY DATA (IIP)
    Bay 1: N/A
    Bay 2: Passengers (350)
    Bay 3: Cargo 4,089T (4 Doors)
BAY DATA (IIT)
    Bay 1: N/A
    Bay 2: Bulk Liquid 5,000 T
    Bay 3: Cargo 2,995 T (4 Doors)
COST
    (IIC/IIT) 67,000,000 C Bills
    (IIP) 86,000,000
AVAILABLE: 3068

Image: Internet Artist: Unknown

ExecJet

I must admit, I designed the *ExecJet* for myself and my family to travel on. At 1,900 tons, it is a small ship. Of course, the version built for me is ‘tricked out’ and armed. But the base model isn't too shabby, either. With a move of 6/9, the *ExecJet* is both fast and maneuverable.

With luxurious accommodations for the crew and ten passengers, there are even two stewards to attend to the passengers. Equipped with VTOL, the *ExecJet* can even land on the rooftop of a reinforced building.

The *ExecJet* carries enough fuel for 108 burn-days at one gee. It is equipped with the more efficient heat-expansion fuel system. The base model has 537 tons of cargo capacity, but adding options (from a long list) will reduce this (and increase the cost).

I personally flew the prototype over Avalon City several times in March 3069, which drew some inquiries from corporations and noble houses. There are already several customized orders on the books. The *ExecJet* is built on the same assembly line as the *Valkyrie* (there are three of them now).

TYPE: Civilian Aerodyne
TECH: IS Advanced
USE: Corporate/Personal
INTRO: 3069
MASS: 1,900 Tons
SI: 10
SAFE THRUST: 6
MAX THRUST: 9
FUEL: 200 Tons (108 B/D)
TONS/BD: 1.84
SPECIFICATIONS: >BASE MODEL<
- HEAT SINKS: 37
- ARMOR: Crystal Steel (76 AP)
  - Fore: 20
  - Sides: 20/20
  - Aft: 16
- WEAPONS: None
- CREW: 8
- PASSENGERS: 10
- ESCAPE PODS: 3
- BAY DATA
  - Bay 1: N/A
  - Bay 2: Passengers (10 1st Class)
  - Bay 3: Cargo 537 T (1 Door)
- COST: 31,000,000

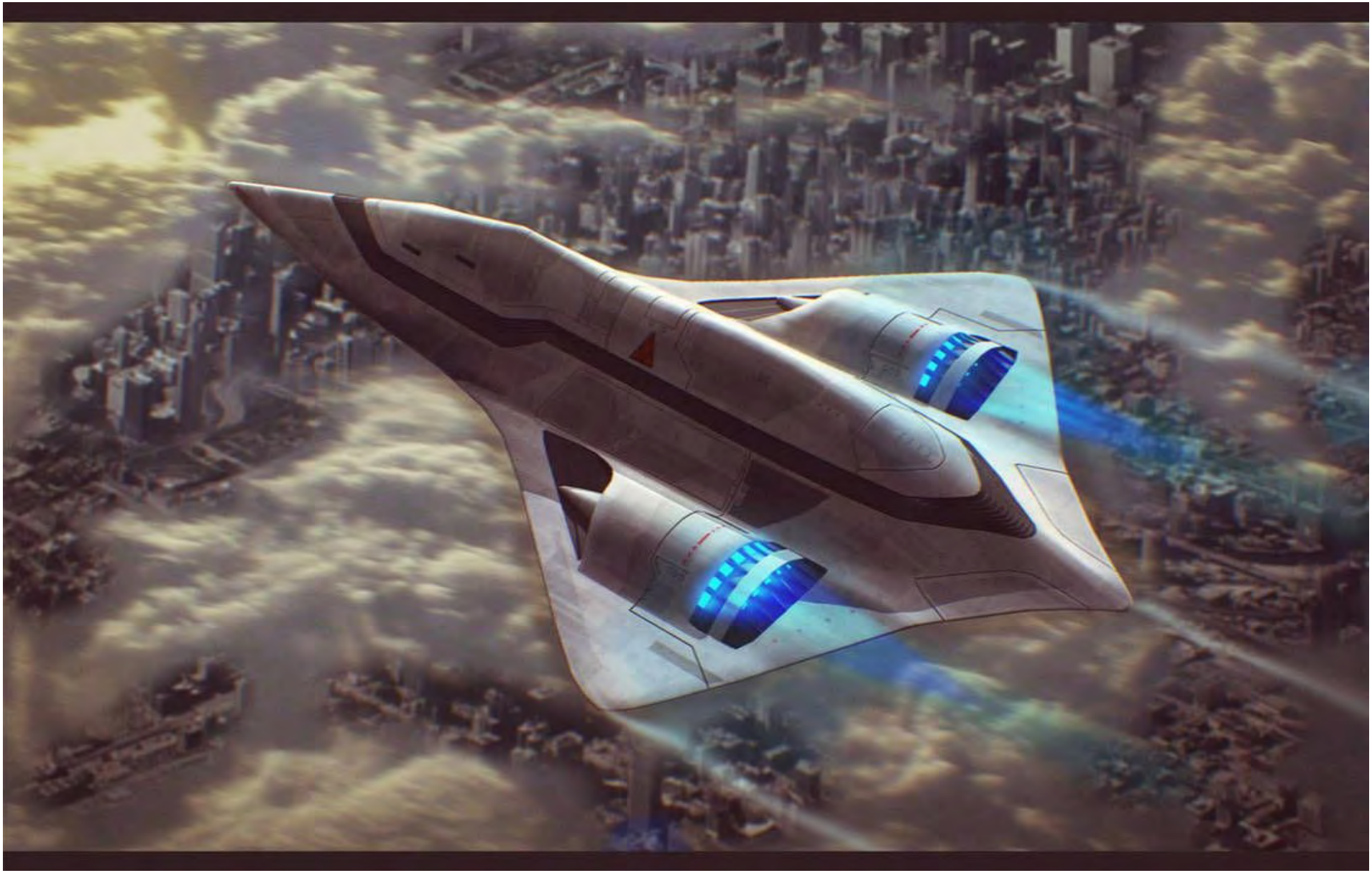


Image: Internet Artist: Unknown Prototype *ExecJet* in flight over Avalon City March 3069