

STARCLUSTER 2



VEHICLE DESIGN GUIDE



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VEHICLE DESIGN

Vehicle design in StarCluster is accomplished by grouping together various components to achieve a workable vehicle. The components are grouped by kind and give the vehicle various abilities and sometimes drawbacks. The components also have a Tech Level (TL) at which they become available. StarCluster vehicles are available at any point from TL 5 onward.

VEHICLE COMPONENTS

COMPARTMENTS - AREAS FOR SEGREGATING VARIOUS ACTIVITIES.

Compartments for crew or passengers are considered to be sealed for life support systems. Other compartments are sealed against dust and contaminants.

CREW COMPARTMENTS

For the operational crew of the vehicle. Each factor is large enough to contain one station, thus a factor 3 crew compartment is large enough to contain 3 stations. It is perfectly possible to have several different crew compartments on a vehicle. Each crew compartment factor weighs .05 ton. It is possible to put passengers into the crew compartment. Each passenger station uses up one factor. Each Crew Compartment factor cost 5cr.

PASSENGER COMPARTMENTS

For carrying passengers. Each factor contains one station for one passenger, thus a factor 5

passenger compartment is large enough for 5 passengers. Each passenger compartment factor weighs .1 ton empty and costs 3cr.

CARGO COMPARTMENTS

For carrying cargo. Each factor contains enough space to hold 0.2 tons of cargo. Each factor weighs .01 tons empty. Thus a factor 5 cargo compartment can hold 1 ton and weighs .05 tons empty and 1.05 tons full. Cargo Compartments cost 1cr per factor.

ENGINE COMPARTMENTS

For enclosing the engine. Each factor contains enough space to hold .5 tons of engine and weighs .05 tons empty. Thus a factor 5 engine compartment could hold 2.5 tons of engine, and weighs .25 tons empty and 2.75 tons full. Engine Compartments cost 5cr per factor.

FUEL COMPARTMENTS

Bins are designed to hold dry fuel such as coal or wood. Each factor contains space enough for 1 ton of dry fuel, weighs .05 tons empty and 1.05 tons full. Bins cost 1cr per factor.

Tanks are designed to hold liquid fuel such as petroleum or alcohol, and contains all necessary pumps and valves. Each tank factor holds .04 tons of fuel, weighs .01 tons empty and .05 tons full. Tanks cost 5cr per factor.

Containment Areas are designed to hold dangerous or radioactive fuels, and contains all handling equipment. Each factor holds .01 tons of fuel, weighs .04 tons empty and .05 tons full. Containment areas cost 30cr per factor.

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STATIONS

Places for crew to perform their tasks

PASSENGER STATIONS

Passenger Stations are seats for passengers, weigh 0.1 tons empty and 2 tons full.

Standard passenger stations are available from TL 5 onward, and cost 2cr each.

Reclining passenger stations are available from TL 6 onward. The passenger can recline for sleep, or stay upright. Reclining passenger stations cost 5cr each.

Interactive passenger stations are available from TL 7 onward. The passenger can use a built in computer-video display for entertainment as well as recline. Interactive passenger stations cost 7cr each.

Reactive passenger stations are available from TL 10 onward. The seat shapes itself to the passenger's thoughts. Reactive passenger stations cost 10cr each.

LIVING QUARTERS

Living Quarters weigh 1 ton per factor, with one factor being enough space for one person. Quarters contain folding bunks and mini kitchen as well as WC. Living quarters become available from TL 6 onward, and cost 10cr per factor.

DRIVER STATIONS

Driver Stations weigh 0.5 tons each when occupied, and contain all necessary equipment to drive the vehicle.

Complex driver stations are available from TL 5 onward, and require a driving skill of +2 to operate. They cost 5cr each.

Simple driver stations are available from TL 6 onward, and require a driving skill of +1 to operate. Simple driver stations cost 10cr each.

Electronic driver stations are available from TL 7 onwards and require a driving skill of +1 to operate. Electronic driver stations confer a

bonus of +1 to SF, and cost 15cr each.

Computerized driver stations are available from TL 8 onwards and require a driving skill of +1 to operate. Computerized driver stations confer a bonus of +2 to SF and cost 20cr each.

Advanced driver stations are available from TL 9 onwards and require a driving skill of +1 to operate. Advanced driver stations confer a bonus of +3 to SF and cost 25cr each.

RIDER STATIONS

Rider Stations weigh 0.13 tons each when occupied, and contain the bare minimum of equipment to drive the vehicle. Rider stations are not in a compartment, but open to the air. The rider/driver sits on top of the vehicle. They are used for very small, light vehicles such as motorcycles.

Complex rider stations are available from TL 5 onward, and require a driving skill of +2 and a riding skill of +1 to operate. They cost 3 cr each.

Simple rider stations are available from TL 6 onward, and require a driving skill of +1 and a riding skill of +1 to operate. They cost 5cr each.

GUNNER STATIONS

Gunner Stations weigh 1 ton when occupied, and contain all necessary equipment to operate a weapon.

Manual gunner stations are available from TL 5 onwards and require a Gunnery skill of +2 to operate. They cost 5cr each.

Power Assisted gunner stations are available from TL 6 onwards and require a Gunnery skill of +1 to operate. They cost 10cr each.

Electronic gunner stations are available from TL 7 onwards and require a Gunnery skill of +1 to operate. Electronic gunner stations confer a bonus of +1 to HF. They cost 15cr each.

Computerized gunner stations are available from TL 8 onwards and require a Gunnery skill of +1 to operate. Computerized gunner stations confer a bonus of +2 to HF. They cost 20cr each.

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Advanced gunner stations are available from TL 9 onwards and require a Gunnery skill of +1 to operate. Advanced gunner stations confer a bonus of +3 to HF. They cost 25cr each.

COMMUNICATIONS STATIONS

Communications Stations weigh 0.25 tons when occupied, and contain all necessary equipment for remote communications.

Complex communications stations are available at TL6 and require an electronics skill of +2 to operate. They cost 3cr each.

Simple communications stations are available at TL 7 and require a programming skill of +1 to operate. They cost 6cr each.

LOADER STATIONS

Loader Stations are used to load cannon. Each factor weighs .3 tons occupied, and contains all necessary ammunition handling equipment.

Manual loader stations are available at TL 5 and require a strength of 10+ to operate. Manually loaded weapons can fire once every other round. They cost 2cr each.

Power Assisted loader stations are available at TL 6 and require a coordination of 8+ to operate. Power assisted loading allows the weapon to fire every round. They cost 4cr each.

Automatic loaders are available at TL 7+, and dispense with the need for a loader. They cost 6cr each. All autocannon have built-in auto-loaders.

TARGETING STATIONS

Targeting Stations are used to assist and feed more precise targeting data to the gunner. Each targeting station weighs 1 ton occupied, and contains all necessary targeting equipment. They also allow threat detection and assessment.

Manual targeting stations are available at TL 5+, require a gunnery skill of +2, and confer a +1 bonus to HF. They cost 5cr each.

Electronic targeting stations are available at TL

6+, require an electronics skill of +1, and confer a +1 bonus to HF. They cost 10cr each.

Computerized targeting stations are available at TL 7+, require a programming skill of +1, and confer a +1 bonus to HF. They cost 15cr each.

Advanced targeting stations are available at TL 8+, require a programming skill of +1, and confer a +2 bonus to HF. They cost 20cr each.

TECHNICAL STATIONS

Technical Stations are used to allow repairs and maintenance of the vehicle while in motion. Each technical station weighs .3 tons occupied, and contains all necessary repair equipment.

Manual technical stations are available at TL5+, and require a mechanical skill of +2 to operate. They cost 5cr each.

Electronic technical stations are available at TL 6+, and require a mechanical skill of +1 and an electronic skill of +1 to operate. They confer a reduction in repair time by one round of any repair. They cost 10cr each.

Computerized technical stations are available at TL 7+, and require a programming skill of +1 to operate. They confer a reduction in repair time by one round of any repair. They cost 15cr each.

Advanced technical stations are available at TL 8+, and require a programming skill of +1 to operate. They confer a reduction in repair time by two rounds of any repair. They cost 20cr each.

ENGINES - THE VEHICLE'S POWER PLANT.

In the engine, energy is converted from potential to kinetic. The efficiency of each tech level modifies the energy output. The energy produced is multiplied by the Tech Level factors, which are: TL 5=.5, TL6=1.0, TL7=1.0, TL8=1.5, TL9=2.0, and TL10=3.0. 100 units of energy is

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sufficient to move 1 ton at 1 KPH.

STEAM ENGINES

Steam Piston engines are available at TL 5. Each factor weighs 0.1 ton and produces 100 units of energy. They cost 1cr per factor and have a Fuel Rating of 600.

Steam Turbine engines are available at TL 6. Each factor weighs 0.06 tons and produces 100 units of energy. They cost 5cr per factor and have a Fuel Rating of 320.

INTERNAL COMBUSTION ENGINES

Diesel engines are available at TL6. Each factor weighs 0.03 tons and produces 100 units of energy. They cost 2cr per factor and have a Fuel Rating of 320.

Gasoline/Alcohol engines are available at TL6. Each factor weighs 0.02 tons and produces 100 units of energy. They cost 2cr per factor and have a Fuel Rating of 400.

GAS TURBINE ENGINES

Turbojet engines are available at TL 7. Each factor weighs .01 ton and produces 100 units of energy. They cost 10cr per factor and have a Fuel Rating of 400.

NUCLEAR ENGINES

Nuclear Turbine engines are available at TL7. Each factor weighs 10 tons and produces 10000 units of energy. They cost 1000cr per factor and have a Fuel Rating of 40000.

Fusion Valence engines are available at TL8. Each factor weighs 1 ton and produces 10000 units of energy. They cost 1000cr per factor and have a Fuel Rating of 400000.

Matter/Antimatter containment engines are available at TL 9. Each factor weighs .1 ton and produces 10000 units of energy. They cost 1000cr per factor and have a Fuel Rating of 4000000.

WEAPONS - OFFENSIVE DEVICES.

All weapon weights include the stated number of ammo shots. "WF" is the weapon's Weapon Factor.

MACHINE GUNS

Light Machine Gun weight is 0.01 tons with 50 shots, WF is 1, Available at TL6, they cost 20cr each.

Heavy Machine Gun weight is 0.02 tons with 50 shots, WF is 2, Available at TL6, they cost 40cr each.

Gatling Gun weight is 0.02 tons with 100 shots, WF is 2, Available at TL5, they cost 50cr each.

Mini Gun weight is 0.01 tons with 100 shots, WF is 3 Available at TL7, they cost 60cr each.

CANNON

Mini Cannon weight is 0.05 tons with 25 shots, WF is 6, Available at TL5, they cost 100cr each.

Light Cannon weight is 0.2 tons with 25 shots, WF is 10, Available at TL5, they cost 150cr each.

Medium Cannon weight is 1 ton with 25 shots, WF is 20, Available at TL5, they cost 300cr each.

Heavy Cannon weight is 3 tons with 25 shots, WF is 30, Available at TL5, they cost 500cr each.

Extreme Cannon weight is 6 tons with 25 shots, WF is 45 Available at TL5, they cost 750cr each.

Light Autocannon weight is 0.15 tons with 100 shots, WF is 4, Available at TL6, they cost 75cr each.

Heavy Autocannon weight is 0.2 tons with 100 shots, WF is 6, Available at TL6, they cost 100cr each.

ENERGY WEAPONS

Energy Weapons are usable only with engines that produce at least 10000 energy units.

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Light Pulse Laser weight is 0.01 tons, WF is 2 Available at TL8, they cost 35cr each.

Light Beam Laser weight is 0.02 tons, WF is 5 Available at TL8, they cost 75cr each.

Medium Pulse Laser weight is 0.1 tons, WF is 10 Available at TL8, they cost 150cr each.

Medium Beam Laser weight is 0.2 tons, WF is 25 Available at TL9, they cost 350cr each.

Heavy Pulse Laser weight is 1 tons, WF is 50 Available at TL8, they cost 750cr each.

Heavy Beam Laser weight is 2 tons, WF is 125 Available at TL9, they cost 1500cr each.

Light Disruptor weight is 0.02 tons, WF is 1 Available at TL8, they cost 20cr each.

Heavy Disruptor weight is 0.05 tons, WF is 2 Available at TL8, they cost 30cr each.

Plasma Gun weight is 0.2 tons, WF is 48 Available at TL10, they cost 700cr each.

Heavy Plasma Gun is 2 tons, WF is 240 Available at TL10, they cost 3000cr each.

Cogar weight is 0.15 tons, WF is 32 Available at TL9, they cost 500cr each.

Heavy Cogar is 1.5 tons, WF is 160 Available at TL9, they cost 2000cr each.

SPECIAL

Flamethrower weight is 0.05 tons with 10 shots, WF is 3. Extra tanks available at 0.005 tons per tank, one tank per shot, each shot lasts 4 seconds.

Available at TL 6, they cost 75cr per factor.

Bomb weight is 0.1 ton per factor, WF is 4 per factor.

Available at TL 5, they cost 10cr per factor.

Rocket weight is 0.1 ton per factor, WF is 2 per factor.

Available at TL 6, they cost 25cr per factor.

Missile weight is 0.2 ton per factor, WF is 3 per factor.

Available at TL 7, they cost 300cr per factor.

Missiles may be Radar Guided or IR Guided.

MOUNTS

Weapon Mounts are necessary when using weapons, and more than one weapon can share the same mount, but if so are not individually targetable.

Fixed Mounts are used where the driver of the vehicle is the gunner. The weapon is aimed by pointing the vehicle. A fixed mount weight is 0.2 times the weight of the weapon, and costs 1cr per 10 WF mounted.

Limited Traverse mounts are used where the field of fire is small, less than 180 degrees. These mounts weigh 0.5 times the weight of the weapon, and costs 3cr per 10 WF mounted.

Turrets are used for hemispherical fields of fire. These mounts weigh 1 times the weight of the weapon, and costs 5cr per 10 WF mounted.

Ball Turrets are used for greater than hemispherical field of fire. Ball turrets weigh 1.5 times the weight of the weapon, and costs 7cr per 10 WF mounted.

LOCOMOTORS - THE VEHICLE'S MOVERS.

Locomotors lift, push, pull, or roll, depending on their type. All locomotor factors are sufficient to move 1 ton.

Wheels are available at TL 1. Wheels weigh .5 tons per factor and have an acceleration factor of 1 and a fuel inefficiency of 1. They cost 2cr per factor.

Propellers are available at TL 5. Propellers weigh .1 tons per factor and have an acceleration factor of 1 and a fuel inefficiency of 2. They cost 5cr per factor.

Tracks are available at TL 5. Tracks weigh 0.2 tons per factor and have an acceleration factor of .5 and a fuel inefficiency of 3. They cost 1cr per factor.

Reaction (Jet) is available at TL 7. Jets weigh 0.1 tons per factor and have an acceleration factor of 3 and a fuel inefficiency of 5. They cost 10cr

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per factor.

Air Cushion is available at TL 7. Air Cushion weighs .3 tons per factor and have an acceleration factor of 1.5 and a fuel inefficiency of 3. They cost 3cr per factor.

Legs are available at TL 8. Legs weigh 0.2 tons per factor and have an acceleration factor of 1 and a fuel inefficiency of 1.2. They cost 3cr per factor.

A-Grav is available at TL 9. A-Grav weighs .1 tons per factor and has an acceleration factor of 2 and a fuel inefficiency of 0.01. They cost 10cr per factor.

Rotors are available at TL 7. Rotors weigh .3 tons per factor, and have an acceleration factor of 1.5 and a fuel inefficiency of 3. They cost 5cr per factor.

WINGS

Wings are used with either propeller or jet, and have a weight of $0.05 \times \text{Total Vehicle Weight}$ in tons per factor. They cost 3cr per factor. A vehicle's wings determine the maneuverability of the vehicle, being able to lift and turn 1G per factor.

All Rotor vehicles maneuver at 2G

All A-Grav vehicles maneuver at 1G

ARMOR

All Armor factors are based on the Vehicle weight Without Armor (VWA).

Iron Armor is available at TL 5. Iron Armor weighs $0.2 \times \text{VWA}$ per factor and grants one armor point per factor. Cost is 1cr per ton of armor, and 1cr per factor.

Steel Armor is available at TL 6. Steel Armor weighs $0.1 \times \text{VWA}$ per factor and grants one armor point per factor. Cost is 1.5cr per ton of armor, and 1cr per factor.

Composite Armor is available at TL 7. Composite Armor weighs $0.1 \times \text{VW}$ per factor and grants two armor points per factor. Cost is 2cr

per ton of armor, and 1cr per factor.

Reactive Armor is available at TL 7. Reactive Armor weighs $0.15 \times \text{VWA}$ per factor and grants 4 armor points per factor. Cost is 2.5cr per ton of armor, and 1cr per factor.

Ceramic Armor is available at TL 8. Ceramic Armor weighs $0.3 \times \text{VWA}$ per factor and grants 4 armor points per factor. Cost is 3cr per ton of armor, and 2cr per factor.

Plasteel Armor is available at TL 9. Plasteel Armor weighs $.12 \times \text{VWA}$ per factor and grants 5 armor points per factor. Cost is 4cr per ton of armor, and 2cr per factor.

VEHICLE STATISTICS

SPEED

To find the speed of the vehicle, multiply the energy output times the acceleration factor times the Tech Level factor. Divide this by the weight of the vehicle in tons. Propeller and rotor driven aircraft have a maximum speed of 780 KPH. Open vehicles have a maximum speed of 300 kph, and underwater vehicles have a maximum speed of 130 kph until tech level 8, when super-cavitation becomes practical.

RANGE

To find the range of the vehicle, divide the engine's Fuel Rating by the locomotor's Fuel Inefficiency, then multiply this number times the fuel compartment's fuel factor. This is the range of the vehicle in kilometers.

COST

To find up the vehicle's cost, simply add up the costs of its components.

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STARCLUSTER SIMPLE VEHICLE COMBAT RULES.

This system scales well for use in situations of vehicles vs. people. Sides make standard initiative rolls. Side goes on its initiative. Player controlling character using the weapon rolls to-hit, with standard modifiers.

Weapon factor (WF) of the weapon used must be equal to or higher than armor points (AP) to penetrate. If not, it will just bounce off.

EXAMPLES:

Heavy Machine Gun (WF 2) vs. Iron Armor factor 1 (2 AP) = penetration

Heavy Machine Gun (WF 2) vs. Iron Armor factor 2 (4 AP) = no penetration

Medium Cannon (WF 20) vs. Iron Armor factor 8 (16 AP) = penetration

If weapon penetrates, roll damage. Damage is $1d10 \times \text{Weapon Factor} \times 10$. If the weapon is a burst fire weapon - such as machine guns, miniguns, gatling guns, or autocannon, damage is again multiplied by 5.

EXAMPLES:

Heavy Machine Gun damage = $2 \times 10 \times 5 \times 1d10 = 100-1000$

Medium Cannon damage = $20 \times 10 \times 1d10 = 200-2000$

Vehicles have 100 constitution points per ton, rounded up.

EXAMPLES:

302 ton Cargo Aircraft 30,200 constitution

25 ton Armored Vehicle 2500 constitution

172 ton Boat 17,200 constitution

At its full constitution*.75, the vehicle is **Hindered**. All rolls are at -20% and max speed is *.75

At its full constitution*.50, the vehicle is **Damaged**. All rolls are at -40% and max speed is *.50

At its full constitution*.25, the vehicle is **Hammered**. All rolls are at -60% and max speed is *.25

MANEUVERABILITY

Vehicles rated with a +(number) or -(number) add this number to the opponent's chance to hit them.

Vehicles rated in Gs subtract their opponent's G rating from their G rating. The difference is multiplied times 5% and added to their chance to hit.

Examples:

Vehicle A 6G vs. Vehicle B 3G: Vehicle A +15% to hit, Vehicle B -15% to hit

Vehicle C 5G vs. Vehicle D 4G: Vehicle C +5% to hit, Vehicle D -5% to hit

Vehicle E 3G vs. Vehicle F 3G: Vehicle E +0% to hit, Vehicle F +0% to hit

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EXAMPLE VEHICLE #1

TL6 TANK

Component	Factor	Weight	Remark
Crew Compartment	5	0.25 T	--
Driver Station	Simple	0.5 T	drive+1
Gunner Station #1	Pow. Asst.	1.0 T	gunnery +1
Gunner Station #2	Pow. Asst.	1.0 T	gunnery +1
Comm Station	Complex	0.25 T	elec +2
Loader Station	Pow. Asst.	0.3 T	coor 8+
Engine Compartment	2	0.2 T	--
Diesel Engine	30	0.99 T	2250 e.u. output
Fuel Compartment (tanks) 10		0.5 T	
Ball Turret Mount		.03 T	Front Mounted
Heavy MG	WF 2	.02 T	Gunner #1
Turret Mount		.52 T	Top Mounted
Medium Cannon	WF 20	.5 T	Gunner #2
Heavy MG	WF 2	.02 T	Gunner #2
Locomotors (Tracks)	35	7 T	
VWA		12.98 T	
Steel Armor	AF 16	20.77 T	16 Armor Points
Total Weight		33.75 T	
2250 energy units * Accel. Factor (.5) * TL factor (1) = 1125 e.u.			
1125 energy units / 33.75 Tons = 33.3 KPH			

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EXAMPLE VEHICLE #2

TL6 FIGHTER PLANE

Component	Factor	Weight	Remark
Crew Compartment	1	1 .05 T	--
Driver Station	Simple	.5 T	drive+1
Engine Compartment	4	.2 T	--
Gasoline Engine	100	2 T	7500 e.u.
Fuel Compartment (Tanks)		20 .8 T	
Fixed Mount * 8		.032 T	For 8 MG, driver fired
Heavy MG	WF 2	.02 T	Left Wing
Heavy MG	WF 2	.02 T	Left Wing
Heavy MG	WF 2	.02 T	Left Wing
Heavy MG	WF 2	.02 T	Left Wing
Heavy MG	WF 2	.02 T	Right Wing
Heavy MG	WF 2	.02 T	Right Wing
Heavy MG	WF 2	.02 T	Right Wing
Heavy MG	WF 2	.02 T	Right Wing
Locomotor (Propellers)	11	1.1 T	
Wings	6.75	3.3 T	6.75 G
VWA		8.142 T	
Steel Armor	AF 2	1.628 T	2 Armor Points
Total Weight		9.77 T	

7500 energy units * Accel. Factor (1) * TL Factor (1) = 7500 e.u.

7500 e.u. / 9.77 Tons = 763 KPH

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SAMPLE VEHICLE #3

TL 8 LEGGED VEHICLE (SKORPION)

Component	Factor	Weight	Remark
Crew Compartment	2	1 T	2 crew
Driver Station	Computer	0.5 T	driv+1, +2 SF
Gunner Station	Computer	1 T	Gunnery+1, +2 HF
Passenger Compartment	6	0.6 T	6 passengers
Passenger Station	6	1.2 T	Interactive Seats
Cargo Compartment	15	3.15 T	3 tons cargo
Engine Compartment	1	0.05 T	
Gas Turbine Engine	2	0.04 T	400 energy units
Fuel Compartment (tanks)	10	0.4 T	400 liters
Weapon Mount (flex tail)		0.6 T	Treat as ball turret
Heavy Machinegun	WF2	0.02 T	
Heavy Machinegun	WF2	0.02 T	
Locomotors (Legs)	10	2 T	
VWA		9.14 T	
Plasteel Armor	1 AF	0.85 T	5 Armor Points
Total		9.99 T	

400 energy units * Accel. Factor (1) * TL Factor (1) = 400 / 9.99 Tons = 40 KPH

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Vehicle	Desc	Weight	Cargo	Cost
Spider	8 leg 2 man ATV	3 tons	.2 tons	116cr
Ground Car	4 wheel 5 man ATV	5 tons	.2 tons	98cr
Skorpion	6 leg 8 man ATV	10 tons	3 tons	331cr
Trax	10 man tracked ATV	8 tons	2 tons	224cr
Hauler	2 man tracked ATV	10 tons	4 tons	166cr
Unitrac	2 wheel 1 man ATV	3 tons	.2 tons	266cr
Flycycle	1 man A-grav light vehicle	1 ton	0 tons	160cr
Minorb	1 man A-grav spherical sealed vehicle	5 tons	.6 tons	1502cr
Orb	3 man A-grav spherical sealed vehicle	10 tons	1 ton	1623cr
Deltakik	2 man kick-glider	3 tons	.2 tons	85cr
Manta	2 man undulating fin underwater vehicle	8 tons	.2 tons	587cr
Orca	2 man fluke powered underwater vehicle	6 tons	.2 tons	361cr
Flark	1 man underwater/flying jet	9 tons	.2 tons	638cr
Sextopod	2 man jet/tentacle powered air/land/water	20 tons	5 tons	783cr
Flitter	6 man A-grav platform	6 tons	.75 tons	1599cr
Ornithopter	10 man A-Grav/wing-flapping aircraft	25 tons	1 ton	6944cr
Heli	2 man helicopter	20 tons	.6 tons	1556cr
Big Heli	10 man helicopter	28 tons	3 tons	2862cr
Turtle	4 fin 2 man underwater vehicle	8 tons	5 tons	150cr
Airbus	12 passenger A-Grav vehicle	7 tons	1 ton	1410cr
Skip	2 man open A-Grav vehicle	5 tons	.2 tons	1462cr
Floater	1 man open A-Grav cargo platform	40 tons	20 tons	2195cr
Explorer	8 man 4 wheel sealed ATV with built-in living accommodations	44 tons	5 tons	763cr
Bike	2 man 2 wheel ground vehicle	1 ton	0 tons	26cr
Atmo Flyer	1 man winged atmospheric vehicle	29 tons	0 tons	4975cr
Town Car	5 man 3 wheeled road only vehicle	6 tons	.6 tons	162cr

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Vehicle	TL	Top Speed	Range	Maneuverability	Constitution
Spider	9	87 kph	3333 km	-20	300
Ground Car	7	112 kph	2000 km	-0	500
Skorpion	9	40 kph	3333 km	-20	1000
Trax	7	26 kph	3200 km	+20	800
Hauler	8	131 kph	1333 km	+20	1000
Unitrac	8	227 kph	667 km	+0	300
Flycycle	9	300 kph	320000 km	1G	100
Minorb	9	8248 kph	4*10^9 km	1G	500
Orb	9	4020 kph	4*10^9 km	1G	1000
Deltakik	9	74 kph	800 km	3G	300
Manta	8	55 kph	32000 km	-10	800
Orca	8	137 kph	1600 km	-10	600
Flark Air	8	1106 kph	1818 km	2G	900
H2O	8	368 kph	3000 km	-10	900
Sextopod Air	8	677 kph	2424 km	1G	2000
H2O	8	677 kph	2424 km	-10	2000
Ground	8	225 kph	4500 km	+20	2000
Flitter	9	300 kph	8*10^7 km	1G	600
Ornithopter	9	244 kph	1*10^9 km	5G	2500
Heli	7	337 kph	1333 km	2G	2000
Big Heli	7	541 kph	6667 km	2G	2800
Turtle	8	90 kph	3333 km	+0	800
Airbus	9	5839 kph	2*10^9 km	1G	700
Skip	9	300 kph	2*10^9 km	1G	500
Floater	9	300 kph	8*10^9 km	1G	4000
Explorer	9	101 kph	12000 km	+0	4400
Bike	7	222 kph	800 km	+0	100
Atmo Flyer	7	2328 kph	6060 km	5G	2900
Town Car	7	201 kph	4000 km	+0	600

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Vehicle	Armor	Weapons
Spider	none	none
Ground Car	none none	
Skorpion	Plasteel - 5 AP	2 heavy MG ball turret mount WF2 each
Trax	none	none
Hauler	Ceramic - 20 AP	none
Unitrac	Ceramic - 20 AP	1 heavy AC fixed mount WF6
Flycycle	none	none
Minorb	Ceramic - 27 AP	none
Orb	Ceramic - 46 AP	none
Deltakik	none	none
Manta	none	none
Orca	none	none
Flark	none	2 fixed mount heavy AC WF6 each
Sextopod	Ceramic - 2 AP	none
Flitter	Plasteel - 25 AP	1 fixed mount medium beam laser WF25
Ornithopter	Ceramic - 30 AP	1 ball turret mount cogar WF32
Heli	Composite - 8 AP	2 heavy AC turret mount WF6 each 2 fixed mount mini guns WF3 each 4 fixed mount rockets WF20 each
Big Heli	Composite - 2 AP	2 heavy AC turret mount WF6 each 6 fixed mount rockets WF 8 each
Turtle	none	none
Airbus	none	none
Skip	Ceramic - 5 AP	1 fixed mount light beam laser WF6
Floater	Plasteel - 20 AP	none
Explorer	Ceramic - 8 AP	1 ball turret mount heavy AC WF6
Bike	none	none
Atmo Flyer	Composite - 4 AP	2 heavy AC fixed mount WF6 each 6 fixed mount rockets WF20 each 2 fixed mount bombs WF40 each
Town Car	none	none