HAPPY HERB'S TRANSDIMENSIONAL NEW AND USED VEHICLE DEALERSHIP

Spring Catalog

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Introduction

Here at Happy Herb's we struggle to provide you, the customer, with the best in new and used vehicles from around the Multiverse. We have wandered the planes collecting the finest in transportation, which we are now offering to you for the lowest prices ever. Be sure to check out our large selection of Ultra-Tech Scout Vehicles, and our small but growing collection of low technology craft from the Sol system. For all you cliffhanging daredevils out there, be sure to look at our selection of TL 6 vehicles from a popular movie trilogy (get a 3.5% discount if you can name the movies they came from). So browse our show room and explore our huge vehicle lot. When you are ready to buy a vehicle, arranging good credit terms is not a problem. And remember, Happy Herb is happy only because you're happy.

Editor's Notes

I want to thank all the people who submitted vehicles for this book, everyone who look for errors and made suggestions, and all the people who are helping to distribute it. Keep those vehicles coming!

Submitting Vehicles

There will be continual updates to this catalog and a new one started once this one is full, so many more vehicles are needed. Any and all submissions are welcome! Please make sure your vehicle's description is organized like the ones in *GURPS Vehicles* and this book, please no spreadsheet dumps. Also be sure that it is in plain ASCII text. Send the vehicle to `hammond@io.com` and be sure to include your real name and e-mail address so that you can revive proper credit.

Chapter 2

Land Vehicles

Dogsled (TL 0)

This is a simple dog sled that might be used by Eskimos or other peoples living in Arctic conditions. This particular version is pulled by 8 dogs, though other sleds used as few as 4 dogs or as many as 20.

Structure: 70 cf standard extra-light body, max. load 1050 (body HT 38), 2 runners (DR 2, HT 6 each).

Propulsion: Ropeharness for 8 dogs (ST 9, MV 10, 8 hexes combined, see *rope harness*, p. 25, in the accessories chapter), combined ST 43, average speed 18 mph.

Power: None.

Accommodations: Open standing room for driver, a single passenger may sit in the sled (in the cargo space).

Crew Requirement: One driver (Teamster(Dogs) skill).

Accessories: None.

Cargo: 64 cf.

Armor: None.

Statistics: Cost $450 (adjusted to $30), design mass 228 lbs., max. payload 822 lbs., max. cargo 822 lbs., current payload 500 lbs. (driver and 300 lbs. of equipment and food), loaded mass 728 lbs. (0.364 tons), Size Modifier +2, Radar Signature +2, IR Signature +2, Acoustic Signature +1.

Ground Performance: Top speed 13.5 mph, acceleration 3.5 mph/s, deceleration 5 mph/s, MR .25, SR 2.

Water Performance: None.

Air Performance: None.

Oxcart (TL 2)

This is a typical oxcart one might find on a TL 2–5 farm. While the yoke-and-pole harness was not very efficient, it was used on such vehicles long after better harnesses were invented. This is largely due to its simplicity.

Structure: 120 cf cheap medium body, max. load 4,800 lbs. (body HT 225). Four unpowered wheels (DR 2, HT 19 per wheel).

Propulsion: Yoke-and-Pole harness for 2 Oxen (ST 80, MV 8, 6 hexes combined, HT 17), combined ST 120 (-25speed 16 mph.

Power: None.

Accommodations: Cheap open seats (bench) for 2, 3 can fit cramped.

Crew Requirement: One driver (Teamster(Oxen) Skill).

Accessories: None.

Cargo: 90 cf.

Armor: 30 points cheap flammable armor (thick wooden sides of vehicle). F3/6F, B3/6F, R3/6F, L3/6F, T0/0, U3/6F.

Statistics: Cost $1,585 (adjusted $106), design mass 2,810 lbs., max. payload 1,490 lbs., max. cargo 1,490 lbs., current payload 250 lbs., loaded mass 1640 lbs. (0.82 tons), Size Modifier +2, Radar Signature +2, IR Signature +2, Acoustic Signature +3.

Ground Performance: Top speed 16 mph, acceleration 4 mph/s, deceleration 10mph/s, fully loaded max. speed 12 mph, acceleration 3 mph/s, deceleration 10 mph/s, MR .25, SR 3. *Water Performance:* None.

Air Performance: None.

Medium Frame Truck (TL 6)

This is a truck designed to accept any superstructure of 640 cf or smaller. The basic performance is given for $< 4,684$ lbs and $\geq 4,684$ lbs of payload.

Structure: 800 cf of medium standard body, maximum load 32,000 lbs. (body HT 900). Powered wheeled motive system, ten wheels (DR 2, HT 23/45 per wheel, two single wheels up front, two pairs double wheels in back). Off-road suspension.

Propulsion: TL 6 wheeled drivetrain with 81 KW motive power.

Power: TL 6 gasoline engine with 81 KW output, uses 2.43 gallons per hour gasoline (DR 5, HT 40), standard gasoline tank with 31 gallons of fuel (DR 5, HT 15, Fire 11) good for 12.75 hours.

Accommodations: Two normal seats.

Crew Requirement: Driver.

Accessories: Headlights, spare tire (DR 2, HT 23/45, see p. 25). *Cargo:* None (depends on superstructure mounted).

Armor: 30 points standard armor. F3/5, B3/5, L3/6, R3/5, T3/5, B3/5.

Statistics: Cost $22,590, design mass 16,915 lbs., max. payload 15,084 lbs., loaded mass $< 21,600/ \geq 21,600$ lbs. ($< 10.8/ \geq 10.8$ tons), Size Modifier +4 (+5 with 320 cf or more superstructure), Radar Signature +4 (+5 with ¿320 cf ss), IR Signature +5 (+6 with $>$ 320 cf ss), Acoustic Signature +4.

Ground Performance: Ground speed factor 24, top speed 48/42 { light load/heavy load } mph, acceleration 3 mph/s, deceleration 10 mph/s, MR .25, SR 5. Gets 20/17 miles per gallon.

Water Performance: None.

Air Performance: None.

Troop/Cargo Superstructure

Add 640 cf standard superstructure, 24 light open cramped seats (benches), 21 points standard armor SF3/5, SR3/5, SL3/5, SB3/5, ST1/1, top deck (40 sq. ft), covered deck, 400 cf cargo space.

Statistics: Cost +$5,570, design mass +3,520.5 lbs, max. cargo load 11,000 lbs.

Aircraft Refueling Superstructure

Add 250 cf standard superstructure, 1600 gallon aviation gasoline tank (DR 5, HT 250, Fire 13).

Statistics: Cost +$17,250, Design mass +12,625 lbs.

Rocket Launcher Superstructure

Add 40 cf standard superstructure; 150 rocket tubes (127 mm, DR 5, HT 10), 150 HE rockets (127 mm); Open mount for rocket tubes, Linked in groups of five.

Statistics: Cost +$79,700, Design mass +7600 lbs. Can fire 5 rockets per second for 30 seconds!

Motorcycle (TL 6)

This is a heavy motorcycle typical of the designs used during WWII. The basic performance assumes 240 lb of payload (one driver and some gear).

Structure: 15 cf extra-heavy standard body, maximum load 1,350 lbs. (body HT 120). Powered wheeled motive system, two wheels (DR 2, HT 15/30 per wheel), off-road suspension.

Propulsion: TL 6 wheeled drivetrain with 19 KW motive power.

Power: TL 6 gasoline engine with 19 KW output (DR 5, HT 15), uses .57 gallons of gasoline per hour; standard gasoline tank with 6.3 gallons of fuel (DR 5, HT 6, Fire 11) good for 11 hours.

Accommodations: One external seat.

Crew Requirement: Driver.

Accessories: : Headlight, sidecar attachment point.

Cargo: 6.25 cf.

Armor: None.

Statistics: Cost $2,306, design mass 609.75 lbs., max. payload 740 lbs., max. cargo load 562 lbs., current payload 240 lbs., loaded mass 850 lbs. (.425 tons), Size Modifier +0, Radar Signature +0, IR Signature +1, Acoustic Signature +3.

Ground Performance: Ground speed factor 24, top speed 84 mph, acceleration 5.25 mph/s, deceleration 10 mph/s, MR .75, SR 1. Gets 147 miles per gallon.

Water Performance: None.

Air Performance: None.

Sedan (TL 6)

This is a 4 door sedan typical of the designs made during the 30's. The basic performance assumes 1000 lbs of payload (one driver and 4 passengers).

Structure: 300 cf light cheap body, maximum load 7,500 lbs. (body HT 300). Powered wheeled motive system, four wheels (DR 2, HT 19/38 per wheel).

Propulsion: TL 6 wheeled drivetrain with 59 KW motive power.

Power: TL 6 gasoline engine with 59 KW output, uses 1.77 gallons of gasoline per hour (DR 5, HT 30), standard gasoline tank (DR 5, HT 15, Fire 11) with 21 gallons of fuel, good for 11.8 hours.

Accommodations: Two roomy seats, three normal seats.

Crew Requirement: Driver.

Accessories: Headlights, spare tire (DR 2, HT 19/38, see p. 25).
Cargo: 80 cf.
Armor: 30 points standard armor. F3/5, B3/5, R3/5, L3/5, T3/5, U3/5.
Statistics: Cost $7,319, design mass 5,527 lbs., max. payload 1,974 lbs., current payload 1000 lbs., loaded mass 6527 lbs. (3.26 tons), Size Modifier +3, Radar Signature +3, IR Signature +4, Acoustic Signature +4.
Ground Performance: Ground speed factor 24, top speed 60 mph, acceleration 3.75 mph/s, deceleration 10 mph/s, MR .5, SR 3. Gets 33 miles per gallon.
Water Performance: None.
Air Performance: None.

Convertible Ragtop Variant

Remove all seats and top armor. Add 5 open seats (2 roomy, 3 normal), convertible top.
Statistics: Cost $7,369, design mass 5,276 lbs, max. payload 2,223 lbs., max. cargo load 2,000 lbs.
Performance: As above.

Sidecar (TL 6)

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This is a sidecar for use with the TL 6 motorcycle listed above (see p. 3). The basic performance assumes the 240 lbs of payload (one driver and some gear) on the bike and 214 lbs of payload (one passenger and some more gear or more cargo) in the sidecar.

Structure: 11 cf heavy standard body, maximum load 660 lbs. (body HT 60). Unpowered wheeled motive system, one wheel (DR 2, HT 15/30 per wheel), off-road suspension.
Propulsion: None.
Power: None.
Accommodations: One cramped open seat.
Crew Requirement: None.
Accessories: External spare tire (DR 2, HT 15/30, see p. 25).
Cargo: 1 cf.
Armor: 20 points standard TL 6 armor. F3/4, B3/4, L3/4, R3/4, U3/4, T0/0.
Statistics: [Bike and sidecar statistics in brackets], Cost $699 [$3,005.50], design mass 265 lbs. [875 lbs.], max. payload 394 lbs., max. cargo load 60 lbs. (234 lbs. without passenger), current payload 210 lbs., loaded mass 475 lbs. [1325 lbs. (.6625 tons)], Size Modifier +0 [+1], Radar Signature +0 [+1], IR Signature +0 [+1], Acoustic Signature +0 (cannot move without motorcycle) [+3].
Ground Performance, for combination: Ground speed factor 24, top speed 72 mph, acceleration 4.5 mph/s, deceleration 10 mph/s, MR .5, SR 2. Gets 126 miles per gallon.
Water Performance: None.
Air Performance: None.

Armored Personnel Carrier (TL 7)

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This APC is based on the venerable M113 in use throughout the world since the 1960's. It carries a squad of men (11 soldiers), a driver and commander. [Editor's note: This is another interpretation of the vehicle on page 175 of *GURPS Vehicles*. Both the author and I feel that the version in *GURPS Vehicles* is too small, and that this vehicle more accurately reflects the real M113.]

Structure: 810 cf medium standard body, maximum load 32,400 lbs. (body HT 900), 30 degree front slope, sealed body, flotation hull (flotation 40,500 lbs., reduced to 32,400 lbs.), poor hydrodynamics. Tracked motive system with water drive upgrade (see p. 25), two tracks (PD 3, DR 6 plus treadskirts, HT 450 each).
Propulsion: TL 7 tracked drivetrain with 160 KW motive power.
Power: TL 7 diesel engine with 160 KW output (DR 5, HT 50), uses 3.2 gallons of gasoline per hour; self sealing fuel tank (DR 5, HT 15, Fire 8) with 23 gallons of fuel.
Accommodations: Two normal internal seats, 11 light cramped seats. Vision: No windows (crew uses vision slits or IR sensors. Passengers must expose themselves to see or fire).
Armor: 30 degree front slope, 210 points of expensive armor. F6/63, L5/42, R5/42, B5/28, T5/28, U5/28. 84 points expensive armor as treadskirts, LT5/42, RT5/42.
Crew Requirement: Driver, commander.
Weaponry: .50 HMG machine gun (DR 5, HT 15, exposed equipment) in pintle mount on commanders hatch with 100 rounds.
Accessories: Headlights, bilge pump, environmental control, fire extinguisher system, NBC kit, light amplification, tactical radio (500 mile range), cargo ramp (rear).
Cargo: 120 cf.
Statistics: Cost $128,156, design mass 19,391 lbs., max. payload 13,008 lbs., max. cargo load 4,800 lbs., current payload 3000 lbs., loaded mass 22,391 lbs. (11.18 tons), Size Modifier +4, Radar Signature +4, IR Signature +5, Acoustic Signature (on ground) +5, Acoustic Signature (on water) +2. *Ground Performance:* Ground speed factor 18, top speed 40.5 mph, acceleration 3.5 mph/s, deceleration 20 mph/s, MR .25, SR 7. Gets 12.6 miles per gallon.

Water Performance: Water speed factor 1, Top speed 2.5 mph, acceleration 1.5 mph/s, deceleration 10.75 mph/s, MR .5, SR 5, Draft 5 feet. Gets .78 miles per gallon.

Air Performance: None.

These variants are based on the M113 Armored Personnel Carrier. Modifications can be applied to either the M113 above or the one in *GURPS Vehicles.*

M557A1 Light Command Post Variant

Remove all but the 2 normal seats and the machine gun. Add 176 cf standard superstructure, 182 points expensive armor distributed as SF5/42, SL5/42, SR5/42, SB5/28, ST5/28. 21 ft x 9 ft tent extending from rear of vehicle (treat as covered deck), global positioning system, folding furniture (bought as cramped quarters, mass is .25 normal, when folded 90of volume is available for cargo, does not include mess or latrine facilities), 1 KW diesel engine mounted as external equipment (DR 5, HT 6, generator to run radios, lights, etc., without running main engine, .02 gallons of diesel fuel per hour).

Statistics: Add $2,613 to cost, increase design mass by 2,099 lbs., reduce cargo volume by 4 cf.

M901 Improved Tow Vehicle Variant

Remove all light cramped seats and the machine gun. Add 3 cf expensive full traverse mini-turret (unpowered, turret mass 1254.5 lbs.), 20 medium ATGM missiles, 1 normal seat (loader), and 125 cf access space.

On turret: Elevated remote open mount (20.68 cf total, Size Modifier +1, 1 yard extension, HT 50), 7.62 mm GPMG (DR 5, HT 12, exposed equipment) on pintle mount facing left of turret, 100 shots for MG.

On remote mount: 252 points expensive component armor (all sides 5/42), 2 medium ATGM launchers, (DR 5, HT 25 each, exposed equipment), periscope (DR 5, HT 6, exposed equipment, 1 yard extension above the vehicle, the remote mount essentially is a periscope with ATGM missiles) with medium range thermograph and telescope. Note: Remote mount is reloaded from within the vehicle. The reloading hatch may be targeted if the firer could hit the top of the vehicle from anywhere in its front arc at a -4 Size Modifier. Such a hit would bypass all armor. If using the advanced body damage rules, do not add two for hit location. If first hit location is not crew or weapon, reroll location and use the second one.

Statistics: Cost: Add $127,320, design mass: add 1,950 lbs, cargo volume: increase by 4 cf. Size Modifier (+1 for turret).

HMMWV, AM General (TL 7)

HMMWV is short for High Mobility Multipurpose Wheeled Vehicle. This off-road vehicle was designed specifically for the US Military. Thus it has many features that make it ideal for this role. These features include large wheel base, 16" ground clearance, and advanced controls. Its large size makes it ideal for carrying troops or cargo. This vehicle can climb 60 degree slopes, traverse a 40 degree side slope, and ford 30 inches of water. The HMMWV is the best general purpose off-road vehicle in production today.

Designer's note: While there may seem to be some strange features on this vehicle (using a light body for instance, instead of a medium or heavy one), these stats come remarkably close to matching the data published by AM General Corporation.

Structure: 412 cf standard light body, max. load 11,250 lbs (body HT 400). Powered off-road wheeled motive system with 4 wheels (DR 3, HT 25/50 per wheel), improved brakes, improved suspension, and puncture resistant snow tires.

Propulsion: TL 7 112 KW wheeled drive train.

Power: 112 KW diesel engine (DR 5, HT 40), uses 2.24 gallons per hour; TL 7 25 gallon, self-sealing fuel tank (DR 5, HT 15, Fire 8) provides 11 hours driving time.

Accommodations: 2 normal internal seats and 4 cramped internal seats. Vision: Many windows.

Crew Requirement: One driver.

Armor: 48 points standard armor. F4/8, B4/8, R4/8, L4/8, T4/8, U4/8.

Accessories: Camouflage paint job, convertible hard top, secure tactical radio (30 miles), winch (33 yards of cable, 3,000 lbs, DR 5, HT 15, exposed equipment).

Weaponry: Rooftop front facing pintle mount with .50 cal heavy machine gun (DR 5, HT 15, exposed equipment) with 200 rounds of ammo, or MK-19 40 mm Auto-GL (DR 5, HT 20, exposed equipment) with 40 HE grenades.

Cargo: 230 cf cargo, with 5 cf waste space.

Statistics: Cost $38,565, design mass 5,978 lbs., max. payload 4,321 lbs., max. cargo load 4,321 lbs., current payload 2,000 lbs. (6 soldiers and 800 lbs. of gear), loaded mass 7980 lbs. (4 tons), Size Modifier +4, Radar Signature +4, IR Signature +5, Acoustic Signature +4.

Ground Performance: Ground speed factor 28 mph, top speed 84 mph, acceleration 4.5 mph/s, deceleration 15 mph/s, MR 1.25, SR 5.

Water Performance: None.

Air Performance: None.

There are a bewildering number of HMMWV variants, some of which are shown below.

M998 TOW Missile Carrier

This variant provides fast maneuverable anti-tank support to infantry. Remove 2 of the cramped seats, the pintle mount, weapon and ammo. Add a 11 cf full-traverse expensive mini-turret (PD/DR 4/8, HT 30), with a 10.5 cf open mount attached. The open mount holds a medium ATGM launcher (DR 5, HT 25, exposed equipment) with a telescope (DR 5, HT 5, exposed equipment) and a medium range thermographic imager (armored, DR 5, HT 4, exposed equipment, scan 16, range 2 miles). The turret also holds a mini-targeting computer (armored, DR 5, HT 3, exposed equipment, C 2), runs a complexity 2 targeting program adding +2 to the gunner's skill. Remove 3.1 cf waste space, the ten missiles take up 30 cf. of cargo space.

Statistics: Cost +$181,249, +660 lbs., reduce max. payload by 160 (10 missiles weigh 500 lbs. and count as payload), turret Size Modifier +1.

HMMWV Fire Support Variant

This HMMWV variant is designed to provide heavy firepower to mobile infantry units. It uses the same turret as the M998, but replaces the TOW launcher and support equipment with a 30 mm autocannon. Remove 2 of the cramped seats, the pintle mount, weapon and its ammo. Add a 11 cf full-traverse expensive mini-turret (PD/DR 4/8, HT 30) with a 30 mm autocannon and 100 rounds of ammunition. 200 additional rounds are carried internally taking up 8 cf of cargo space. Remove 3.3 cf of waste space for the turret rotation mechanism.

Statistics: Cost +$12,380, design mass +692 lbs, reduce max. payload by 192 lbs. (the internal ammo counts as payload), turret Size Modifier +1.

HMMWV Stinger Variant

Used by US Special Forces as a light anit-aircraft vehicle, this HMMWV variant is well suited to its role. Its open top permits the mounting of 4 Stinger missile launchers. Remove the convertible hard top and the top armor making the vehicle open like a jeep. Add a 12 cf 360 degree universal open mount, with 4 light SAM Launchers (note that the mount is in the back of the vehicle and takes up cargo space). In the cargo area add 8 TL 7 light SAM(IRH) missiles, and an IFF receiver. Reduce cargo volume by 33 cf.

Statistics: Cost +$161,200, Size Modifier for open mount +1.

HMMWV 4 Litter Ambulance

One of the many reasons the US Army adopted the HMMWV is that this vehicle can replace many different vehicles in the US arsenal, simplifying logistics and training. One of the vehicles replaced is the M792 four litter ambulance. The four litter HMMWV ambulance has 2 of the cramped seats, pintle mount and the .50 cal machinegun removed, instead 4 stretcher pallets are put into the cargo area. In addition 4 "Doctor's Black Bags" (from *GURPS Basic* p. 213), 6 "crash kits" and 10 "Simple first aid kits" (all from *GURPS Basic*, p. 213) are carried. Reduce cargo volume to 30 cf.

Statistics: Cost -$3,380, reduce max. cargo to 750 lbs.

Hotrod (TL 7)

This is an overhauled Chevy Nova SS, the sort of car an enthusiastic teenage mechanic might create. Anyone driving this vehicle will gain a reaction bonus from racers and adventurous PCs if its qualities are known; expect a similar negative reaction from police and quiet sorts. Either type might want to take it away from the driver!

Structure: 180 cf standard light body, maximum load 4500 lbs. (body HT 200). Powered wheeled motive system with four wheels (DR 2, HT 12/25). Improved brakes and suspension.

Propulsion: 250 KW wheeled drivetrain.

Power: TL 7 turbosupercharged gasoline engine, 250 KW output (DR 5, HT 25) uses 5 gallons per hour, two standard TL 7 fuel tanks with 20 gallons of gasoline per tank (both DR 5, HT 20, Fire 11) good for a total of 8 hours.

Accommodations: Four standard seats. Vision: Many windows.

Crew Requirement: One driver.

Armor: 45 points standard armor, front fender reinforced. F4/15, B4/10, R3/5, L3/5, T3/5, U3/5.

Accessories: Burglar alarm, CB radio, nitrous oxide booster, police radio scanner, stereo.

Cargo: 18.5 cf internal.

Statistics: Cost $41,450, design mass 3,005 lbs., max.

payload 1,495 lbs., max. cargo load 460 lbs., current payload 400 lbs. (this is just under a breakpoint; three people in the car will slow it slightly), loaded mass 3,405 lbs. (1.7 tons), Size modifier +3, Radar Signature +3, IR Signature +4, Acoustic Signature +4.

Ground Performance: Ground speed factor 30, top speed 157 mph (172 with nitrous booster), acceleration 7.9 mph/s (10.9 mph/s with booster), deceleration 15 mph/s, MR 1, SR 4. Gets 30 mpg.

Water Performance: None.

Air Performance: None.

Spy Van (TL 7)

This is a vehicle that might be found in the possession of a government agency, a particularly large and unscrupulous corporation, or the Illuminati. It is much more likely to be used against PCs than by them!

Structure: 400 cf medium standard body, maximum load 16000 lbs. (body HT 400). Powered wheeled motive system with six wheels (DR 3, HT 25/50), with puncture resistant tires, 14 cf retractable full traverse turret, improved brakes and suspension, sealed body.

Propulsion: 700 KW wheeled drivetrain.

Power: TL 7 turbocharged gasoline engine, 670 KW output (DR 5, HT 100), uses 13.4 gallons per hour; TL 7 self sealing fuel tank with 20 gallons of gasoline (DR 5, HT 20, Fire 10) good for 1.5 hours.

Accommodations: Four standard seats, one cramped seat (for turret). Vision: Few windows.

Crew Requirement: One driver. Others optional but recommended.

Armor: : 110 points of TL 7 advanced (kevlar) armor. F4/20, B4/20, R4/20, L4/20, T4/20, B4/10.

Accessories: Burglar alarm (skill 20), fire extinguisher system (automatic), galley, HUDWAC (DR 3, HT 4, electronics, ties GPMG into periscope), limited life support (2 man-days), low-light TV (DR 3, HT 4, electronics), minicomputer (DR 3, HT 4, electronics, C 2), mutable license plates, periscope (DR 5, HT 4, special effect; view out disguised roof vent), radar detector, radios (AM/FM, CB & police bands, cellular telephone, short-wave w/scrambler), mini-sound detector (DR 3, HT 2, electronics), telescope (DR 5, HT 5, equipment), short range thermographic imager (DR 3, HT 2, electronics), TV camera (with VCR), video displays (four).

Cargo: 30 cf, plus 10 cf in three secret compartments, 40 cf access space usable in emergency.

Weaponry: 7.62mm GPMG (DR 5, HT 12) with 300 rounds in turret, caltrop discharger (10 loads, from *GURPS Espionage*), oil spray discharger (25 uses, also from *GURPS Espionage*).

Statistics: Cost $145,630, design mass 11,155 lbs., max. payload 4,845 lbs., max. cargo load 1,200 lbs., current payload 500 lbs., loaded mass 11,655 lbs. (5.8 tons), Size Modifier +3 (0 for turret), Radar Signature +3 (0 for turret), IR Signature +5 (+2 for turret), Acoustic Signature +5.

Ground Performance: Ground speed factor 30, top speed 142 mph, acceleration 7.125 mph/s, deceleration 15 mph/s, MR 1, SR 5. Gets 11 miles per gallon.

Water Performance: None.

Air Performance: None.

VW Van (TL 7)

This is a typical, slightly modified and upgraded Volkswagen van — in fact, it's the van shown on page 157 of *GURPS Vehicles*. It may be used as-is in any campaign, but readers should be aware that the improved brakes, roof luggage rack, CB radio, radar detector and external jerrycan are all nonstandard or optional items. A more powerful motor (40 KW) may be installed, but will not improve performance greatly. Most vans are much less gaudy and will not have the full +5 to Vision rolls to spot!

Structure: 300 cf TL 7 light cheap body, maximum load 4,500 lbs. (body HT 300). Powered wheeled motive system with four wheels (DR 2, HT 16/31), improved suspension and brakes.

Propulsion: TL 7 powered wheeled drivetrain rated for 40 KW motive power.

Power: TL 7 gasoline engine with 30 KW output (DR 5, HT 15), uses 0.6 gallons of gasoline per hour; standard fuel tank with 8 gallons of gasoline (DR 5, HT 8, Fire 11), good for 13.3 hours.

Accommodations: Two roomy light seats (front), two normal light seats (a bench), two roomy normal seats (bed in rear). Vision: Many windows.

Crew Requirement: One driver.

Accessories: CB radio, radar detector, roof cargo rack (model as top deck, 50 sf), spare tire (external), 5 gallon jerrycan (DR 5, HT 6, exposed equipment, as TL 6 fuel tank).

Cargo: 41 cf internal.

Armor: 24 points TL 7 standard armor. F3/5, B3/5, R3/5, L3/5, T2/3, U1/1.

Statistics: Cost $7,605, design mass 2,583 lbs., max. payload 1,918 lbs., current payload 400 lbs, loaded mass 2,982 (1.5 tons), Size Modifier +3 (additional +2 for bizarre colorful appearance), Radar Signature +3, IR Signature +4, Acoustic Signature +3.

Ground Performance: Ground speed factor 30, top speed 75 mph, acceleration 3.75 mph/s, deceleration 15 mph/s, MR 1, SR 4. Gets 36 mpg.
Water Performance: None.
Air Performance: None.

Common variants:

Raised Roof: 60 cf cheap superstructure ($150, 150 lbs); this adds more access space.
Larger Engine: TL 7 gasoline engine with 40 KW output (DR 5, HT 15), uses 0.8 gallons of gasoline per hour (cost increases by $300, weight by 50 lbs, uses another 1 cf); endurance becomes 10 hours with 8 gallon tank.
Galley: Replace bench seat (2 normal light seats, $100, 50 lbs., 60 cf) with a galley ($1000, 200 lbs., 20 cf).
Internal Spare Tire: Move spare tire from "external equipment" list and stow as cargo.

Dysonian Arms Thunderclap Mark IV.B (TL 8)

This state-of-the-art design presents the next generation of civil defense and police weapons systems. The Mark IV.B is an anthropomorphic fighting machine that the pilot wears as a suit of armor. But this is much more than your standard powered combat armor. The Mark IV carries a 25 mm electrothermal hypercannon in one arm, and mounts six ladar-guided rockets mounted over her "shoulder." Standard issue is a "mecha-rifle" in the form of a 10 mm chaingun and 600 rounds of ammo. Packed with electronics, this weapon system is adaptable to all types of missions. She is lightly armored for a battlefield weapons system. However, she is more than adequately protected from street-fire weapons with the latest cerametal laminate.

A hardpoint is mounted on her back, to allow for carrying various weapons and equipment pods as missions dictate. A common pod for the Mark IV, for earth-side missions, is a high performance variable bypass turbojet which serves as jump jets. When triggered, the Mark IV can make leaps almost 100 yards long and 50 yards high.

Structure: 31 cf extra-heavy advanced body, maximum load 2,790 lbs (body HT 180). Walker motive system, with two legs (PD 6, DR 75, HT 90 per leg), sealed body, 3 cf limited traverse, expensive mini-turret (facing right-forward, 225 degree arc of fire, HT 12), 30 degree front slope on body, improved suspension, advanced controls.
Propulsion: 150 KW walker drivetrain.
Power: 160 KWH MHD turbine (armored, DR 15, HT 20), 200 KWH energy bank (DR 5, HT 2), self-sealing 19-gallon fuel tank (DR 5, HT 50) provides power for 6.3 hours. The battlesuit can continue to function for 1.3 hours on battery power.
Accommodations: Worn as a battlesuit (armored, DR 15). Vision: No windows.
Crew Requirement: One operator (Battlesuit skill).
Armor: 600 points advanced laminate armor, combined with slope front. F6/150L, B6/75L, R6/125L, L6/125L, T6/100L, U6/75L. Mini-Turret: PD 6, DR 100L.
Weaponry: 25 mm Electrothermal Cannon (DR 5, HT 12) with 30 rounds of APFSDSDU ammo in left arm. The hypercannon's rounds are optical homing Cannon-Launched Guided Projectiles. The mini-turret houses two linked 40 mm rocket launchers with 6 40 mm rockets (2 active homing, 2 IR homing, 2 optical homing). Mecha Rifle: 10 mm Caseless Chaingun with 600 APS ammo (DR 5, HT 15 exposed equipment), in cheap pod (HT 15).
Accessories: Chameleon system, genius-midget targeting computer (DR 2, HT 2, C 3, electronics), high-security alarm, improved IR cloaking, improved sound baffling, HUDWAC with pupil scanner, laser sensors, limited life support (.5 man-days), LLTV with virtual panorama, military IFF, mini-ladar with rangefinder (DR 3, HT 2, electronics, scan 16, range 3 miles), NBC kit, neural interface socket, radar detector/locator, secure tactical radio, short range thermograph (DR 3, HT 2, electronics, scan 16, range 1.5 miles), one heavy mecha "half-arm" (ST 118, PD 6, DR 62, HT 60, exposed equipment), one heavy mecha arm (ST 118, PD 6, DR 62, HT 60, exposed equipment). Programs: Targeting (hypercannon), complexity 3 version, +4 to hit; targeting (machine gun), complexity 2 version, +3 to hit; targeting (rocket launcher), complexity 2 version, +3 to hit; CIWS (machine gun), complexity 2 version, skill 9.
Jump Jet Engine Pod: a HPVP turbojet (DR 5, HT 23) producing 1,750 lbs. of thrust, a 7 gallon self-sealing fuel tank (DR 5, HT 12) can be attached to the battlesuit's hardpoint. This pod is armored with 200 points of cerametal laminate (F5/35L, B5/30L, R5/35L, L5/35L, T5/30L, U5/35L), mass 412 lbs, volume 7.3 cu. ft., cost $177,178.
Statistics: Cost $320,845, design mass 2,135 lbs. (2,547 with jump jets), max. payload 655 lbs. (243 with jump jets), max. hardpoint load 420 lbs., current payload 250 lbs., loaded mass 2385 lbs. (1.2 tons) (2792 lbs. [1.39 tons] with jump jets), Size Modifier +1 (-1 turret), Radar Signature -3 (-5 for turret), IR Signature -5 (-7 for turret, -1 if using jump jets), Acoustic Signature -3 (+1 if using jump jets).
Ground Performance, Stock: Top speed 40 mph, acceleration 7.5 mph/s, deceleration 25 mph/s, MR 2.50; SR 3.
Ground Performance, Jump Jets: Top speed 38 mph,

acceleration 7 mph/s, deceleration 25 mph/s, MR 2.50; SR 3.

Water Performance: None.

Air Performance: Jumping statistics with jets (horizontal/vertical distance traveled in yards):

Takeoff	10 mph	20 mph	30 mph	38 mph
45 degrees	6.5/3	30/13	58/29	94/47
Landing control roll modifier	+7	+4	+1	-2

Kubota Hercules Heavy Walking Loader (TL 8)

New from Kubota Tractors, the Hercules Walking Loader. Using an enhanced military battlesuit skeleton as a framework this loader is superior to any forklift in production today. As a walker it is more maneuverable and easier to control than a forklift. Its patented hands also provide a more versatile lifting system than a forklift. No longer are special palettes and crates needed. The Hercules also has a custom computer that will allow it execute simple voice commands, and with the built in radio these commands can be sent from a remote location. This remote command feature makes the Hercules perfect for use in high radiation and toxic locations. All of these features for an affordable price; only from Kubota.

Structure: 28 cubic foot extra-heavy standard body, max. load 2,520 lbs. (body HT 180). Walker motive system with two legs (PD 0, DR 0, HT 90) with improved suspension.

Propulsion: 10 KW Leg Drive Train.

Power: 40 KWH rechargeable cell (DR 5, HT 4).

Accommodations: Battlesuit seat.

Crew Requirement: 1 operator.

Armor: None. Built as an open structure to conserve on cost and weight. *Accessories:* Crashweb, 2 high-strength, heavy mecha arms (DR 0, HT 90, ST 168), anti-collision radar, midget computer (DR 3, HT 2, electronics, C 2), CB radio. Software: Routine vehicle operation.

Weaponry: None.

Cargo: : 2 cf., usually used for a tool box, air tank (in a vacuum), or a lunchbox.

Statistics: Cost $45,200, design mass 495 lbs., max. payload 2025 lbs., max. cargo 180 lbs., current payload 2,025 lbs., loaded mass 2,520, (2.25 tons), Size Modifier +1, Radar Signature +1, IR Signature +1, Acoustic Signature +3 (+2 is a special effect from noisy drive train).

Ground Performance: Ground speed factor 8, top speed 12 mph, acceleration 2.25 mph/s, deceleration 25 mph/s, MR 2.25, SR 2.

Water Performance: None.

Air Performance: None.

Lotus Experience 2017 (TL 8)

This is a high performance sports car for people with simply too much money. It uses a prototype computer with a personality simulator. The computer also link to a GPS and a 1 gig map database to provide navigational assistance to the user. Destination can be programed into the computer using voice commands and the prototype software can take the car there without assistance from the owner.

The vehicle also has anti-collision radar and armor protection for the dangerous streets of 2017.

Structure: 138 cf advanced light body, max. load 3,450 lbs. (body HT 175). Powered wheeled motive system with 4 wheels (DR 2, HT 11/22 per wheel), good streamlining, improved brakes, improved suspension, smart wheels.

Propulsion: TL 8 300 KW power wheeled drive train.

Power: 300 KW hydrogen combustion engine (DR 5, HT 15), uses 12 gallons of hydrogen per hour; 48 gallon self sealing fuel tank (Dr 5, HT 25, Fire 11) good for 4 hours driving time.

Accommodations: Two roomy seats with luxury fittings. Vision: Many windows.

Crew Requirement: One driver.

Accessories: Crashwebs on both seats, environmental control, headlights, safety belts, high security alarm (skill 20), cellular phone, anti-collision radar, global positioning system, low light TV, genius minicomputer (DR 3, HT 4, electronics, C 4). Computer programs: software personality(comp. 4), routine vehicle operation (C 2, skill 12), 2 gig database (C 2), datalink (C 1).

Cargo: 2.7 cf internal cargo.

Armor: : 60 points expensive armor. F4/15, L4/13, R4/13, B4/10, T3/5, U3/4. *Statistics:* Cost $218,640, design mass 1,250 lbs., max. payload 2200 lbs., max. cargo load 68 lbs., current payload 468 lbs., loaded mass 1,718 lbs., Size Modifier +2, Radar Signature +2, IR Signature +4, Acoustic Signature +1.

Ground Performance: Ground speed factor 36, top speed 234 mph, acceleration 9.75 mph/s, deceleration 15 mph/s, MR 4.5, SR 6. Gets 19.5 miles per gallon of hydrogen.

Water Performance: None.

Air Performance: None.

Sports Coupe (TL 8)

Copyright ©1994 by Josh Kortbein
(kortbein@pelops.scl.ameslab.gov)

This fantastic new model from the speed demons over at Ford will set your heart a flutter. Built completely for speed, with the latest in laser gun detectors, this machine is the perfect way for you to express your inner child; just watch out for roadkill – bumps at 200 MPH can be hell!

Structure: 120 cf extra-light advanced body (body HT 75), maximum load 1,800 lbs. Powered wheeled motive system with 4 wheels (DR 2, HT 5/9), tires have improved brakes, improved suspension, smartwheels, fair aerodynamic streamlining.

Propulsion: 125 KW wheeled drivetrain.

Power: MHD turbine with 150 KW output (DR 5, HT 20), requires 3 gallons of HO per hour which is provided by 30 gallon HO fuel tank (DR 5, HT 18, Fire 10).

Accommodations: 2 light normal internal seats.

Crew Requirement: One operator.

Armor: 30 points of advanced TL 8 armor. F3/5, B3/5, R3/5, L3/5, T3/5, U3/5.

Accessories: Driver's side crashweb, high security alarm, environmental controls, laser sensors.

Weaponry: Optional. See the guy in the back for details.

Statistics: Cost $46,850, design mass 870 lbs., current payload 300 (enough for two robust humanoids), loaded mass 1,170, loaded mass in tons .585, Size Modifier +2, Radar Signature +2, IR Signature +2. Acoustic Signature +2 (0 when powered down).

Ground Performance: Top speed 195.5, acceleration 8.625, deceleration 15, MR 1.5, SR 6, endurance 10 hours.

Water Performance: None.

Air Performance: None.

Exploration Suit (TL 10)

Copyright ©1994 by Onno Meyer
(Onno.Meyer@arbi.informatik.uni-oldenburg.de)

This suit is the first part of the TL 10 scout kit (other parts are Modular Hovercraft on p. 10, Scout Walker on p. 12, First-In Scoutship on p. 19, Modular Seaplane on p. 20, Survey Scoutship on p. 20 and Scout Tiltrotor Aircraft on p. 21). The suit would be used by scouts who want to explore hazardous areas. It is not a military suit, but it is tough.

Structure: 20 cf advanced extra-heavy body (body HT 150), max. load 0.9 tons, sealed body. Walker motive system with two legs (DR 150, HT 75), submersible hull with fine lines.

Propulsion: 20 KW drivetrain and 20 KW screw.

Power: 373 KWH rechargeable cell (DR 5, HT 4) for 18.5 hours.

Accommodations: Battlesuit seat, no windows.

Crew Requirement: Driver (Battlesuit skill).

Accessories: 48 hours life support, radiation shielding, short range hydrophones (DR 3, HT 4, 16 miles, scan 20, electronics), short range thermograph (DR 3, HT 2, electronics, 2.5 miles, scan 20), cheap mini-xadar (DR 3, HT 2, electronics, 8 miles, scan 19), short range multiscanner (DR 3, HT 2, electronics, 3,750 yds, scan 16), ALLTV (+7), virtual panorama, midgetcomp (DR 3, HT 2, C 4), two heavy arms (DR 150, HT 75, ST 72 each), secure CB radio, commercial transponder, spotlight. Software: Comp nav, datalink, sensor op (skill 15), routine vehicle op (skill 14).

Armor: 1,234 points expensive armor. F6/184, B6/150, R6/300, L6/300, T6/150, U6/150.

Statistics: Cost $80,000, design mass 1,015 lbs., max. payload 785 lbs., current load 100 lbs., loaded mass 0.55 tons, Size Modifier +1, Radar Signature +1, IR Signature +1, Acoustic Signature 0 (+1 in water).

Ground Performance: Ground speed factor 10, top speed 30 mph, acceleration 4.5 mph/s, deceleration 25 mph/s, MR 3.5, SR 2.

Water Performance: Water speed factor 10, top speed 30 mph, acceleration 1.5 mph/s, deceleration 10 mph/s, MR 0.75, SR 3, max. depth 750 yards, draft 1.6 ft.

Air Performance: None.

Modular Hovercraft (TL 10)

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This hovercraft is the second part of the TL 10 scout kit. It is used for fast transportation over water/swamp areas, but it is unable to cope with extreme alien environments.

Structure: 75 cf standard heavy body (body HT 250), max. load 2.25 tons, sealed body. Hovercraft lift (DR 6, HT 125) and vertical stabilizers, flotation hull. *Propulsion:* 100 KW airscrew.

Power: 800 KWH rechargeable cell (DR 5, HT 6) for eight hours operating time.

Accommodations: Two open seats.

Crew Requirement: 1 Driver.

Accessories: Virtual panorama for two HUD users, ragtop, modular design (four units), anti-collision radar, two multiband radios, commercial transponder, searchlight (HT

8).

Cargo: 20 cf and 3.93 cf wasted space.

Armor: 60 points standard armor. F4/10, B4/10, L4/10, R4/10, T4/8, U4/12.

Statistics: Cost: $30,000, design mass 0.4 tons, max. payload 3,700 lbs., max. cargo 0.6 tons, current load 0.1 tons, loaded mass 0.5 tons, Size Modifier +2, Radar Signature +3, IR Signature +2, Acoustic Signature +4.

Ground Performance: None.

Water Performance: None.

Air Performance: Speed factor 28, top speed 147 mph, acceleration 10.5 mph/s, deceleration 10 mph/s, MR 1.25, SR 3, ceiling 63 inches.

Olympian Battlesystems, Ares Medium Assault Mecha (TL 10)

Wrapped in fifty-six tons of the finest armor and driven by a fusion engine, the secret to whose design has been lost for decades; this weapon system presents a picture of the mainstay of the Imperial forces.

With the loss of critical technology necessary to produce these man-o-war's, their value — either intact or in pieces — has skyrocketed. This also explains some of the reason for her seemingly redundant systems. The Imperium no longer has the technology to produce things like neutrino communicators, complex computers or guided missiles, and is therefore forced to replace them with unguided rocket pods, radar, and radio. Or canabalize them from damaged or disabled Mech's. In all likelihood her Xaser cannons and railguns were canibalized from some other weapons system. The technology for the production of the nanocrys and bioplas armor has also been lost, forcing the Imperium to rely on ceramic ablative blocks as its mainline defense, although the Imperium armorers have been able to successfully layer the ceramic beneath what little nanocrys they can find, to provide a twofold defense which seems to work well on the battlefield.

Despite its seemingly hodgepodge construction, the Ares presents an imposing force on the battlefield, standing over sixty feet tall, and in possession of a small arsenal.

Structure: 1,250 cf extra-heavy expensive body, maximum load 112,500 lbs. (body HT 2400). Walker motive system with 2 legs (PD 6, DR 558L/3313AL, HT 1,200). Sealed body, 30 degree front slope, 30 degree top slope, improved suspension, advanced controls.

Propulsion: 16,593 KW walker drivetrain.

Power: Large fusion power plant with 23,763 KW output. Rechargeable 8,320 KWH energy bank (DR 5, HT 75). Fusion plant recharges energy bank at 2 KWH/second while moving or 6.6 KWH/second while idle.

Accommodations: : One normal womb seat, with ejection seat option. Vision: No windows. (Use vehicle sensors and a neural interface).

Crew Requirement: One operator (Vehicle Operation (Mecha)).

Armor: Two Layers. External Layer: 3,530 pts. advanced laminate, internal layer: 19,875 pts. expensive ablative laminate. All sides have PD 6, F8,82L/4,968AL, B5,58L/3,313AL, R589L/3,313AL, L589L/3,313AL, T882L /4,968AL, U588L/3,312AL.

Weaponry: Right Arm: 50 mm railgun (DR 5, HT 150) with 50 rounds APSSDU and 10 micronukes, medium Xasercan (DR 5, HT 100). Left Arm: 50 mm railgun (DR 5, HT 150) with 50 rounds APSSDU and 10 micronukes, medium Xasercan (DR 5, HT 100). Main Torso: Two heavy gauss miniguns (DR 5 HT 25) with 5000 rounds each. 12 TL 8 70 mm rocket tubes linked in two blocks of six rockets. (DR 5, HT 8 each) w/ 72 rockets (various types). All weapons of the same type are linked, all weapons in the same arm are linked, and one link connects *all* weapons.

Accessories: Human spectrum array sensors (+5 Awareness), ALLTV, radar detector/locator, laser sensors, long range thermograph (DR 3, HT 10, electronics, scan 24, range 15 miles), long range xadar with rangefinder (DR 3, HT 20, scan 26, range 120 miles), virtual panorama (for neural link), heavy radar jammer (DR 3, HT 25, rating 14), IR missile jammer (DR 3, HT 10), partial stealth, improved IR cloaking, improved sound baffling, neural interface system, inertial navigation system (DR 3, HT 3), high security burglar alarm (skill 20), 20 dischargers (various), compact fire extinguisher, limited life system (two mandays), NBC kit, tactical radio with secure link (DR 3, HT 4, range 5,000 miles), EM communicator, neutrino communicator (DR 3, HT 3, range 10,000 miles), weapons links (9), sentient genius enhanced optical microframe computer (DR 3, HT 12, electronics, C 7) Programs: 1 terra-byte database, tactical, datalink, sensor operation (C 6 version, +8, skill 19), expert systems: electronics operations (skill 13), expert systems: meteorology (skill 13), expert systems: navigation (skill 12), gunner x8 (C 6 versions, +6 Skill 16), melee (C 6 version, skill 16), tactical vehicle operations (C 5 version, skill 17), targeting x8, optical recognition (C 4 version), damage control (C 5 version, +5, Skill 15), environmental analysis (+4, Skill 14), personality simulation (C 6 version).

Statistics: Cost $16,150,105, design mass 110,379 (55.2 tons), max. payload 2,124 lbs. (1.1 tons), max. cargo load 2,124 lbs (1.1 tons), current payload 200 lbs., loaded mass: 110,576 lbs. (55.3 tons), Size Modifier +5, Radar Signature

-1, IR Signature 0, Acoustic Signature +2.

Ground Performance: Top speed 78 MPH, acceleration 9.5 MPH/s, deceleration 25 MPH/s, MR 3.25, SR 4. Endurance: 200 years. If fusion plant is disabled, the mech can continue for 30 minutes on a full battery charge.

Water Performance: None.

Air Performance: None.

Scout Walker (TL 10)

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The walker is the third part of the TL 10 scout kit. It is designed as light all-terrain vehicle, comparable it its purpose to a jeep, but useful on other worlds, too.

Structure: 250 cf standard heavy body (body HT 500), max. load 7.5 tons, sealed body. Walker motive system with six retractable legs, improved suspension (DR 16, HT 83 each), submersible hull (flotation 6.875 tons).

Propulsion: 400 KW leg drivetrain and 400 KW screw.

Power: 400 KW "small" fusion plant (DR 5, HT 15).

Accommodations: Four cramped seats. Vision: Slits.

Accessories: Two crashwebs (front seats), high-security alarm (skill 20), compact fire extinguisher, 8 man days life support, NBC kit, radiation shielding, short range hydrophones (DR 3, HT 4, 8 miles, scan 20, electronics), miniladar (DR 3, HT 2, electronics, 12 miles, scan 20), two ALLTV (+7), midget computer (DR 3, HT 2, C 4), two light mecha arms (DR 50, HT 167, exposed equipment, ST 375), neural induction helmet and jack, secure tactical radio, cb radio, two commercial transponders, three IR spotlights (DR 5, HT 2 each, exposed equipment), winch (DR 5, HT 15, equipment). Software: Comp nav, datalink, sensor op (skill 15), routine vehicle op (skill 14).

Cargo: 30 cf (and 6.4 cf access space).

Armor: 400 points cheap, F6/50, B6/50, R6/100, L6/100, T6/50, U6/50.

Statistics: Cost $215,000, design mass 3 tons, max. payload 4.5 tons, max. cargo 0.9 tons, current load 1 ton, loaded mass 4 tons, Size Modifier +3, Radar Signature +3, IR Signature +5, Acoustic Signature +2.

Ground Performance: Speed factor 18, top speed 81 mph, acceleration 6.75 mph/s, deceleration 25 mph/s, MR 1.75, SR 5.

Water Performance, Surface: Speed factor 8, top speed 36 mph, acceleration 2.25 mph, deceleration 12.25 mph, MR 0.75, SR 4, draft 3.2 feet.

Water Performance, Submerged: Speed factor 4, top speed 18 mph, max. depth 250 yards, diving at 1.125 yards/second.

Air Performance: None.

Exploration Suit (TL 11)

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(Onno.Meyer@arbi.informatik.uni-oldenburg.de)

This suit is part one of the TL 11 scout kit (other parts are Airbike Mk. II on p. 21, First-In Scout Ship Mk. II on p. 22, Submarine Vertol on p. 23, and Survey Cruiser on p. 23). I used the errata file for this design.

The suit is designed only for scientific purposes (no guns) and it should be painted in a nice, friendly high-visibility orange. Of course, it is rated for a depth of 900 yards, that makes the suit useful if there is trouble.

Structure: 20 cf expensive extra-heavy body (body HT 150), max. load 0.9 tons, sealed body, two legs (DR 180, HT 75), submersible hull (flotation 0.55 tons), vertol lift system.

Propulsion: 20 KW leg drivetrain and 0.6 ton reactionless drive (DR 5, HT 12).

Power: 565 KWH rechargeable cell (DR 5, HT 4) for 27.5 hours (reactionless drains triple).

Accommodations: Battlesuit seat. Vision: No windows.

Crew Requirement: One Driver.

Accessories: 24 hours life support, radiation shielding (PF 10,000), short range hydrophones (DR 3, HT 4, electronics, 32 miles, scan 22), short range thermograph (DR 3, HT 2, electronics, 3 miles, scan 22), mini-xadar (DR 3, HT 2, electronics, 24 miles, scan 22), short range multiscanner (DR 3, HT 2, electronics, 5,000 yds, scan 18), ALLTV (+8), virtual panorama, mini-cam, midgetcomp (DR 3, HT 2, electronics, C 5), two heavy arms (DR 180, HT 75, exposed equipment, ST 72), secure multiband radio, commercial transponder, spotlight (HT 2, exposed equipment). Software: Comp nav, database (own tech readout), datalink, sensor operation (skill 16), ground routine operation (skill 15), water routine operation (skill 15), air routine operation (skill 15).

Waste Space: 0.03 cf.

Armor: 1,500 points expensive armor. F6/240, B6/180, R6/360, L6/360, T6/180, U6/180.

Statistics: : Cost $84,985, design mass 0.5 tons, max. payload 800 lbs., current load 150 lbs., loaded mass 1,150 lbs., Size Modifier +1, Radar Signature +1, IR Signature +1, Acoustic Signature 0.

Ground Performance: Ground speed factor 10, top speed 3.25 mph, acceleration 4.875 mph/s, deceleration 24 mph/s, MR 3.5, SR 2.

Water Performance, Surface: Water speed factor 1, top speed 10 mph, acceleration 5 mph/s, deceleration 12.5 mph/s, MR 0.75, SR 4, draft 1.7 feet.

Water Performance, Submerged: Water speed factor 1, top speed 10 mph, acceleration 5 mph/s, deceleration 12.5 mph/s, MR 0.75, SR 4, maximum submerged depth 900 yards, diving at 2.5 yards/s.

Air Performance: Air speed factor 36, top speed 126, acceleration 7 mph/s, deceleration 10 mph/s, MR 2.5, SR 2, ceiling 3,780 yards.

Manly Battlesuit-type Instrument of Destruction (TL 12)

(kortbein@pelops.scl.ameslab.gov)

This 'suit is the futuristic infantryman's dream come true, with armor enough for a small tank, and weapons powerful enough to scare off any pesky natives that might dare to venture near. It has a pseudo-head (a head-shaped thing where a turret should be on an average 'suit), two arms, and two legs. The fusion rifle listed under the armament section is from *GURPS Ultra-Tech*; it is used in conjunction with the caseless gatling, which is fortunate since the gatling runs out of ammo in five seconds at full fire!

No guarantees are made as to the effectiveness of this battlesuit or to the correctness of its statistics; after all, it *is* only my second try at building a vehicle!

Structure: 35 cf medium advanced body, maximum load 1,400 lbs. (body HT 113). Walker motive system with two legs (PD 6, DR 75, HT 56 per leg), sealed body, improved suspension, advanced controls, responsive hull, vertol lift system.

Propulsion: 88 KW walker drivetrain.

Power: Cold fusion power plant with 500 KW output (DR 5, HT 8), powers suit for 2 years unless something terrible happens.

Accommodations: Worn as battlesuit, due to suit size the wearer's extremities are partially to completely in suit's extremities.

Crew Requirement: One operator.

Armor: 750 points of advanced TL 12 armor. F8/6/150, B8/6/150, R8/6/150, L8/6/150, T8/6/150, U8/6/150, LL8/6/150, RL8/6/150, RA8/6/150, LA8/6/150. The first numbers are Deflection Shield PD, the second and third are normal armor PD and DR, respectively.

Accessories: Ghost surface, deflection shields (.75 KWH per second), grav compensators (.25 KW power req.), improved IR cloaking, limited lifesystem (1 man-day), NBC kit, radiation shielding (PF 10,000), sound baffling, short range thermograph (DR 3, HT 2, scan 24), virtual panorama (requires neural interface), HUDWAC with pupil scanner (normally projects using neural interface), 2 heavy mecha arms (2 arms, DR 150, HT 56, exposed equipment, ST 93 per arm, HT 56 per arm), neural induction field (DR 3, HT 10, electronics), neutrino communicator, extra D cell.

Weaponry: Monowire claws on both mecha arms, LT missile launcher (DR 5, HT 10, exposed equipment) with SREM on back, 20 mm Caseless Gatling (DR 5, HT 25) with 500 rounds of HEDP on right mecha arm, fusion rifle with D cell in left hip holster.

Statistics: Cost $570,160, design mass 1,276 lbs., max. payload 123 lbs., current payload 120 lbs., loaded mass 1,391 lbs., loaded mass in tons .6955 tons, Size Modifier +1, Radar Signature +1, IR Signature -8, Acoustic Signature -8.

Ground Performance: Ground speed factor 12, top ground speed 60 mph, acceleration 7.5 mph/s, deceleration 25 mph/s, MR 4.5, SR 3.

Water Performance: None.

Air Performance: None.

Chapter 3

Water Vehicles

Birchbark or Skin Canoe (TL 0)

This is a small, two-man canoe made from animal skins or bark stretched over a light wooden frame. This vehicle would be typical of the birchbark canoes built by the Iroquois in New England. These stats could also be used for the dugout canoes used by several primitive peoples.

Structure: 99 cf extra-light standard body (wooden), maximum load 1,485 lbs. (body HT 75). Flotation hull with fine lines (flotation 4,950 lbs. reduce to max. load of 1,485).

Propulsion: Paddles for two paddlers (generates .5 KW of motive power). *Accommodations:* Three cramped open seats.

Crew Requirement: One paddler required, two are normal, three can be used in a pinch.

Accessories: None.

Cargo: 59 cf.

Armor: 5 points of cheap flammable armor. F1/1F, B1/1F, R1/1F, L1/1F, U1/1F, T0/0.

Statistics: Cost $852 (adjusted to $11.50), design mass 558 lbs., max. payload 927 lbs., max. cargo load 885 lbs., current payload 400 lbs. (with 2 people, 200 lbs. with 1), loaded mass 958 (with 2 people, 758 with 1 person) (.479 tons, .379 tons), Size Modifier +2, Radar Signature +2, IR Signature +2, Acoustic Signature +1.

Ground Performance: None.

Water Performance: Water speed factor 18, with 2 paddlers top speed is 18 mph. (13.5 with 1 paddler), acceleration .5 mph/s (or .38 mph/s with one paddler), deceleration 10 mph/s, MR .25, SR 1, draft 4 inches.

Air Performance: None.

Torpedoboat (TL 5)

This is the adaptation of a German torpedo boat from 1887. I had only displacement, engine power, speed, length, crew and the picture of a boat from that generation; the remainder is "made up." The lack of a superstructure and a gun is intentional — the picture showed none.

My source was the Brockhaus' Konversations-Lexikon, 14th ed., 1896.

Structure: 4,500 cf heavy advanced body (body HT 4,000). Flotation hull, poor lines (flotation 112.5 tons), 300 square foot top deck.

Propulsion: 750 KW screw propeller (DR 5, HT 400).

Power: 750 KW triple-expansion engine (DR 5, HT 500) consuming 1,125 lbs. of coal per hour. A load of 26,000 lbs. of coal gives 23 hours endurance with 460 miles range.

Accommodations: Seven cramped quarters (for 14 crew in two shifts).

Crew Requirement: One *Seeoffizier* (naval officer), one *Maschinisten* (mechanic), two *Bootsmannsmaaten* (boatswain's mates), three /it Maschinistenmaaten (mechanics mates), four *Matrosen* (able seamen), and three *Heizer* (stokers).

Accessories: Bilge pump, navigation instruments (HT 6), provisions for 1 month and 15 persons, mechanic's workshop (DR 5, HT 200, equipment).

Weaponry: Two fixed torpedo tubes (front, HT 125 each) and one tube in an open mount (back, HT 125, size modifier +2), eight torpedoes. *Armor:* 60 pts. expensive armor. F4/12, B4/8, R4/10, L4/10, T4/12, U4/8.

Cargo: 100 cf (and 166 cf access space).

Statistics: Cost $643,950 (adjusted for inflation to $32,197.5), design mass 175,290 lbs., max. payload = current load 27,210 lbs., max. cargo 2 tons, loaded mass 101.25 tons, Size Modifier +6, Radar Signature +6, IR Signature +8, Acoustic Signature +4.

Ground Performance: None.

Water Performance: Water speed factor 10 mph, top speed 20 mph, acceleration 1 mph/s, deceleration 11 mph/s, MR 0.5, SR 6, draft 8.5 feet.
Air Performance: None.

Cargo Ship (TL 6)

A medium cargo ship, typical of the types plying the seas and making ports of call around the world. It has some extra cabins to carry some paying passengers. Although unarmed, it is likely to carry several long arms and side arms in a weapons locker that only the captain and first officer have access to. The basic performance is given for lightly loaded (under 750,000 lbs. of payload) and heavily loaded (up to 2,500,000 lbs. of payload).

Structure: 200,000 cf light cheap body, maximum load 5,000,000 lbs. (body HT 25,000). Flotation hull, mediocre hydrodynamics (flotation 9 Mlb. reduced to 5 Mlb.), 5,649 cf standard superstructure, 4,100 sqft of top deck.
Propulsion: TL 6 screw propellers (HT 2,500) with 8,000 KW motive power.
Power: 2 TL 6 diesel engines with 4000 KW output each, uses 200 gallons per hour diesel fuel (DR 5, HT 800 each), standard gasoline tank with 35,000 gallons of diesel fuel (DR 5, HT 2000, Fire 9) good for 175 hours or 7 days 11 hours.
Accommodations: 3 roomy quarters (one single captain's cabin, one double passenger cabin, in superstructure), 8 normal quarters (1 double officer's cabin, three double passenger cabins, in superstructure), 25 cramped quarters (crew bunkrooms, in hull).
Crew Requirement: 3 officers and 25 crew.
Accessories: In superstructure: Navigation instruments (HT 6), charts, long distance radio (DR 3, HT 4, electronics, range 250 miles), searchlight (HT 10, requires 1 KW, exposed equipment), 1 month provisions for 36 people. In hull: 10 bilge pumps (60 lb water/minute/pump manned), heavy compartmentalization (takes on 1/5 water), anchor (400 yard chain), 50 ton crane (DR 10, HT 300, exposed equipment), two 25 ton cranes (DR 10, HT 150, exposed equipment), fire extinguisher system, mechanic workshop (DR 5, HT 200, equipment).
Cargo: 166,444 cf.
Armor: 110 points standard armor. F4/20, R4/20, L4/20, B4/20, U4/20, T4/10. On superstructure: 50 points standard armor. SF4/10, SR4/10, SL4/10, SB4/10, ST4/10.
Statistics: Cost $2,337,360, design mass 2,427,438 lbs., max. payload 2,572,563 lbs., max. deck load 102,500 lbs., current payload 750,000/ 2,500,000 lbs., loaded mass 3,177,438/4,927,438 lbs. (1,589/2,464 tons), Size Modifier +10, Radar Signature +10, IR Signature +13, Acoustic Signature +5.
Ground Performance: None.
Water Performance: Water speed factor 14, top speed 24.5/21 mph, acceleration 1 mph/s, deceleration 10.5 mph/s, MR .25, SR 7.
Air Performance: None.

Submarine (TL 6)

This submarine is modeled after the US Guppy class submarines employed during WWII. It should be typical of the submarines used both by the German (WWI and II) and US navies. The British did not have many subs and the Japanese used mini-subs almost exclusively. The sub runs on the surface most of the time, submerging only after sighting a target. Standard tactics are to scout out the target for escort ships, torpedo them, then surface and finish off wounded escort ships and civilian craft with the deck gun, which is effectively the vehicle's main weapon. Note that the sub can, at maximum speed, exceed the output of its diesels; draining the batteries even on the surface.

Structure: 60,000 cf of heavy standard body, maximum load 3,600,000 lbs. (body HT 20,000). Sealed body, submersible hull, fine hydrodynamics (flotation 3,300,000 lb), 1,000 cf standard superstructure.
Propulsion: TL 6 screw propellers with 8355 KW motive power (HT 2,000).
Power: 3 TL 6 diesel engines with 2088 KW output each, uses 157 gallons per hour diesel fuel total (DR 5, HT 400 each), standard gasoline tank with 45,000 gallons of diesel fuel (DR 5, HT 2500, Fire 9) good for 287 hours or 11 days 23 hours. 2088 KWH lead-acid batteries (DR 5, HT 1,600). Will power the vehicle submerged at top speed for 15 minutes or surfaced at top speed with all diesel running for 60 minutes.
Accommodations: 8 normal quarters (officers' cabins), 74 cramped quarters (crew bunkrooms).
Crew Requirement: 8 officers and 74 crew.
Accessories: In superstructure: Navigation instruments (HT 6), charts, searchlight (HT 10, requires 1 KW, exposed equipment), periscope with telescopic optics (HT 54 , 27 feet long). In hull: long distance radio (DR 3, HT 4, electronics, range 250 miles), 2 bilge pumps (60 lb water/minute/pump manned), total compartmentalization (takes on 1/10 water), fire extinguisher system, limited life-system (20 man-days), 3 scuttling charges (50 lb. HE bombs for self-destruct), mini-airlock (escape system), anchor (200 yard chain), provisions for 200 man-months, mechanic workshop (DR 5, HT 200, equipment).

Weaponry: 3 in. Naval Gun (DR 5, HT 75) in 360 degree open mount (Crew 2, Size Modifier +1, see [V.1.1]), 200 rounds APX, 50 rounds HE, 10 rounds starshell. 8 torpedo tubes (6 forward, 2 aft, fixed mounts, DR 5, HT 140 each), 24 unguided torpedoes (18 in forward torpedo room, 6 in aft torpedo room, torpedoes can't be moved from one room to the other).

Cargo: 400 cf.

Armor: 480 points standard armor, F6/80, R6/80, L6/80, B6/80, U6/80, T6/80. On superstructure: 400 points standard armor. SF6/80, SR6/80, SL6/80, SB6/80, ST6/80.

Statistics: Cost $6,684,866, design mass 2,993,991 lbs., max. payload 306,009 lbs., max. cargo load 24,000 lbs., current payload 35,000 lbs., loaded mass 3,028,991 lbs. (1,514 tons), Size Modifier +8, Radar Signature +8, IR Signature +11 on surface +8 submerged, Acoustic Signature with diesel running +5 submerged +1.

Ground Performance: None.

Water Performance, Surface: Water speed factor 16, top speed 28 mph (Flank), 24 mph with all diesels running only (Full), 20 mph with two diesels running (2/3), 16 mph with one diesel running (1/3). Submerged: Top speed 17 mph (Flank, 8355 KW/hr), 14.5 mph at full speed (6264 KW/hr), 12 mph at 2/3 speed (4176 KW/hr), 10 mph at 1/3 speed (2088 KW/hr), acceleration 1 mph/s, deceleration 10.5 mph/s, MR .25, SR 6, draft 23 ft.

Water Performance, Submerged: Water speed factor 12, Submerged: Top speed 17 mph (Flank, 8355 KW/hr), 14.5 mph at full speed (6,264 KW/hr), 12 mph at 2/3 speed (4176 KW/hr), 10 mph at 1/3 speed (2,088 KW/hr), acceleration 1 mph/s, deceleration 10.5 mph/s, MR .25, SR 6, maximum dive depth 160 yards, maximum dive/ascend speed 1 yard per second.

Air Performance: None.

Submarine Vertol (TL 11)

(Onno.Meyer@arbi.informatik.uni-oldenburg.de)

This vehicle is listed under Air/Space Vehicles, see page 23.

Chapter 4

Air/Space Vehicles

Biplane (TL 6)

This is a biplane typical of the designs made during the late 20's before the aircraft industry hit hard times. The basic performance assumes 364 lbs. of payload (one pilot and one passenger with some equipment) and 1,864 lbs. of payload (the plane loaded to it's maximum).

Structure: 200 cf light expensive body, maximum load 5,000 lbs. (body HT 125). Fair streamlining, unpowered wheeled motive system, three wheels (DR 2, HT 7/14 per wheel), wings with biplane option (DR 2, HT 125 each).

Propulsion: TL 6 airscrew with 133 KW motive power.

Power: TL 6 HP gasoline engine with 133 KW output, uses 4 gallons per hour aviation gasoline (DR 5, HT 30), standard gasoline tank with 24 gallons of fuel (DR 5, HT 15, Fire 13) good for 6 hours.

Accommodations: Two open normal seats.

Crew Requirement: Pilot.

Accessories: Headlights, dual controls.

Cargo: 100 cf.

Armor: 16 points standard armor. F2/2, B2/2, R2/2, L2/2, T2/2, U2/2, RW2/2, LW2/2.

Statistics: Cost $48,155, design mass 3,136 lbs., max. payload 1,864 lbs., current payload 364/1,864 lbs., loaded mass 3,500/5,000 lbs. (1.75/ 2.5 tons), Size Modifier +3, Radar Signature +4, IR Signature +4, Acoustic Signature (land) +7, Acoustic Signature (air) +5.

Ground Performance: Ground speed factor 22, top speed 52.5 mph, acceleration 6 mph/s, deceleration 10 mph/s, MR .5, SR 2.

Water Performance: None.

Air Performance: Stall speed 52.5 mph, air speed factor 24, top speed 96/90 mph, acceleration 8/7.5 mph/s, deceleration 15 mph/s, MR 1.75, SR 4, ceiling 3,840/3,600 yards.

Seaplane Variant

Remove the wheels and add a 167 cf expensive superstructure (under vehicle) with flotation hull, fine hydrodynamics and catamaran hull (HT 200, flotation 5,010 lbs. reduced to 5,000 lbs). 5 points standard armor SF1/1, SR1/1, SL1/1, SB1/1, SU1/1.

Statistics: Cost $49,261, design mass 3,528.5 lbs, max. payload 1,472 lbs., Current payload 371.5/1471.5 lbs. Acoustic Signature (water) +5.

Ground Performance: None.

Water Performance: Water speed factor 14, top speed 52.5 mph, acceleration 2 mph/s, deceleration 10 mph/s, MR .75, SR 3, draft 2.8 ft.

Air Performance: Air speed factor 18, top speed 72/67.5 mph, acceleration 8/7.5 mph/s, deceleration 15 mph/s, MR 1.75, SR 4, ceiling 2,800/2,700 yards.

Armed Variant

Add 2 .30 aircraft machine guns (DR 5, HT 12, Combined ROF 32), fixed forward mount, 400 rounds, one hardpoint.

Statistics: Cost +$890, design mass +125 lbs, subtract 3 mph from airspeed factor if anything is carried on hardpoint.

Transport Plane (TL 6)

This plane is designed after the amazingly successful DC-3; many of which are still flying today after more than 40 years of service! The basic performance assumes 4,000 lb of payload (3 crew and 12 passengers with some cargo) and 27,025 lb of payload (the plane loaded to its limit).

Structure: 1,750 cf medium expensive body, maximum load 70,000 lbs. (body HT 1,500). Fair streamlining, sealed body, unpowered wheeled motive system, three wheels (DR 2, H 7/14 per wheel), retractable wheels (retract into engine pods), wings with STOL option (DR 5, HT 750 each), 195 cf of engine pods, wing mounted.

Propulsion: TL 6 airscrew with 1790 KW motive power.

Power: 2 TL 6 HP gasoline engines with 895 KW output each, uses 89.5 gallons per hour aviation gasoline (DR 5, HT 150 each), standard gasoline tanks with 1,200 gallons of aviation fuel (4 tanks 300 gallons each, one in each wing, two in fuselage, DR 5, HT 100 each, Fire 13) good for 13.4 hours.

Accommodations: 15 roomy seats.

Crew Requirement: Pilot, Co-pilot/navigator, and Steward(ess)/radio operator.

Accessories: Headlights, dual controls, navigation instruments (HT 6), long distance radio (DR 3, HT 4, electronics, range 250 miles).

Cargo: 191 cf., access space 600 cf.

Armor: 40 points standard armor. F3/5, B3/5, L3/5, R3/5, T3/5, U3/5, LW3/5, RW3/5.

Statistics: Cost $701,800, design mass 45,117 lbs., max. payload 24,882 lbs., current payload 4,000/27,025 lbs., loaded mass 49,117/70,000 lbs. (24.6/35 tons), Size Modifier +5, Radar Signature +6, IR Signature +7, Acoustic Signature (land) +9, Acoustic Signature (air) +6.

Ground Performance: Ground speed factor 22, top speed 52.5 mph [71.5/60.5 mph with One Engine Out OEO], acceleration 6/5.5 mph/s [5/4.5 mph/s OEO], deceleration 10 mph/s, MR .25, SR 3.

Water Performance: None.

Air Performance: Stall speed 52.5 mph, air speed factor 42, top speed 168/147 mph [136.5/115.5 mph OEO], acceleration 8/7 mph/s [6.5/5.5 mph/s OEO], deceleration 15 mph/s, MR 1.25, SR 5, Ceiling 6720/5880 yards [5460/4620 yards OEO].

Military Troop Transport Variant

Remove 12 of the roomy seats, 120 cf access space and the sealed body. Add 30 cramped light seats (benches).

Statistics: Cost $701,100, design mass 45,267.5 lbs.

Performance: As light load above.

Cargo Variant

Remove 9 Roomy seats and 360 cf access space. Add 720 cf cargo space.

Statistics: Cost $699,900, design mass 44,667.5 lbs.

Olympian Systems, Ltd. Artemis Mk. VII Wings (TL 8)

A pair of advanced polymer wings and highly sophisticated control surfaces that transform the wearer into a "bird" under the right conditions. Please note that this vehicle cannot fly under earth-normal conditions, as its loaded weight exceeds maximum load in 1 G. It was designed for Luna (0.16 G, 2 atm). The earth "performanc" specifications are given as a base from which the specifications for other environments can be derived (V151–152).

This is a "top of the line" model. Trainers and more inexpensive models would be made from heavier materials, and would be without some wing options (such as High-Agility Wings, and Combat Stressed Wings), advanced controls, streamlining and possibly even the ornithopter powertrain — making them simple gliders.

Structure: 3 cf extra-light, advanced body, maximum load 45 lbs. (body HT 6). Fair streamlining, high-agility, combat stressed wings with STOL, sailplane and folding wing options. (PD 1, DR 2, HT 3 each).

Propulsion: TL 8 Ornithopter Powertrain with .36 KW motive power.

Power: TL 8 one-man muscle power plant (DR 5, HT 2) produces .2 KW assuming ST 10.

Accessories: Advanced controls.

Accommodations: Backpack vehicle harness.

Crew Requirement: One (Skill: Low-G Flight (P/A)).

Cargo: None.

Armor: 16 points advanced armor. F2/2, B2/2, R2/2, L2/2, T2/2, U2/2, RW2/2, LW2/2.

Statistics: Cost $1,323, design mass 16 lbs., max. payload 28.5 lbs, current payload 150 lbs, loaded mass 166.5 lbs (0.083 tons), Size Modifier +0, Radar Signature +1, IR Signature +0, Acoustic Signature +1. *Ground Performance:* None.

Water Performance: Performance None.

Air Performance, Lunar Conditions: Air speed factor 27.5, top speed 212.5 mph, MR 11.25, SR 2, acceleration 2.5 mph/s, deceleration 15 mph/s, stall speed 1.2 mph, ceiling 61,250 feet.

Air Performance, Earth Conditions: Air speed factor 27.5, top speed 34 mph, MR 11.75, SR 4, acceleration 2.5 mph/s, deceleration 15 mph/s, stall speed 15 mph, ceiling 4,900 feet.

Generic Ornithopter (TL 9)

The most common all-purpose transport used in the known universe is this Ornithopter, based on the 'Thopter from Frank Herbert's *Dune*. The 'thopters can serve in a number of roles, from cargo and troop transports, to spotters and fire support for ground troops.

Highly maneuverable, and equipped with a vertol lift system as well as ornithopter wings, this vehicle can perform V/STOL with little difficulty; landing in places where it is impossible for other vehicles to reach. It is lightly armored, and usually unarmed – although Houses have been known to mount lasguns and rockets on 'thopters. The armor is more a protection against the various elements of hostile planets. It has a pressurized cabin and five man-days limited life support. Its one hardpoint can be equipped with numerous equipment pods for extra cargo capacity, it is quite common to mount an extra fuel tank there – which increases operating endurance to two days.

Structure: 500 cf medium standard body (body HT 600), maximum load 20,000 lbs. Fair aerodynamic streamlining, two retractable skids (HT 200 each), high-agility, combat-stressed, STOL wings (PD 5, DR 25, HT 300 each), vertol flight system.

Propulsion: TL 9 ornithopter drivetrain with 573 KW motive power (HT 30), TL 9 Hyperfan (HT 60) with 12,000 lbs. thrust. Hyperfan uses 120 gallons of hydrox per hour.

Power: TL 9 MHD Turbine with 573 KW output (HT 20), reaction engine (see above), Two TL 9 self-sealing fuel tanks with 125 gallons of hydrox each, they provide 2 hours flying time with reaction engine, 29 hours flying time with ornithopter powertrain, 1.94 hours with both, (DR 5, HT 50, Fire 10).

Accommodations: Five normal, internal G-seats. Vision: Few windows.

Crew Requirement: Pilot and often a co-pilot/navigator to relieve fatigue on long flights.

Accessories: Limited lifesystem with five man-days life support (HT 20), short range radio (with tactical channels), long-distance radio (DR 3, HT 4, electronics), dual controls (HT 20).

Armor: 200 points standard armor. F5/25, B5/25, R5/25, L5/25, T5/25, U5/25, RW5/25, LW5/25.

Cargo: 125 cf.

Statistics: Cost $819,985, design mass 10,754 lbs., max. payload 9,247 lbs., max. cargo load 5,000 lbs., max. hardpoint load 1900 lbs., current payload 500 lbs., loaded mass 11,254 (5.63 tons), Size Modifier +4, Radar Signature +5, IR Signature +2 (+5 using reaction engine), Acoustic Signature +2 (+7 using reaction engine).

Ground Performance: Top ground speed 41.25 mph, acceleration 6.75 mph/s under ornithopter power, 10 mph/s under hyperfan, 16.75 mph/s under both, deceleration 5 mph/s, MR .25, SR 4.

Water Performance: None.

Air Performance, Ornithopter Flight Mode: Stall speed 41.25 mph, top speed 180 mph, acceleration 9 mph, deceleration 15 mph/s, MR 15.25, SR 5.

Air Performance, Jet Flight Mode: Stall speed 45 mph, top speed 640 mph, acceleration 20 mph/s, deceleration 15 mph, MR 15.25, SR 5.

Air Performance, Vertol Flight Mode: Stall speed none, top speed 192 mph, acceleration 8 mph/s, deceleration 10 mph/s, MR 1.5, SR 2.

First-In Scoutship (TL 10)

The "small" ship is the fourth part of the TL 10 scout kit. It is intended for basic mapping missions. If this scoutship finds interesting worlds, a "big" ship (Survey Scoutship on p. 20) would do a detailed survey. The ship has no dedicated hangar, but the scouts will put one big subcraft (Scout Walker on p. 12 or Scout Tiltrotor Aircraft on p. 21), some small craft (Exploration Suit on p. 10, Modular Hovercraft on p. 10, or Modular Seaplane on p. 20) and some probes into the hold.

Please note that some parts (like yet another spare transponder or the next spotlight) were added to get nice statistics (like $20K and 150 lbs.) — they could be left out without problem.

Structure: 3,200 cf expensive extra-light body (body HT 750), max. load 24 tons, good streamlining, sealed body. 3 unpowered retractable wheels with off-road suspension (DR 2, HT 42/83 each), flotation hull, wings (PD 4, DR 20, HT 375), 4 cf full-traverse pop mini-turret, six hardpoints.

Propulsion: Two 16 ton fusion rockets (DR 5, HT 100 each) with 2D vectored thrust, 8 ton reactionless engine (DR 5, HT 75), hyperdrive (DR 5, HT 75). Fusion rockets use 544 gallons of water per hour.

Power: 8.1 MW fusion plant (DR 5, HT 75) and 2.4 MWH (DR 5, HT 12) rechargeable cell. One self-sealing TL 10 fuel tank (DR 5, HT 125) holding 544 gallons of water, provides 1 hour flying time with the fusion rockets.

Accommodations: Three cramped quarters and three roomy seats. Vision: Few armored windows.

Accessories: Compact fire extinguisher, basic IR cloaking, full life-support for eight persons, radiation shielding (PF 1,000), partial stealth, medium thermograph (DR 3, HT 4, electronics, 5 miles, scan 22), short range xadar (DR 3, HT 4, electronics, 28 miles, scan 22), mini-ladar (DR 3, HT 2, electronics, 12 miles, scan 10), short range multiscanner (DR 3, HT 2, electronics, 3,750 yds., scan 16), ALLTV (+7), mini-airlock, recon camera (DR 3, HT 7, electronics), cargo ramp, minicomputer (DR 3, HT 4, electronics, C 5), two optical midget computers (DR 3, HT 2 each, electronics, C 4), secure long-distance radio (DR 3, HT 4, electronics), two secure tac radios, three IFF, searchlight (HT 8), three IR spotlights (HT 8 each), terrain-following radar, EM comm. Software: Auto op (IQ 10), comp nav, datalink, sensor op (skill 15), gunner (skill 14), tac op (skill 15), targeting, accounting, 8 GB known worlds, 4.55 GB books (textbooks and several thousand novels), environmental analysis, interpreter + 16 GB languages, word processor.

Weaponry: Assault C-PAWS (DR 5, HT 12) or assault xaser (DR 5, HT 10, add $2000 and subtract 20 lbs.) with autostabilizer in the turret.

Armor: 160 points advanced armor. F4/20, B4/20, R4/20, L4/20, T4/20, U4/20, RW4/20, LW4/20.

Cargo: 800 cf (and 120.7 cf waste and access space).

Statistics: Cost $2,970,000, design mass 16 tons, max. payload 8 tons, max. cargo load 6 tons, current payload 4 tons, loaded mass 20 tons, Size Modifier +6 (-1 turret), Radar Signature +1 (-6 for turret), IR Signature +9 (+2 for turret), Acoustic Signature +6.

Ground Performance: Ground speed factor 24, top speed 40 mph, acceleration 10.5 mph/s, deceleration 10 mph/s, MR 0.25, SR 4.

Water Performance: Water speed factor 8, top speed 80 mph, acceleration 5.25 mph/s, deceleration 10 mph/s, MR 0.5, SR 5, draught 5.4 ft.

Air Performance: Air speed factor 80, stall speed 40 mph, top speed 840 mph, acceleration 21 mph/s, deceleration 15 mph/s, MR 8.25, SR 6, ceiling unlimited.

Modular Seaplane (TL 10)

(Onno.Meyer@arbi.informatik.uni-oldenburg.de)

This plane is the fifth part of the TL 10 scout kit. For a scout craft it is rather flimsy, but it can fly :-).

Structure: 10 cf advanced extra-heavy body (body HT 90), max. load 900 lbs., sealed body. 3 unpowered retractable wheels with off-road suspension (DR 2, HT 8/15 each), catamaran hull with average hydrodynamics, folding STOL wings (DR 10, HT 45).

Propulsion: 40 KW ducted fan.

Power: 400 KWH rechargeable cell (DR 5, HT 4).

Accommodations: Two external seats.

Crew Requirement: One pilot.

Accessories: Cheap passive IR (1.5 miles, scan 17), dumb midget comp (DR 3, HT 2, electronics, C 3), modular design (three units), two multi-band radios, two commercial transponders. Software: Comp nav, database (own tech manual), datalink.

Cargo: 3 cf and 0.75 cf wasted space.

Armor: 80 points advanced armor. F4/10, B4/10, L 4/10, R 4/10, T 4/10, U4/10, LW4/10, RW4/10.

Statistics: Cost $20,000, design mass 150 lbs., max. payload 750 lbs., max. cargo 270 lbs., current load 450 lbs., loaded mass 0.3 tons, Size Modifier 0, Radar Signature +1, IR Signature 0, Acoustic Signature +1.

Ground Performance: Ground speed factor 20, top speed 35 mph, acceleration 7.5 mph/s, deceleration 10 mph/s, MR 0.5, SR 3.

Water Performance: Water speed factor 10, top speed 35 mph, acceleration 2.5 mph/s, deceleration 10 mph/s, MR 0.75, SR 3, draft 1.3 feet.

Air Performance: Air speed factor 27, stall speed 35 mph, top speed 135 mph, acceleration 10 mph/s, deceleration 15 mph/s, MR 7.5, SR 5, ceiling 5,400 yards.

Survey Scoutship (TL 10)

(Onno.Meyer@arbi.informatik.uni-oldenburg.de)

This ship is the sixth part of the TL 10 scout kit. This "big" ship is a more capable and more expensive starship. It will be used to take a more detailed look at promising places. Again, there is no dedicated hangar but the scouts will put one big subcraft (Scout Walker on p. 12 or Scout Tiltrotor Aircraft on p. 21), some small craft (Exploration Suit on p. 10, Modular Hovercraft on p. 10 or Modular Seaplane on p. 20) and some probes into the hold (two big ones would barely fit).

Structure: 8,000 cf expensive light body (body HT 2,000), max. load 75 tons, fair streamlining, sealed hull, three unpowered retractable wheels (DR 2, HT 111/222), flotation hull, wings (DR 25, HT 1000), 8 cf full-traverse pop miniturret, six hardpoints.

Propulsion: Two 37.5 ton fusion rockets (DR 5, HT 125) with 2D vectored thrust, 5 ton reactionless engine (DR 5, HT 60), hyperdrive (DR 5, HT 75). Fusion rockets use 2,526 gallons of water per hour.

Power: : Two 2.6 MW fusion plants (DR 5, HT 30) and 7.5 MWH (DR 5, HT 24) rechargeable cell. One self-sealing TL 10 fuel tank (DR 5, HT 500) holds 4000 gallons of water for 95 min. flying time using the fusion rockets.

Accommodations: Three standard and three cramped quarters. Vision: No windows.

Accessories: Compact fire extinguisher, two full life-support systems (six persons each), radiation shielding (PF 1,000), medium geophone (DR 3, HT 20, electronics, 16 miles, scan 20), long-range thermograph (DR 3, HT 10, electronics, 11.25 miles, scan 24), long-range xadar (DR 3, HT 20, electronics, 120 miles, scan 26), mini-ladar (12 miles, scan 20), medium multiscanner (DR 3, HT 6, electronics 7.5 miles, scan 18), short range radar (DR 3, HT 4, electronics, 80 miles, scan 24), medium sound detector (DR 3, HT 10, electronics, scan 22), two ALLTVs (+7), virtual panorama, two airlocks, automed (DR 5, HT 62, equipment), mini-cam, recon camera (DR 3, HT 7, electronics), cargo ramp, optical microframe (DR 3, HT 12, electronics, C 6) and two optical midgets (DR 3, HT 2, electronics, C 4), dual controls, INS (DR 3, HT 6, electronics), two interface helmets and jacks, two secure long-distance radios (DR 3, HT 4 each, electronics) and one long-distance radio with direction finder (DR 3, HT 4, electronics), three IFF, IR searchlight (HT 8) and two spotlights (HT 2), terrain-following radar, heavy winch (DR 5, HT 50, equipment). Software: Auto op (IQ 11), comp nav, datalink, sensor op (skill 15), gunner (skill 14), tactical op (skill 15), targeting, accounting, damage control, 2.68 GB generic books, interpreter + 16 GB languages, word processor.

Weaponry: Gatling N-PAWS (DR 5, HT 20) or light gatling xaser (DR 5, HT 15, subtract $9,000 and 60 lbs.) with autostabilizer in the turret.

Cargo: 1,000 cf (and 414.94 cf waste and access space).

Armor: 200 points advanced armor. F5/25, B5/25, R5/25, L5/25, T5/25, U5/25, RW5/25, LW5/25.

Statistics: Cost $7,100,000, design mass 45 tons, max. payload 30 tons, max. Cargo 12.5 tons, current load 10 tons, loaded mass 55 tons, Size Modifier +6 (0 turret), Radar Signature +7 (+1 for turret), IR Signature +16 (+10 for turret), Acoustic Signature +7 (air), +11 (ground).

Ground Performance: Ground speed factor 22, top speed 12.5 mph, acceleration 11 mph/s, deceleration 10 mph/s, MR 0.25, SR 5.

Water Performance: Water speed factor 7, top speed 5.25mph, acceleration 5.5 mph/s, deceleration 10 mph/s, MR 0.25, SR 6, draught 7.6 ft.

Air Performance: Air speed factor 72, stall speed 12.5 mph, top speed 792 mph, acceleration 22 mph/s, deceleration 15 mph/s, MR 8, SR 7, ceiling unlimited.

Scout Tiltrotor Aircraft (TL 10)

(Onno.Meyer@arbi.informatik.uni-oldenburg.de)

This plane is the seventh part of the TL 10 scout kit. It will be used by a scout team to travel from their landing site to other interesting places. I decided against a jet engine to ensure operation without oxygen in the air.

Structure: 250 cf standard medium body (body HT 375), max. load 5 tons. Sealed body, 3 retractable unpowered wheels (DR 2, HT 31/62), flotation hull, combat-stressed folding tiltrotor wing (DR 20, HT 188), one body hardpoint.

Propulsion: 1 MW tiltrotor powertrain.
Power: 1 MW fusion plant (DR 5, HT 20) and 2.5 KWH rechargeable cell (DR 5, HT 4). *Accommodations:* Six cramped seats, many armored windows.

Crew Requirement: One pilot.

Accessories: Crashwebs, high security alarm (skill 20), compact fire extinguisher, 2*6 man-days life support, NBC kit, radiation shielding, passive IR (2.25 miles, scan 18), mini-ladar (12 miles, scan 20), two ALLTV (+7), cargo ramp, midget comp (DR 3, HT 2, electronics, C 4), anti-collision radar, multiband and secure tactical radio, commercial transponder, IR spotlight (HT 2) and searchlight (HT 8). Software: Computer navigation, datalink, sensor operation (skill 15), routine operation (skill 14).

Cargo: 50 cf (and 9.5 cf access space).

Armor: 180 points expensive armor. F4/20, B4/20, L 4/20, R4/20, T4/20, U4/20, LW4/20, RW4/20.

Statistics: Cost $260,000, design mass 2 tons, max. payload 3 tons, max. cargo 1 ton, current load 1 ton, loaded mass 3 tons, Size Modifier +3, Radar Signature +4, IR Signature +5, Acoustic Signature +5.

Ground Performance: None.

Water Performance: None.

Air Performance, Helicopter: Air speed factor 40, top speed 270 mph, acceleration 13.5 mph/s, deceleration 10 mph/s, MR 3, SR 4, ceiling 8,100 yards.

Air Performance, Plane: Air speed factor 48, stall speed 50 mph, top speed 324 mph, acceleration 13.5 mph/s, deceleration 15 mph/s, MR 13.75, SR 5, ceiling 12,960 yards.

Airbike Mk. II (TL 11)

(Onno.Meyer@arbi.informatik.uni-oldenburg.de)

The airbike is intended as light all-terrain craft (i.e., going over the terrain). It might look like one of those speeder bikes in *Return of the Jedi*. It is the second part of the TL 11 Scout Kit.

Structure: 10 cf cheap extra-heavy body (HT 90), max. load 0.45 tons, good streamlining, sealed body, flotation hull (flotation 550 lbs.), two skids (DR 4, HT 15 each), vertol lift.

Propulsion: 0.5 ton reactionless engine (DR 5, HT 12).

Power: 200 KWH rechargeable cell (HT 4) for four hours travel time.

Accommodations: Two external seats.

Crew Requirement: One pilot.

Accessories: Cheap mini-ladar (DR 3, HT 2, electronics, 16 miles, scan 21), dumb midget comp (C 4, DR 3, HT 2, electronics), secure tactical radio, transponder. Software: Comp nav, datalink, database (own tech readout), sensor operation.

Cargo: 1 cf (and 0.54 cf wasted space).

Armor: 110 pts. standard armor. F4/20, B4/15, L4/20, R4/20. T4/15, U4/20.

Statistics: Cost $10,000, design mass 180 lbs., max. payload 720 lbs., max. cargo 90 lbs., current load 240 lbs., loaded mass 0.21 tons, Size Modifier 0, Radar Signature 0, IR Signature 0, Acoustic Signature 0.

Ground Performance: Ground speed factor 20, top speed 265 mph, acceleration 13.25 mph/s, deceleration 5 mph/s, MR 0.25, SR 3.

Water Performance: Water speed factor 2, top speed 26.5 mph, acceleration 6.625 mph/s, deceleration 13.3 mph/s, MR 0.75, SR 4, draft 15".

Air Performance: Air speed factor 39, top speed 429 mph, acceleration 22 mph/s, deceleration 10 mph/s, MR 2.5, SR 2, ceiling unlimited.

First-In Scout Ship Mk. II (TL 11)

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This ship is part three of the TL 11 scout kit (other parts are Exploration Suit on p. 12, Airbike Mk. II on p. 21, Submarine Vertol on p. 23, and Survey Cruiser on p. 23). I used the errata file for this design. This scoutship is designed for a small party of scouts who are in the business of designating sites for further surveys.

The ship is about $15m \times 4m \times 2m$, with a mini-airlock on the left side and a forcelock combined with a cargo ramp on the right side. The tractor is mounted over the right door. The pop turret with the C-PAWS and the IR jammer comes out below the belly. The cockpit (three seats) has good windows, but the remainder of the ship has only tiny vision ports. Behind the cockpit there are galley, bathroom, a small cabin, the cargo hold and the engine-room. A lot of gadgets are doubled — most functions are split into port and starboard systems, and the ship should survive the loss of any one side. If only one side is under fire, the GM should reroll damage that would affect the second system of a kind.

The scouts will probably carry some *airbikes* and/or *exploration suits* and some probes in the cargo hold.

The ground and water mobility is mostly a joke, but you never know.

Structure: 3,200 cf cheap light body (HT 1,500), max. load 40 tons. Superior streamlining, sealed body, four retractable skids (HT 125 each), flotation hull (flotation 40 tons), vertol lift, 20 cf cheap full-traverse pop mini-turret.

Propulsion: Twin 40 ton reactionless thrusters (HT 250 each), hyperdrive (HT 75, see S83).

Power: Two 4.1 MW "small" fusion plants (DR 5, HT 50 each) and 4 MWH rechargeable cells (DR 5, HT 16 each).

Accommodations: Three cramped quarters and three roomy seats. Vision: Few armored windows.

Accessories: Six crashwebs, five chaff and five flare dischargers, compact fire extinguisher, six G-seats, IR missile jammer in universal turret mount (DR 3, HT 10, electronics), laser sensors, two independent six-person full life support systems, light deceptive radar jammer (DR 3, HT 4, electronics, rating 12), radiation shielding (PF 10,000), partial stealth, short range gravscanner (DR 3, HT 4, electronics, 2 miles, scan 18), 2 medium thermographs (DR 3, HT 4, electronics, 32 miles, scan 24), short range thermograph (DR 3, HT 2, electronics, 16 miles, scan 22), medium xadar (DR 3, HT 10, electronics, 120 miles, scan 26), short range ladar (DR 3, HT 4, electronics, 54 miles, scan 24), medium multiscanner (DR 3, HT 6, electronics, 10 miles, scan 20), surface-search mini-radar (DR 3, HT 2, electronics, 80 miles, scan 25/19), two ALLTVs (+8), mini-airlock and forcelock, automed (DR 5, HT 50, equipment), reconcam (DR 3, HT 7, electronics), cargo ramp, two optical minicomps (C 6, DR 3, HT 4, electronics), two minicomps (C6, DR 3, HT 4, electronics), two dumb midgets (C4, DR 3, HT 2, electronics), dual controls, INS (DR 3, HT 6, electronics), secure long-distance radio (DR 3, HT 4, electronics), 18 man-months of provisions, two secure tac radios, three IFF, terrain-following radar, neutrino communicator, two EM comms, light tractor beam (DR 5, HT 25, equipment), winch (DR 5, HT 15, equipment). Software: C 6 autonomous operation (IQ 11), comp nav, database (own tech readout), database (1.16 GB books), database (10 GB starmaps), datalink, C 5 sensor operation (skill 19), C 5 gunnery (skill 16), C 5 tactical vehicle operation (skill 18), targeting.

Weaponry: Autostabilized gatling C-PAWS (DR 5, HT 20) and three hardpoints.

Armor: 800 points expensive armor. F6/160, B6/120, R6/120, L6/120, T6/120, U6/160.

Cargo: 600 cf, plus 296.5 cf additional access space.

Statistics: Cost $2,400,000, design mass 19 tons, max. payload 21 tons, max. cargo 7.5 tons, current payload 4 tons, loaded mass 23 tons, Size Modifier +6 (+1 turret), Radar Signature -1 (-6 for turret), IR Signature +9 (+4 for turret), Acoustic Signature +2.

Ground Performance: Ground speed factor 22, top speed 330 mph, acceleration 22.5 mph/s, deceleration 5 mph/s, MR 0.25, SR 4.

Water Performance: Water speed factor 8, top speed 120 mph, acceleration 7.5 mph, deceleration 13.75 mph, MR 0.5, SR 5, draft 5.7 feet.

Air Performance: Air speed factor 90 (without hardpoint load), top speed 1,215 mph, accelerations 27 mph/s, deceleration 5 mph/s, MR 2.25, SR 3, ceiling unlimited.

Submarine Vertol (TL 11)

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This vertol is part four of the TL 11 scout kit (other parts are Exploration Suit on p. 12, Airbike Mk. II on p. 21, First-In Scout Ship Mk. II on p. 22 and Survey Cruiser on p. 23). I used the errata file for this design.

The submersible vertol is intended as all-terrain/all-environment vehicle for interstellar scouts.

The vertol is a box ($5.5m \times 1.5m \times 1.5m$). The forcelock on the right side is the only access. The two crew seats face forward and the four passenger seats face inward. All sensors are operated from the crew seats, but the passengers can observe the data displays.

Structure: 400 cf light expensive body (body HT 400), max. load 5 tons, sealed body. Four retractable skids (DR 16, HT 33 each), submersible hull, vertol lift.

Propulsion: Twin 5 ton reactionless thrusters (DR 5, HT 60 each).

Power: 1.05 MW "small" fusion plant (DR 5, HT 20).

Accommodations: Six standard seats. Vision: Submarine type portholes.

Crew Requirement: Pilot/helmsman, Co-pilot/navigator.

Accessories: Six crashwebs, compact fire extinguisher, limited life support (12 man-days), radiation shielding (PF 10,000), short range sonar (DR 3, HT 4, electronics, 24,000 yards, scan 20), medium hydrophone (DR 3, HT 10, electronics, 80 miles, scan 24), short range xadar (DR 3, HT 4, electronics, 56 miles, scan 26), ALLTV (+8), 7.5 ft. periscope with ALLTV, forcelock, two optical midgetcomps (DR 3, HT 2, electronics, C 5), dual controls, two secure tac radios (range 5,000 miles), two commercial transponders, two spotlights (DR 5, HT 2, exposed equipment). Software: Comp nav, datalink, sensor operation (skill 16), tactical operation air (skill 15), tactical operation water (skill 16).

Armor: : 600 pts. advanced armor. F6/100, B6/100, L6/100, R6/100, T6/100, U6/100.

Cargo: : None, but 27.8 cf additional access space.

Statistics: : Cost $325,000, design mass 2.5 tons, max. payload 2.5 tons, max. hardpoint load 1 ton, current load 1 ton, loaded mass 3.5 tons, Size Modifier +4, Radar Signature +4, IR Signature +6, Acoustic Signature +2 (on the ground) +1 (elsewhere).

Ground Performance: Ground speed factor 16, top speed 224 mph, acceleration 14 mph/s, deceleration 5 mph/s, MR 0.25, SR 3.

Water Performance, Surface: Water speed factor 5, top speed 70 mph, acceleration 7 mph/s, deceleration 13.5 mph/s, MR 0.75, SR 4, draft 3 feet.

Water Performance, Submerged: Water speed factor 1, top speed 14 mph/s, acceleration 7 mph/s, deceleration 3.5 mph/s, MR 0.75, SR 4, maximum submerged depth 500 yards, diving at 3.5 yards/sec.

Air Performance: Air speed factor 48, top speed 588 mph, acceleration 24.5 mph/s, deceleration 10 mph/s, MR 2.5, SR 2, ceiling unlimited.

Survey Cruiser (TL 11)

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This starship is part five of the TL 11 scout kit (other parts are Exploration Suit on p. 12, Airbike Mk. II on p. 21, First-In Scout Ship Mk. II on p. 22 and Submarine Vertol on p. 23). I used the errata file for this design.

This scoutship investigates promising locations detected by a first-in scout team. It should have some idea where it goes and pick a group of scientists.

The ship is a $20m \times 10m \times 3.5m$ brick with bad handling in atmospheres. It carries hangars for one *submersible vertol* and ten *exploration suits* and bays for four probes with the size of XH missiles. The mass of the subcraft is included, but not the cost.

Structure: 25,000 cf cheap medium body (body HT 9,750), max. load 500 tons. Sealed body, six retractable skids (DR 15, HT 541), vertol lift, 8 cf pop full-traverse mini-turret.

Propulsion: Three 250 ton reactionless thrusters (DR 5, HT 800 each), five hyperdrive generators (DR 5, HT 75 each).

Power: Three 26 MW fusion plants (DR 5, HT 125) and 75 MWH rechargeable cells (DR 5, HT 100).

Accommodations: Three roomy and 12 standard quarters. Vision: Slits.

Crew Requirement: Pilot, copilot, navigator, engineer, mechanic.

Accessories: Crashwebs, compact fire extinguisher (3 units), 72 man-days limited support, radiation shielding (PF 10,000), medium geophone (DR 3, HT 20, electronics, 32 miles, scan 22), medium long-range thermograph (DR 3, HT 10, electronics, 13.5 miles, scan 26), long-range xadar (DR 3, HT 40, electronics, 240 miles, scan 28), short range ladar (DR 3, HT 4, electronics, 56 miles, scan 24), medium multiscanner (DR 3, HT 6, electronics, 10 miles, scan 20), short range surface-search radar (DR 3, HT 4, electronics, 160 miles, scan 27/21), air-search mini-radar (DR 3, HT 2, electronics, 80 miles, scan 25/19), short range sound detector (DR 3, HT 4, electronics, scan 22), four ALLTV (+8), virtual panorama for five seats, two forcelocks, automed (DR 5, HT 50, equipment), recon camera (DR 3, HT 7, electronics), two cargo ramps, microframe (DR 3, HT 12, electronics, C 7) and two optical minis (DR 3, HT 4, electronics, C 6), 13 dumb minicomps (C4, DR 3, HT 2, electronics), dual controls, hangar for 400 cf of craft, hangar for ten 20 cf craft, 15 man-years of provisions, two secure long-distance radios (DR 3, HT 4, electronics) and one secure long distance radio with direction finder (DR 3, HT 4, electronics), three IFF, two remote control consoles, three searchlights (DR 5, HT 8, exposed equipment), sickbay (DR 5, HT 200, equipment), terrain-following radar, neutrino communicator and two EM communicators, two heavy tractor beams (DR 5, HT 75, equipment, 10 tons), vehicle bay for four 20 cf vehicles, heavy winch (DR 5, HT 50, equipment), mechanic workshop (DR 5, HT 200, equipment). Software: Autonomous operation (IQ 12), comp nav, datalink, sensor operation (skill 16), gunner (skill 15), tactical operation (skill 16), targeting, accounting, damage control, database (40 GB star maps) database (3.725 GB generic books).

Weaponry: Autostabilized gatling C-PAWS (DR 5, HT 20) in the turret and seven hardpoints.

Armor: 600 pts. expensive armor. F6/100, B6/100, R6/100, L6/100, T6/100, U6/100.

Cargo: 5,000 cf (and 3,785.8 cf additional access space).

Statistics: Cost $9,200,000, design mass 150 tons, max. payload 350 tons, max. cargo 100 tons, light payload 9.5 tons (subcraft) + 40.5 tons (crew and cargo), loaded mass 200 tons, Size Modifier +8 (0 turret), Radar Signature +8 (0 for turret), IR Signature +12 (+4 for turret), Acoustic Signature +3.

Ground Performance: Ground speed factor 16, top speed 248 mph, acceleration 248 mph/s, deceleration 5 mph/s, MR 0.25, SR 5.

Water Performance: None.

Air Performance: Speed factor 48, top speed 672 mph, acceleration 28 mph/s, deceleration 10 mph/s, MR 2, SR 4, ceiling unlimited.

Chapter 5

Accessories

Rope Harness (TL 0+)

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This harness is a rope connecting the vehicle to the cloth, leather, or nylon collars of the pulling animals. While it is the least efficient of the harnesses, it is cheaper and lighter and it will permit more animals to be hitched to the front of the vehicle. The rope harness costs $5 and weighs 3 lbs. per hex of animal. Reduce the combined strength of the animals by 40% when using this harness.

Saddle Bags (TL 0+)

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This is a pair of leather or plastic containers that can be added to any vehicle with an external seat. Each bag provides 0.75 cf of cargo space and can hold up to 18 lbs. The saddle bags provide PD 1, DR 1 protection to the contents. The pair weighs 2 lbs. and costs $100.

360° Open Mount (TL 1+)

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This is a variation on the open mount. It functions as an open mount except that it can rotate 360 degrees. It is purchased as a universal open mount (V100).

Spare Tire (TL 1+)

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Actually a spare wheel. When tires become available, this becomes a spare wheel with tire attached. Figure the HT of the wheel normally. Cost is wheel $HT \times \$3$. Mass is wheel $HT \times .75$ lb. Volume is figured from the armor factor table (V12) — look up the closest HT to the wheel HT and take the higher of volumes listed (optionally, you can work the formula given at the end of the table backwards rounding to the nearest .1 cf). The spare can be mounted externally, cost and mass remain the same, but it takes up no internal volume and is damaged on an external components hit. Compact spares become available at TL 7. Compact spares have half the HT of normal wheels. Figure their cost, mass and volume as above using the reduced HT. Special tires (i.e., Racing, Snow, etc.) are not normally available in compact form.

360° Universal Open Mount (TL 5+)

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This is identical to the universal open mount except that it can rotate 360 degrees. The mount cost $200 and masses 15 lbs for each cf of weapon mounted on it.

Motive System Upgrade, Water Drive (TL TL7+)

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Available for any powered ground motive system. By carefully adding some fins and/or shaping the body to channel water backwards from the motive system, a ground motive system can be made to provide water propulsion as well. The vehicle must have either a flotation hull or a submersible hull. The motive system may not be retracted while this option is in use. It provides a base water speed factor of 10 mph. All water speed modifiers apply. Cost is 1% of motive system cost. Mass is 10% of motive system mass. Volume is 10% of motive system volume.