

KREBA MANUFACTURING HERMES RACING BIKE

The Hermes is a high-performance racing bike that is very common in both Fourth and Fifth Wave nations due to its amazingly low cost and miniscule operating expenses. The design is a recumbent design, with the driver sitting reclined surrounded by a hinged aerodynamic clamshell. The bikes wheels can automatically adjust for the driving conditions and can grip on even the slipperiest surfaces.

The pilot uses the Motorcycle skill. The vehicle has computerized controls but cannot be controlled by an infomorph – which means it is illegal in some cities that rely on computer-directed traffic control.

Subassemblies: Body (+1), two standard wheels (+0).

P&P: 20-kW wheeled drivetrain and an 80 kWh battery.

Fuel/End: Battery can power the drivetrain for 4 hours at full power.

Occupancy: 1 CCS. **Cargo:** None

Armor

All: 3/10

Equipment

Body: Burglar alarm, Complexity 4 computer (tiny, cheap).

Statistics

Size: 7' long. **Payload:** 200 lbs. **Lwt.:** 715 lbs.
Volume: 34 cf. **Maint.:** 370.8 hours. **Price:** \$11,633.
HT: 12/21. **HP:** 21 [Body] 8 [each Wheel]
gSpeed: 140 gAccel: 5 gDecel: 10 gMR: 2.25 gSR: 3
Low GP. Off-road speed 50.

Design Notes

The Hermes features an extra-light aluminum alloy structure with good streamlining and smart materials. Volumes/areas are body 28 cf/55 sf, wheels 6 cf/20 sf. The body has 0.9 cf of waste space. Armor is aluminum alloy. The wheels have improved suspension and smartwheels.

M-85 *JÄGER* COMBAT WALKER

The M-85 Jäger is a lightweight two-legged all-terrain combat vehicle. Originally designed for service with the U.S. Army's spaceborne forces it was outdated even as the first models rolled off the assembly line – it's mission largely replaced by small cybershells like the RAT (p. TS00) and better protected combat walkers like the M-88 Ashby. The Army had already sunk millions into the project, and was committed to a limited production run of 80 suits. Most of the existing vehicles have been acquired by the U.S. Marine Corps, and are being refitted with better sensors and electromagnetic armor.

Although they do suffer from the typical disadvantages of walkers (relatively high visual profile and lack of effective slope) the Jäger is remarkably agile and faster than most cybershells or battlesuits, it can even drop prone and crawl (although this is very stressful on the frame). When not in combat the walker can assist in combat engineering tasks.

Controlling the Jäger requires the Driving (Mecha) skill. The controls are computerized and an onboard infomorph can drive the vehicle. In an unusual design move, 1/3 of the crew station is located in the head. It takes 3 seconds to switch between the legs and using the wheels.

Subassemblies: Body (+2), two manipulator arms (-2), two legs (+1), full rotation turret (+0), two standard wheels (+0).

P&P: 175-kW two-legged drivetrain, 48-kW all-wheel-drive drivetrain, 200-kW turbine, two E-Cells (40 kWh total capacity) in turret.

Fuel/End: 34-gallon ultralight self-sealing synthetic gasoline tank provides 3 hours of endurance at full-power output from turbine.

Occupancy: CCS **Cargo:** 5 cf.

Armor	F	RL	B	T	U
Body:	6/500	4/250	4/250	4/250	4/250
Legs:	4/250	4/250	4/250	4/250	4/250
Arms:	4/250	4/250	4/250	4/250	4/250
Turret:	4/250	4/250	4/250	4/250	--
Wheels:	4/25	4/25	4/25	4/25	4/25

Equipment

Body: 4 1.5-mile PESA [F/B/R/L], inertial navigation system, Complexity 7 microframe, two Complexity 6 small computers, compact fire suppression system, NBC kit, limited life system (2 man-days), crashweb.

Arms: ST 100 motors.

Turret: Radio with 10,000-mile range, 12-mile PESA [F], 4.5-mile AESA, IFF, HUDWAC.

Statistics

Size: 14' tall. **Payload:** 1,323 lbs.

Ewt.: 8,363 lbs. **Lwt.:** 9,686 lbs.

Volume: 87 cf. **Maint.:** 18.6 hours. **Price:** \$1,156,372.

HT: 11/300. **HP:** 300 [Body] 60 [each Arm] 150 [each Leg] 45 [Turret] 27 [each Wheel]

Legs

gSpeed: 50 **gAccel:** 17 **gDecel:** 20 **gMR:** 2.25 **gSR:** 1

Low GP. Off-road speed 40.

Wheels

gSpeed: 60 **gAccel:** 3 **gDecel:** 20 **gMR:** 1.75 **gSR:** 2

Extremely High GP. Off-road speed 8.

Design Notes

WVMDS design. Sloped very small body and two small legs. Wheels are very small. Body is heavy with a carbon composite frame. Legs are carbon composite. 2-VSP turret. All armor is metal matrix composite. Body and all subassemblies are sealed. Body has heavy compartmentalization. Wheels have improved suspension, improved brakes, and smartwheels. Body provides cPF 1. Vehicle has radical emissions cloaking and chameleon surface.

Ground pressure is 1,211 on Earth using legs, 26,905 on wheels. Payload (but not cost) includes a handheld assault rifle pod – a 1 VSP pod containing a 25mm chaingun and 480 rounds of APDS ammo with DR 20 steel armor. It does not use a clip but the ammo can be quickly changed out (requires 20 seconds if using prepared ammo containers). Alone it is 819 lbs. loaded and \$17,940 including a full load of ammunition.

A DAY AT THE DEALERSHIP

"Only 100 grand? Pretty cheap, I don't even need financing."

Grant regarded his wife coolly as the dealership's software agent fed him the data on the old Gabriel she had drug him to see. He always hated aircars, he had to deal with enough morons on the ground - the thought of them zipping around at Mach point 8 gave him the willies.

"I don't know what you see in these archaic aircars. It's hydrogen powered for christsakes, you know I hate dealing with that stuff. There was that nice Eibisu 2097 model for sale in Singapore we could have picked up. Genuine leather on the seats - none of that fauxflesh trash that they used in these things. And is that rust? This thing has probably been sitting here since back in 2090."

She didn't seem to hear him.

"Did you know this particular model was discontinued in 2087 after that big accident in Tel Aviv? Molly says she has some flight control software she snagged off a TSA core dump that lets you bypass the safety limit and even dump any ground control johnny who tries jacking the controls."

With that she started to ramble about compression ratios and turbine blade pitches. Time to call on his software agent to start shopping for insurance. He had a feeling he was going to need it.

"Yes honey, of course. We'll get a new HUD installed tomorrow. Really, an original NAI is installed on it? Fascinating. No honey I'm not being sarcastic..."

EUROSPATIALE GABRIEL AIR CAR

The Eurospatiale Gabriel is the standard by which all other aircars are measured. Produced around the world under license, it appears in hundreds of individual variations and models - in most Fifth Wave countries it is a trivial matter to get one custom tailored. Early Gabriel models were notorious for their quirky flight control systems and tendency to suffer engine failures. Even now the design has its share of jokes cracked about it (including a few engineered by competitors) even in 2100 where these early defects have largely been ironed out.

The model listed here is for the 2085 release of the Gabriel. Although outpaced in both comfort and technology it is representative of most aircars in use and is so common as to be nondescript. The design requires relatively little maintenance, can run on cheap hydrogen, and there are no shortage of spare parts. Eurospatiale and various other companies offer very competitive upgrade packages for existing Gabriels and many owners take their vehicles in for periodic software and hardware updates. Others take great pleasure in modifying their Gabriels with custom kits to increase performance or aesthetic appeal. Derisively known as "cherubs" these individuals sometimes add so much ornamentation and useless "performance enhancers" that their vehicles are barely legal to fly.

Besides that the Gabriel is a typical air car design. It is a streamlined craft with a high-visibility bubble canopy and two engine pod sets - one placed just behind the cockpit and another set along the rear stabilizers. Each of the four pods mounts a vectored-thrust turbofan fueled by hydrogen. With a few minutes of work the craft can also be made street legal, mainly by folding the stub wings and putting protective covers over the engines.

An AI is required to be loaded onto the vehicles computer, but they are usually piloted or driven manually with the infomorph keeping an eye on the small details. In a dangerous situation or for law enforcement purposes ground control personnel can directly seize control of the craft and pilot it over a datalink. Bypassing this (and not getting caught) requires a successful Computer Operations -4 roll to install a software patch and then a Electronics (Communications) roll to circumvent the hardwired datalinks. Failing either of these rolls will probably mean that sooner or later the modification is discovered and the owner has a lot of explaining to do. Expect fines and possibly loss of any piloting license.

The pilot uses the Piloting (Vertol) skill. The vehicle has computerized controls and can be controlled by an infomorph residing on the computer. Accommodations include 2 man-days of limited life support. Fuel costs are \$80 per fillup. A stock system AI is an NAI-5 trained in Piloting (Vertol)-11 [4] and Electronics Operation (Sensors)-12 [8] but with a Duty to follow the commands of authorized traffic control systems (all the time, not dangerous) [-10]. It is included for free and burned into firmware, but it can be unloaded from the computer to load another infomorph or additional software.

Subassemblies: Body (+3), four engine pods (+0), four standard wheels (+2).

P&P: Four 2,000-kW vectored thrust hyperfans, 50-kW wheeled drivetrain, and a 75 kWh battery.

Fuel/End: One 800-gallon light self-sealing hydrogen fuel tanks provide 30 minutes of full-power output and battery drives wheeled drivetrain for 1.5 hours.

Occupancy: 1 CCS, 3 CS. **Cargo:** 10 cf.

Armor

All: 3/5

Equipment

Body: Long-range radio (10,000 mile range), burglar alarm, flight recorder, transponder, terrain-following radar, 10-mile radar (no targeting, forward arc), vehicular parachute (3,000 lb. capacity), Complexity 5 computer (small, cheap), 4 crashwebs.

Statistics

Size: 17' long. **Payload:** 1,464 lbs. **Lwt.:** 5,280 lbs.
Volume: 329 cf. **Maint.:** 55 hours. **Price:** \$130,067.

HT: 8/93. **HP:** 93 [Body] 9 [each Pod] 16 [each Wheel]

gSpeed: 85 **gAccel:** 5 **gDecel:** 15 **gMR:** 1.75 **gSR:** 5

High GP. Off-road speed 15.

wSpeed: 20 **wAccel:** 80 **wDecel:** 10 **wMR:** 0.75 **wSR:** 6

Draft 1.1'

aSpeed: 600 **aAccel:** 80 **aDecel:** 12 **aMR:** 3 **aSR:** 4

Stall speed 0.

Design Notes

The Gabriel features an extra-light aluminum alloy structure with good streamlining. Volumes/areas are body 267 cf/247 sf, pods 8 cf/24 sf, wheels 54 cf/86 sf. The body and each pod includes 0.5 cf of waste space. Armor is aluminum alloy. The wheels have improved suspension, all-wheel steering, and smartwheels. Typical aDrag is 144. Typical hDrag is 303.

DROP

Waiting for the drop was the worst part. His instructors had always said that with the slinky bypass you couldn't even feel it but he knew that was bullshit. You could feel the bone crushing acceleration even through the link, if it wasn't for the suit and the biomods it would have been fatal. As it only made you want to have died.

"Ten seconds to drop." The annoyingly calm voice of his suit AI gave the warning. He toggled the personality filter to something that sounded a bit more human. "Pfft. Sucks to be you!" said the suit.

CRUMP! The suit was jerked out of the transport. Nothing to do now but watch the displays, this part was completely automated. There was a brief pause as the drop shell oriented itself then the rocket started firing for the evasion and deceleration sequence. WHAM WHAM WHAM WHAM.

On the display he could see his squads pods, little glowing triangles angling down around the projected threat bubbles that appeared like wireframe balloons towards the drop zone.

Suddenly the suit spoke. "Crap. New threat detected... S-2 just shot us a satvid of some new laser sites. Correction, now they're saying it's a decoy. Oh now they're saying its real again. Oh never mind they just retracted the threat warning. Well anyways we're about ready to hit, might want to hold on to something and kiss your ass goodbye!"

He switched the AI filter again. Sometimes he just didn't feel like joking.

THUMP! For once the pod impacted at a relatively slow speed. He could feel the cold sensation in his legs that was a side effect of the combat chemicals. His stomach knotted. This was it.

“Systems fully operational.” The AI droned. A quick diagnostic flashed and he felt the familiar prickles from the slinky interface that told him system status was green.

The pod shell blew out – soundless from inside the suit. He could see at least one member of his squad on the IFF was already engaged against a cyberswarm. He popped his own swarms.

“Here we go...”

HERCULES BATTLESUIT

The Eibisu Biomechanics “Herc” is a heavy battlesuit designed for land combat. A somewhat older design, the Hercules has seen limited service in the United States Army and Britain but has been largely superceded by more advanced battlesuits. It is used by a number of paramilitary organizations, and is even sold in a supposedly “civilian” configuration that is almost identical to the original military model.

The Hercules is relatively simple, it does not feature any built-in weapons aside from the various cyberswarm hives located around the body. As an infantry suit it simply carries the weapons in the arms, additional equipment such as ducted fan jump jets or heavy weapons can be attached to a pod mounted on the back. The pod can weigh up to 500 lbs. and the hardpoint has connections for power and data links.

One of the biggest advantages of the Hercules is that it can accommodate very large pilots (up to 250 lbs.). The disadvantage is that small individuals are unable to use the suit – the internal MEMS Wear systems are not able to accommodate anyone under 100 lbs. Access is through the rear of the suit – any pods must be attached after entry. The pilot has a 6 hour limited life support system.

The suit integrates an emissions reduction system, concentrating primarily on IR signature. This system masks IR, magnetic, and millimetric emissions – giving a –5 Scan penalty to opposing sensors of those types.

Quirks: The hardpoint linkage with the backpack pod have a tendency to fail after taking combat damage. Any time the pod takes more than 10% damage in a single attack roll a d6. On a 1 the pod links fail – the pod remains attached but all power and data links fail.

Subassemblies: Body (+3), two manipulator arms (+0), two legs (+2), limited rotation turret (+1).

P&P: 2-kW legged drivetrain, and two 8 kWh batteries located in legs.

Fuel/End: Batteries drive drivetrain for 5.3 hours.

Occupancy: Battlesuit. **Cargo:** None.

Armor

Body: 4/100

Arms: 4/80

Legs: 4/80

Turret: 4/70

Equipment

Body: Medium-range radio with scrambler (1,000 mile range), medium-range laser communicator (2,000 mile range), flight recorder, IFF, 5-level sound detector, Complexity 7 computer (small, genius), radar/laser detector, 4 hive packs.

Arms: ST 20 motors.

Turret: 4-mile PESA (facing forward).

Statistics

Size: 7' tall. **Payload:** 250 lbs. **Lwt.:** 840 lbs.

Volume: 7 cf. **Maint.:** 89.8 hours. **Price:** \$198,140.

HT: 12/90. **HP:** 90 [Body] 24 [each Arm] 48 [each Leg] 30 [Turret]

gSpeed: 17 **gAccel:** 2 **gDecel:** 20 **gMR:** 2.75 **gSR:** 1

Very Low GP. Full off-road speed.

Design Notes

The Hercules has an extra-heavy metal matrix composite structure. All armor is nanocomposite and the battlesuit incorporates smart materials. All subassemblies are sealed. Volumes/areas are body 4 cf/15 sf, arms 0.5 cf/4 sf, legs 1.6 cf/8 sf. Waste space is body 0.335 cf, arms 0.19 cf, legs 0.015 cf, turret 0.015 cf. The suit cannot float and has a crush depth of 960 yards.

GFV WEASEL LIGHT ARMORED VEHICLE

An improved model of the original Ferret, marketed after a dismal reception by customers who noted the originals failings against modern man-portable antitank weapons and relatively high crew requirements. GFV marketed the Weasel in 2086, similar only in overall styling. The body had gotten much smaller and was far more heavily armored. The small sensor cupola was removed – largely to make field expedient usage of reactive armor paste easier – and the drivetrain beefed up to modern standards.

The vehicle sits two – a driver and gunner, although an infomorph is typically loaded to replace the gunner. Both crew stations have access to a HUDWAC and controls are computerized.

Subassemblies: Body (+3), turret (+2), six off-road wheels (+2).

P&P: 400-kW all-wheel drive wheeled drivetrain, 425-kW turbine, two rechargeable E-Cells (40 kWh total), 180,000 kWh power pack.

Fuel/End: Two 45-gallon ultralight self-sealing alcohol fuel tanks provide 3.1 hours of full-power output from the wheeled drivetrain.

Occupancy: 2 CCS.

Cargo: None.

Armor	F	RL	B	T	U
<i>Body:</i>	6/4,000	4/2,250	4/1,500	4/2,000	4/800
<i>Tur:</i>	6/2,000	4/1,000	4/1,000	4/1,000	--
<i>Wheels:</i>	4/50	4/50	4/50	4/50	4/50

Equipment

Body: Medium-range radio (1,000 mile range), small Complexity 6 computer with backup, 2 HUDWAC, four 1.5-mile PESA [F/R/L/B], NBC kit (2-person), 2 crashwebs, 380 30mm APFSDS rounds.

Turret: 30mm Emag, 8-mile searchlight, 36-mile PESA [F], 45-mile AESA [F].

Statistics

Size: 9' long. **Payload:** 972 lbs.

Ewt: 111,411 lbs. **Lwt.:** 112,383 lbs.

Volume: 230 cf. **Maint.:** 21.5 hours. **Price:** \$861,160.

HT: 7/1,052. **HP:** 1,052 [Body] 150 [Turret] 50 [each Wheel]

gSpeed: 50 **gAccel:** 2 **gDecel:** 15 **gMR:** 1.5 **gSR:** 5

Extremely-High GP. Off-road speed 6.

Design Notes

WVMDS design. Sloped Midsize body, 10 VSP sloped turret on body. Body has a very-heavy frame, turret has medium. Structure is foamed alloy. Large wheels have improved suspension, smartwheels, and are puncture-resistant. Body and turret are sealed. Armor is foamed alloy, except for the wheels which are steel. Ground pressure is 37,086 on Earth.

The engine can recharge the batteries at 5.2 kW/s at full speed with all sensors operating. See VOTW#5: Ferret for 30mm Emag statistics.

GFV FERRET LIGHT ARMORED VEHICLE

The Ferret is a typical wheeled light armored vehicle often fielded by Fourth Wave military forces as a relatively inexpensive “pseudo-tank”. The version listed below is for the stock model, variants typically have different weapon loadouts in the turret or have cheaper (and far less effective) sensor systems.

The vehicle sits three – a driver, gunner, and commander. The driver has computerized controls and the gunner has a HUDWAC. The commander operates the radio and the small turret.

Subassemblies: Body (+3), large turret (+2), small turret (-3), six off-road wheels (+2).

P&P: 144-kW all-wheel drive wheeled drivetrain, 175-kW turbine, two rechargeable E-Cells (40 kWh total), 90,000 kWh power pack.

Fuel/End: Two 45-gallon ultralight self-sealing alcohol fuel tanks provide 7.7 hours of full-power output from the wheeled drivetrain.

Occupancy: 3 NCS. **Cargo:** 50 cf.

Armor	F	RL	B	T	U
<i>Body:</i>	6/1,600	4/400	4/250	4/450	4/100
<i>Lg. Tur:</i>	6/700	4/350	4/350	4/350	--
<i>Sm. Tur:</i>	4/150	4/150	4/150	4/150	--
<i>Wheels:</i>	4/50		4/50	4/50	4/50

Equipment

Body: Medium-range radio (1,000 mile range), small Complexity 6 computer with backup, HUDWAC, four 1.5-mile PESA [F/R/L/B], NBC kit (3-person), 3 crashwebs, 380 30mm APFSDS rounds.

Large Turret: 30mm Emag, 8-mile searchlight, 36-mile PESA [F], 45-mile AESA [F].

Small Turret: 12-mile PESA[F], 4.5-mile AESA [F].

Statistics

Size: 11' long. **Payload:** 2,172 lbs.

Ewt: 42,209 lbs. **Lwt.:** 44,381 lbs.

Volume: 350 cf. **Maint.:** 23.9 hours. **Price:** \$696,037.

HT: 8/750. **HP:** 750 [Body] 150 [Lg. Turret] 4 [Sm. Turret] 75 [each Wheel]

gSpeed: 45 **gAccel:** 2 **gDecel:** 15 **gMR:** 1.5 **gSR:** 5

Very-High GP. Off-road speed 8.

Design Notes

WVMDS design. Sloped Large body, 10 VSP sloped turret on body, 0.05 VSP cupola. Body has a heavy frame, turrets have medium. Structure is foamed alloy. Extra-Large wheels have improved suspension, smartwheels, and are puncture-resistant. Body and turrets are sealed. Armor is foamed alloy, except for the wheels which are steel. Ground pressure is 9,764 on Earth. 10.51 cf of waste space in body.

The engine can recharge the batteries at 9.8 kW/s at full speed with all sensors operating.

NEW WVMDS WEAPON MODULES

Weaponry

30mm Emag: A medium railgun often carried by light armored vehicles.

Weapon and Ammunition Modules

Type	VSP	Weight	Cost	Power
30mm Emag	7	1,700	\$262,500	1,000kW
-- 190 rds. APFSDS	0.05	(25)	(\$2,500)	--

Vehicular Weapons

Guns

Name	Type	DAM	SS	Acc	1/2D	Max
mMax	RoF					
30mm Emag w/APFSDS	Cr.	6d x 42(2)	25	20	11,000	
27,000	71,000	1				

ROBOMOWER 2000

The Applied Mechadynamix Robomower 2000 is a popular automated lawnmower seen in many Fourth and Fifth Wave households. Controls are mechanical.

Subassemblies: Body (-3), four small wheels (-4).

P&P: 0.005-kW wheeled drivetrain and a rechargeable C-cell (0.5-kWh).

Fuel/End: Battery can power the drivetrain for 2.4 hours.

Occupancy: None **Cargo:** None

Armor

All: 1/1

Equipment

Body: Tiny Complexity 4 computer (cheap), 0.1 acre/hour mower.

Statistics

Size: 2' wide. **Payload:** None. **Lwt.:** 29 lbs.

Volume: 0.315 cf. **Maint.:** 1,794 hours. **Price:** \$124.

HT: 12/2. **HP:** 2 [Body] 1 [each Wheel]

gSpeed: 9 **gAccel:** 1 **gDecel:** 10 **gMR:** 0.5 **gSR:** 2

Low GP. 3 mph.

Design Notes

The Robomower uses an light cheap steel structure. Structure is robotic. Armor is cheap steel. Volumes/areas are body 0.3 cf/3 sf, wheels 0.015 cf/1 sf. The components are not sealed and it will not float. Body ST is 1. Stats for the mower are in VEXi.

Robomower Cybershell -113 points

Attribute Modifiers: ST-9 [-80]; HT+2 [20].

Advantages: DR 1 [3]; Machine Body [37]; PD 1 [25].

Disadvantages: Dependency (maintenance, common, monthly) [-5];

Inconvenient Size (small) [-15]; Limited Endurance (3 hours) [-10];

Mistaken Identity [-5]; No Sense of Smell/Taste [-5]; No Manipulator [-50];

Reduced Hit Points -10 [-50]; Social Stigma (Valuable property) [-10].

Features: Complexity 4 tiny computer.

Date: 2068. *Cost:* \$124.