Modular Exploration Vehicle

From the hyper-corporation at the forefront of transhuman expansion into the galaxy, Fujizo presents the next generation design of gatecrashing exploration hardware, the Modular Exploration Vehicle!

Over the last five years, the Exoplanetary Exploration Vehicle, colloquially known as a “crasher truck”, and its later upgrade, the General Exploration Vehicle, or GEV, have served transhumanity well, functioning as mobile bases of operation on thousands of exo-solar planets. After considerable feedback and consideration, Starware now releases the next generation of these vehicles, the Modular Exploration Vehicle, or ModEV.

According to feedback from experienced gate exploration personnel, the greatest strength of the GEV-class was also its greatest weakness. As a generalized vehicle, capable of taking on any environment in which it found itself, the GEV often found itself lacking in dealing with extremes for that environment. As many of the users of the GEV have stated, the GEV is a jack of all trades, but a master of none.

Therefore, in response to these issues, Fujizo has designed the next generation of exploration vehicle. Using cutting edge modular design and shape changing technologies as first pioneered in the “flexbot”-class synthmorph sleeves, we proudly present the ModEV, a modular design exploration vehicle!

The core concept of the ModEV is simple; a core crew cabin forms the central module, onto which other components can be added or removed, enabling the ModEV to specialize itself for any mission profile in a matter of a few minutes and the appropriate modules.

Game Mechanics

The ModEV is a thus far proprietary design vehicle suite that makes full use of recent advances in modular design and shape changing technologies.

Modules:

Core Cabin
The primary central module for the ModEV, the Core Cabin module is essentially a Crasher Truck with the Shape Adjusting and Modular Design enhancements. Measuring 5.5 meters in length, 2.2 meters wide, and 2 meters high, it has a long endurance nuclear battery (10 years+) sufficient to power the module, a closed life support system capable of 540 man-days of support without resupply (and is capable of indefinite function if there is access to a supply of hydrogen and oxygen), space for six occupants, a healing pod, two fabbers, a maker, a competent pilot AI, and a shape-changing chassis capable of walker and wheeled mobility modes. **[High]**

Crew Space
While it is technically possible for a crew of 6 to survive in a core cabin module for three months, the space is extremely cramped, roughly equivalent to a pre-Fall van. The crew space module offers dedicated sleeping and medical care space, featuring a healing vat and the extensive use of smart matter for shifting between bunk beds or a communal space, as well as a more extended life support system (capable of 1080 man-days of life support without resupply). It is capable of shrinking down and compacting to a 2 meter by 2.2 meter by 2 meter block when not needed, adding minimal volume to the vehicle as a whole, or expanding out like a balloon to give more living space, out to a maximum of a 100 cubic meters of space. When compacted, the healing vat is inaccessible. The chassis is capable of shape-changing to enable walker and wheeled mobility modes. **[Expensive]**

Industrial Module
On extended exploration and settlement missions, a basic fabber typically won't be sufficient for building and repairing everything necessary for mission success. This module helps compensate for that deficiency. Essentially a single cornucopia machine that can adjust its own size from a two meter cube with a four liter work volume, up to an industrial fabber with a 160 cubic meter work volume. It features an extensive library of designs, all locked down against intrusion and hacking, with an anti-tamper self-destruct for the library, to prevent aliens and other entities at work in the gate network from gaining access to transhuman technological blueprints. **[Expensive, Min. 30,000]**

Defense Module
The gate network is full of dangers, some transhuman, such as anarchist terrorists, and some extremely alien, including various forms of xenolife and still other threats. To survive in these hostile environments, a full suite of combat and defenses are applied with this module. Each module consists of shape-adjusting armor capable of being deployed around other modules, as well as as the purchaser's choice of mounted and integrated kinetic and beam weapons.
[Expensive, plus cost of weapon system]

Flight
Sometimes flight is the best option for getting around. This module is fairly simple, just a set of turbofans and shape-adjusting wings capable of optimization for current atmospheric conditions. One flight module is typically sufficient for lifting any two other modules in most atmospheric and gravitational conditions. **[Expensive]**

Submarine
Designed to allow for both surface and underwater operation, submarine upgrade modules enable the ModEV to operate in fluid environments with pressures in excess of 1000 atmospheres. **[Expensive]**

Spaceflight

The classic GEV was capable of surface to spaceflight liftoff, but only from low-g worlds. With this module, that is no longer a limitation. A single spaceflight module is capable of launching two other modules from a 0.1 g gravity well, a single other module from a 0.25 g gravity well, and additional spaceflight modules can easily be added as booster rockets, with the system capable of handling gravity wells up to 1.5 g with sufficient spacecraft modules in proportion to the vehicle's primary modules. The module has sufficient fuel to last for 1.5 hours before needing refueling, although this value can be reduced precipitously when escaping from deeper gravity wells. **[Expensive; Refueling costs Moderate]**

Drone Carrier
Drones are a force-multiplier for any exploration mission, allowing for additional scouting, perimeter security and defense applications. This module is essentially a large shape-adjusting block which can be packed full of drones, and features a repair fabber deep within for fixing drones that have suffered a mishap in the course of their explorations. Drones are kept in "bubble" compartments of varying size within the structure of the module, which are then migrated towards the skin for launch, or towards the interior, for storage and repair. When fully packed, the module can hold over fifty full-sized drones, and hundreds of small and very small drones. **[Expensive]**

Sensor Array
All gatecrashing expeditions involve the gathering of data, and this module facilitates this objective with great efficacy. Consisting of an integrated sensor array, featuring a full spread of active and passive sensors, the array can also launch scout drones with lesser sensors for a more dispersed assessment, as well as featuring a reusable launching facility for an augmented Satnet-In-A-Can, which combines the cartography features of the mapping missile and the communications features of the Satnet. With sufficient feedstock and a source of hydrogen, the Sensor Array module can also produce additional Satnets every 20 hours. **[Expensive]**

Laboratory
The device that most people identify as a "mobile lab" is something of a misnomer, being more of a handheld sensor array for identifying chemical compositions. This module is a true mobile laboratory, featuring advanced biodefense systems, growth vats, an expert system with the distilled knowledge of transhumanity on the topics of geology, chemistry, biology and astronomy, and a highly versatile workspace capable of customization for handling just about any scientific related topic that can be analyzed within a 3 meter cube of metal. **[Expensive, min. 25,000]**

Parasite Vehicle
Sometimes gatecrashers need to split up or send a transhuman into a place where the larger vehicle cannot fit; that's where parasite vehicles come into their own. Essentially a go-cycle that can attach itself to the larger vehicle, the parasite vehicles can allow for both egress and ingress into the ModEV without the need for EVA, as well as functioning as full vehicles in their own rights. **[High]**

Module	Pass. Cap.	Hand.	Arm.	DUR	WT	Mobility Systems & Movement Rate	Cost
Core Cabin	6	-10	16/16	200	40	Walker (4/20), Wheeled (8/40)	High
Crew Space	4-12	-10	8/8	150	30	Walker (4/20), Wheeled (8/40)	Expensive
Industrial	0	-10	8/8	150	30	Walker (4/20), Wheeled (8/40)	Expensive, min. 30k
Defense	0	-10	32/32	250	50	Walker (4/20), Wheeled (8/40)	Expensive, plus weapon cost
Flight	0	+10	8/8	150	30	Thrust Vector (8/40), Wheeled (8/40)	Expensive
Submarine	0	-10	20/20	200	40	Submarine (4/36), Ionic (8/40)	Expensive
Spaceflight	0	+10	5/5	150	30	Internal Rocket (12/60)	Expensive
Drone Carrier	0	-10	8/8	200	40	Walker (4/20), Wheeled (8/40)	Expensive
Sensor Array	0	-10	8/8	150	30	Walker (4/20), Wheeled (8/40)	Expensive
Laboratory	2	-10	12/12	200	40	Walker (4/20), Wheeled (8/40)	Expensive, min. 25,000
Parasite Vehicle	2	+20	14/12	60	12	Wheeled (4/20)	High