

DUNE RUNNER

Multi Purpose Transport System



Dune runner is a multi purpose vehicle that services habitat clusters. These machines support the colonies by transporting goods from production facilities to residential sections (oxygen, water, hardware, tool etc.) Another purpose is the transport of maintenance crews around the settlements to perform EVAs for purpose of repairs or inspections. Dune runner is an all wheel drive electric vehicle with capabilities of supporting a crew of 3 for a 12 hour missions. The vehicle can climb steep martian surfaces while maintaining traction and stability.

Martian settlements grow and multiple habitat communities begin to exchange materials and services. A need arises for a light, versatile, efficient means of transportation for goods and personnel. Traditional exploration rovers of early settlement days needed to be replaced. The new fleet of vehicles performs a variety of tasks with minimal adaptations, therefore reducing the cost to the settlement.

Axiom Multi Purpose Transport System (aka Dune Runner) is designed to support the needs of a growing colony in a number of ways. Dune Runner provides flexibility with intra-habitat mobility, payload, and personnel transport. The vehicle is equipped with geological and research tools. The manipulator arm can be fitted with grappling, research or inspection equipment.

The cargo bed is designed to accommodate a variety of payloads (O₂ tank in current configuration). Dune Runner is equipped with gas suspension swing arms for maximum articulation and vehicle height control. The motor drives a Smart Spoke wheel for additional comfort and maximum traction. Each motor is outfitted with a thermo-regulation sleeve for optimal performance during extreme temperature fluctuations on the surface of Mars. The vehicle seats a crew of three with life support and supplies for 12 hour missions.

High efficiency, articulating solar panels and regenerative braking assist with range and system operation. Frontal Machine Vision (FMV) array creates mapping and 3D data, which can be used for geological analysis and course plotting for the rest of the fleet. Dune Runner can operate autonomously by utilizing machine vision, radar and LIDAR.