

## MISSION NEED

For many years, humanity has dreamt of exploring space and other worlds. One of the challenges of building a Mars colony is the means of bringing humans to the Martian surface and back. Charon is a rocket providing a continuous, reliable and sustainable transportation between the Martian surface and an orbital node.

# CHARON

## CAPSULE

- Space for 6 people and cargo
- 7 Sols of supplies
- Communication at all times
- 4 Phoenix flight computers

## CHASSIS

- Carries all loads, houses the tanks
- Chassis fully reproducible on Mars

## ENGINES

- 9 LOX-Liquid Methane engines
- Gimbaled control
- 310kN of thrust

## ABORT

- Explosive bolts, 6 abort engines
- Drogue and main parachutes

## LEGS

- 4 Legs, for support at all times

## CONTROL

- 33 RCS thrusters for 6 DOF control
- Body flap for reentry pitch control

## GROUND

- Sulfur concrete launchpads
- Propellant produced on Mars
- Parts producible in-situ

## MISSION PROFILE

Launch

Ascent

Phasing

Docking

Insertion

Reentry

Landing