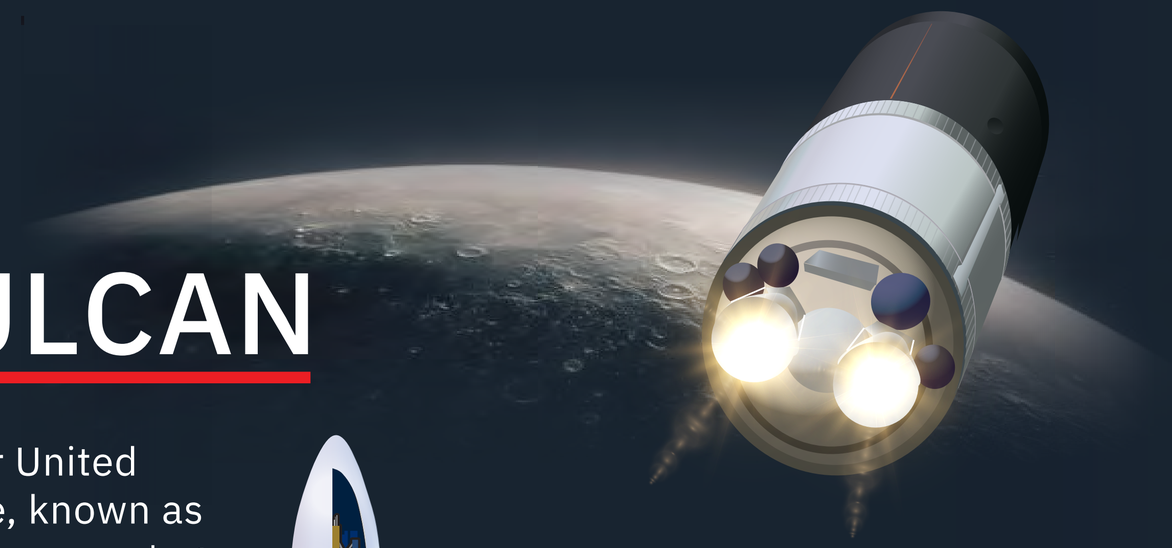
RL10 UPPER STAGE PROPULSION FOR VULCAN



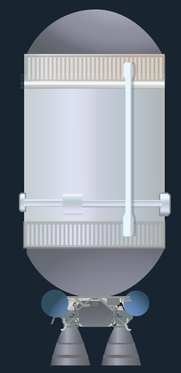
Two L3Harris RL10 engines provide upper stage propulsion for United Launch Alliance's new Vulcan rocket. The Vulcan's upper stage, known as Centaur V, offers more than twice the thrust of the Centaur III upper stage that supports ULA's Atlas V launch vehicle.

RL10 ENGINE

The Nation's premier, high performance upper stage rocket engine for 60 years.

>500 engines flown in space	Powers four active launch vehicles: Atlas V, Delta IV, SLS and Vulcan
Sent spacecraft to explore every planet in the solar system	Propelled the first human-made object, the Voyager 1 spacecraft, on its way to intersellar space

Thanks to its use of high performance liquid hydrogen and liquid oxygen propellants, and its ability to restart multiple times in space, the efficient and reliable RL10 provides the thrust needed to accurately place payloads into the most demanding orbits.



CENTAUR V

VULCAN ROCKET

Vulcan Certification Missions:

Vulcan's first certification mission will deliver Astrobotic's Peregrine lunar lander to the Moon for NASA's Commercial Lunar Payload Services (CLPS) program. The second certification mission will carry the Dreamchaser spacecraft to orbit for Sierra Space. The RL10 engines supporting these missions incorporate the latest 3D printing technology to reduce costs while maintaining their outstanding performance and reliability.

L3HARRIS' ROLE:

2 RL10 engines produce nearly 48,000 pounds of combined thrust

12 reaction control system thrusters steer the upper stage

3 high-pressure tanks support operation of the launch vehicle

ULA **VULCAN CENTAUR V - POWERED BY L3HARRIS**

L3HARRIS®