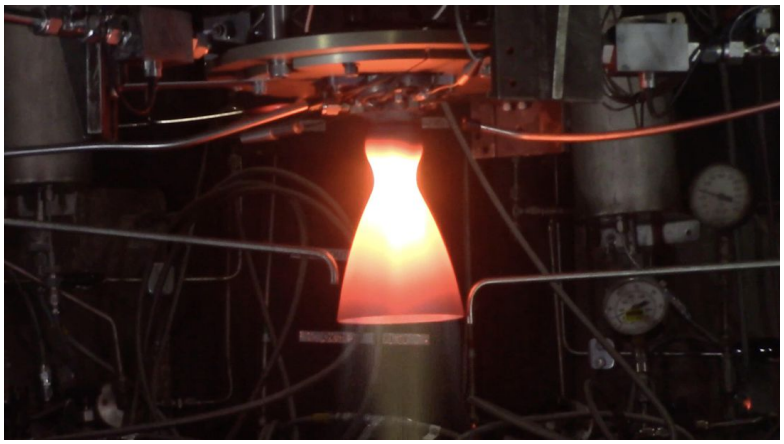
What a glow-up: Next-gen NASA moon lander thruster looks radiant during hot-fire test

NASA is raring to go back to the moon's surface, and this little thruster could help.

Thrusters are the unsung heroes of the engine world. They make the small adjustments that help orient a spacecraft. NASA is testing out some next-gen thrusters for its future lunar landers, and they are glowing.



NASA and Frontier Aerospace, which is developing the thrusters, put two prototypes through 60 hot-fire tests in a vacuum chamber in March. NASA administrator Jim Bridenstine tweeted an animated GIF on Wednesday of one of the prototypes glowing during a test. It looks like the world's most awesome night light.

> We're developing next-gen thrusters to be used on @Astrobotic's Peregrine lunar lander. The vacuum chamber hot-fire tests of a thruster prototype were the first in a series of tests to ready this lightweight, cost-saving technology for space: https://t.co/0gYfRzJC3K pic.twitter.com/Nud3Qq2Vum
> — Jim Bridenstine (@JimBridenstine) March 25, 2020

The thrusters, which are part of the agency's Thruster for the Advancement of Low-temperature Operation in Space (TALOS) project, use a propellant called MON-25, which should work well in the extremely low temperatures in space. NASA said it will make spacecraft systems smaller, lighter and less expensive.

"Although MON-25 has been tested since the 1980s, no spacecraft currently uses the propellant," NASA said in a statement Tuesday. If the testing continues to go well, the thrusters will be used in the Peregrine lander under development by space company Astrobotic.

Peregrine is designed to carry small payloads to the moon. NASA hopes to land it on the lunar surface in 2021, one of a group of uncrewed missions scheduled to happen before the space agency sends astronauts back to the moon in 2024 through its Artemis program.

"NASA will soon verify this versatile thruster design for space so that the agency and commercial companies can easily implement the technology in future missions," said NASA project manager Greg Barnett.