

Tests ensure astronaut, ground crew safety before Orion launches

November 6 2017



Credit: NASA/Rad Sinyak

NASA is performing a series of tests to evaluate how astronauts and

ground crew involved in final preparations before Orion missions will quickly get out of the spacecraft, if an emergency were to occur on the pad prior to launch. This testing took place the week of Oct. 30, 2017, using the Orion mockup in the Space Vehicle Mockup Facility at NASA's Johnson Space Center in Houston. In this photo, engineers used fake smoke to imitate a scenario in which astronauts must exit the capsule when their vision is obscured.

Before astronauts launch to [space](#) in Orion, they will cross the Crew Access Arm, 300 feet above the ground, and climb inside the crew module. Ground personnel trained to help them strap into their seats and take care of last-minute needs will assist. For testing, markings on the ground indicate where the Crew Access Arm would be located and help guide the crew.

This testing is a collaborative effort between the Orion and Ground Systems Development and Operations programs. It is helping engineers evaluate hardware designs and establish procedures that would be used to get astronauts and ground crew out of the capsule as quickly as possible. Flight and ground crew are required to get out of Orion within two minutes, to protect for a variety of failure scenarios that do not require the launch abort system to be activated, such as crew incapacitation, fire or the presence of toxins in the cabin. Previous egress testing at Johnson and in the Gulf of Mexico has evaluated how crew will exit the spacecraft at the end of their missions.

The first crewed test flight for the Orion spacecraft and Space Launch System rocket, Exploration Mission 2 (EM-2), is targeted to launch from NASA's modernized spaceport at the Kennedy Space Center in Florida in 2021. The mission's primary goals are to demonstrate Orion's [crew](#) capabilities and the upgraded SLS rocket.

Provided by NASA

Citation: Tests ensure astronaut, ground crew safety before Orion launches (2017, November 6)
retrieved 25 April 2024 from

<https://phys.org/news/2017-11-astronaut-ground-crew-safety-orion.html>

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