

Back on Earth: NASA's Orion capsule put to the test before crewed mission

March 6 2024, by Jimi Russell



The Orion spacecraft from Artemis I—now known as the Orion Environmental Test Article—arrives at NASA's Neil Armstrong Test Facility in Sandusky, Ohio, ahead of eight months of testing. Credit: NASA/Jordan Salkin

The Orion spacecraft that traveled around the moon and back during

2022's Artemis I mission completed a different round trip when it recently returned to Ohio for testing.

Now known as the Orion Environmental Test Article, the spacecraft is undergoing ground testing at NASA's Neil Armstrong Test Facility in Sandusky, Ohio. This testing is crucial to the safety and success of Artemis II—a 10-day [flight test](#) scheduled for 2025, during which four astronauts will demonstrate the spacecraft's capabilities in the lunar vicinity. The flight will be the first crewed mission under NASA's Artemis campaign.

Over the next eight months, engineers and technicians from NASA and Lockheed Martin will subject the test article to the extreme conditions Orion may experience during a launch abort scenario. The lengthy test campaign includes simulated [lightning strikes](#) and abort-level acoustics reaching levels of more than 160 decibels, louder than a jackhammer.

It also includes deployments of the spacecraft's docking and shielding covers and its crew module uprighting system, five airbags on top of the capsule that inflate upon splashdown. The test campaign serves to ensure Orion is ready to protect the crew if an emergency occurs during launch.

This Orion spacecraft completed months of space environmental testing in 2019 and 2020 at Armstrong Test Facility before its 2022 flight test, showing that the path to the moon goes through Ohio. The [test facility](#) is the only place in the world capable of testing full-scale spacecraft in the extreme conditions experienced during launch and flight.

Provided by NASA

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