

Early production continues on advanced upper stage for NASA moon rocket

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Credit: NASA/Michael DeMocker

Technicians at NASA's Michoud Assembly Facility in New Orleans have completed a major portion of a weld confidence article for the advanced upper stage of NASA's SLS (Space Launch System) rocket. The

hardware was rotated to a horizontal position and moved to another part of the facility Oct. 24.

The weld confidence article forms part of the liquid oxygen tank for the SLS rocket's exploration [upper stage](#) and is the fifth of seven weld confidence articles engineers are manufacturing for the evolved SLS Block 1B configuration of the SLS rocket. Beginning with Artemis IV, SLS will evolve to its more powerful Block 1B configuration with the advanced upper stage that gives the [rocket](#) the capability to launch 40% more to the moon along with Artemis astronauts inside NASA's Orion spacecraft.

Teams use weld confidence articles to verify welding procedures, interfaces between the tooling and [hardware](#), and structural integrity of the welds. The dome of the liquid oxygen tank weld confidence article was first welded to its structural ring at NASA's Marshall Space Flight Center in Huntsville, Alabama, using friction stir welding tooling. The hardware was transported to Michoud, where Michoud crews in the Liquid Oxygen Tank Assembly Center (LTAC) finished welding the hardware. Marshall and Michoud engineers simultaneously conducted testing and analysis on the hardware to validate welding parameters.

In [tandem](#), NASA and Boeing, the SLS lead contractor for the core stage and exploration upper stage, are producing structural test articles and flight hardware structures for the upper stage at Marshall and Michoud.

Provided by NASA

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