

SLS (Space Launch System) Launch Vehicle Stage Adapter

The cone-shaped launch vehicle stage adapter (LVSA) connects the interim cryogenic propulsion stage to the SLS (Space Launch System) core stage for the first three Artemis flights.

During launch and ascent, the LVSA provides structural support and protects avionics and electrical devices within the interim cryogenic propulsion stage from extreme vibrations and acoustic conditions.

Approximately 500 seconds into flight, a frangible joint assembly at the top of the adapter instantaneously separates the LVSA and core stage from the upper part of the rocket.

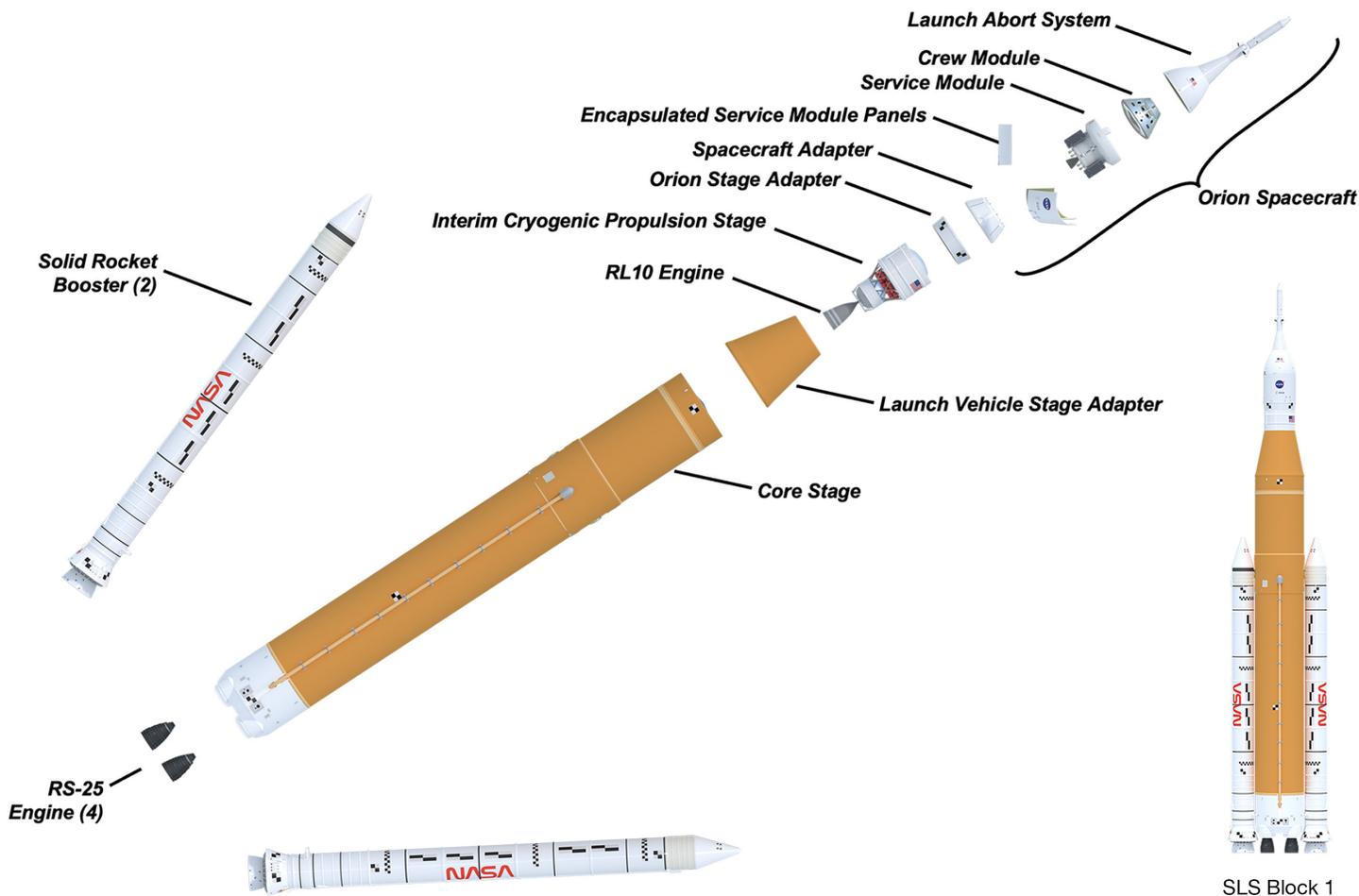
Prime contractor Teledyne Brown Engineering manufactures the LVSA using self-reacting friction-stir welding tools at NASA's Marshall Space Flight Center in Huntsville, Alabama.



Teams at NASA's Kennedy Space Center in Florida integrate the Artemis I LVSA (launch vehicle stage adapter) with the massive SLS (Space Launch System) core stage on the mobile launcher in the Vehicle Assembly Building.



The LVSA connects the mega rocket's core stage to the interim cryogenic propulsion stage, partially enclosing it and protecting its avionics and electrical systems from the extreme pressures, sounds, and temperatures during launch and flight.



SLS is the only rocket that can send Orion, astronauts, and supplies to the Moon in a single launch.

Launch Vehicle Stage Adapter Facts

- Height 27.5 ft. (8.4 m)
- Top Diameter 16.5 ft. (5 m)
- Bottom Diameter Tapers down to 27.5 ft. (8.4 m)
- Contractor Teledyne Brown Engineering

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www.nasa.gov

For more information about SLS, visit:
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