

# Space Launch System

## Launch Vehicle Stage Adapter (LVSA)

The cone-shaped LVSA partially encloses the Interim Cryogenic Propulsion System (ICPS) and connects it to the Space Launch System (SLS) core stage below and the Orion Stage Adapter (OSA) above.

A pneumatically actuated frangible joint assembly at the top of the adapter separates the core stage and LVSA from the ICPS, OSA and Orion or payload fairing.

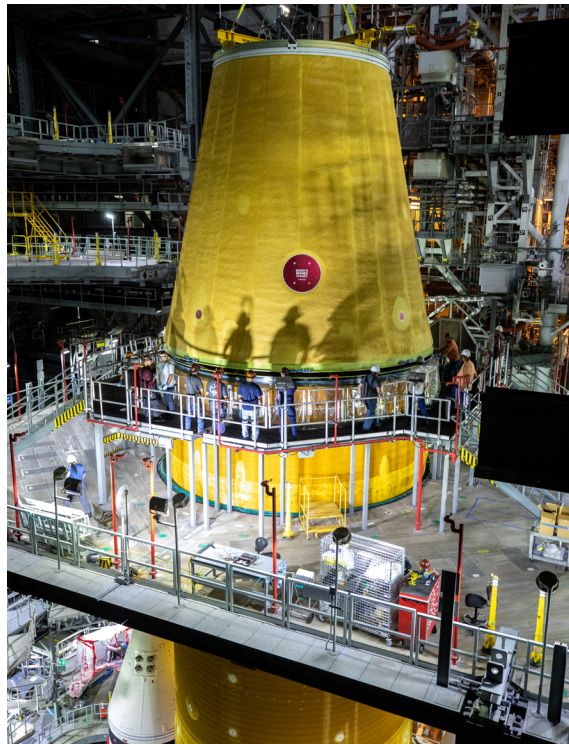
In addition to providing structural support for launch and a separation system, the LVSA also protects avionics and electrical devices in the ICPS from extreme vibration and acoustic conditions during launch and ascent.

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.

NASAfacts



Technicians with NASA's Exploration Ground Systems move the launch vehicle stage adapter (LVSA) for the agency's SLS rocket into the Vehicle Assembly Building (VAB) at NASA's Kennedy Space Center (KSC) in Florida.

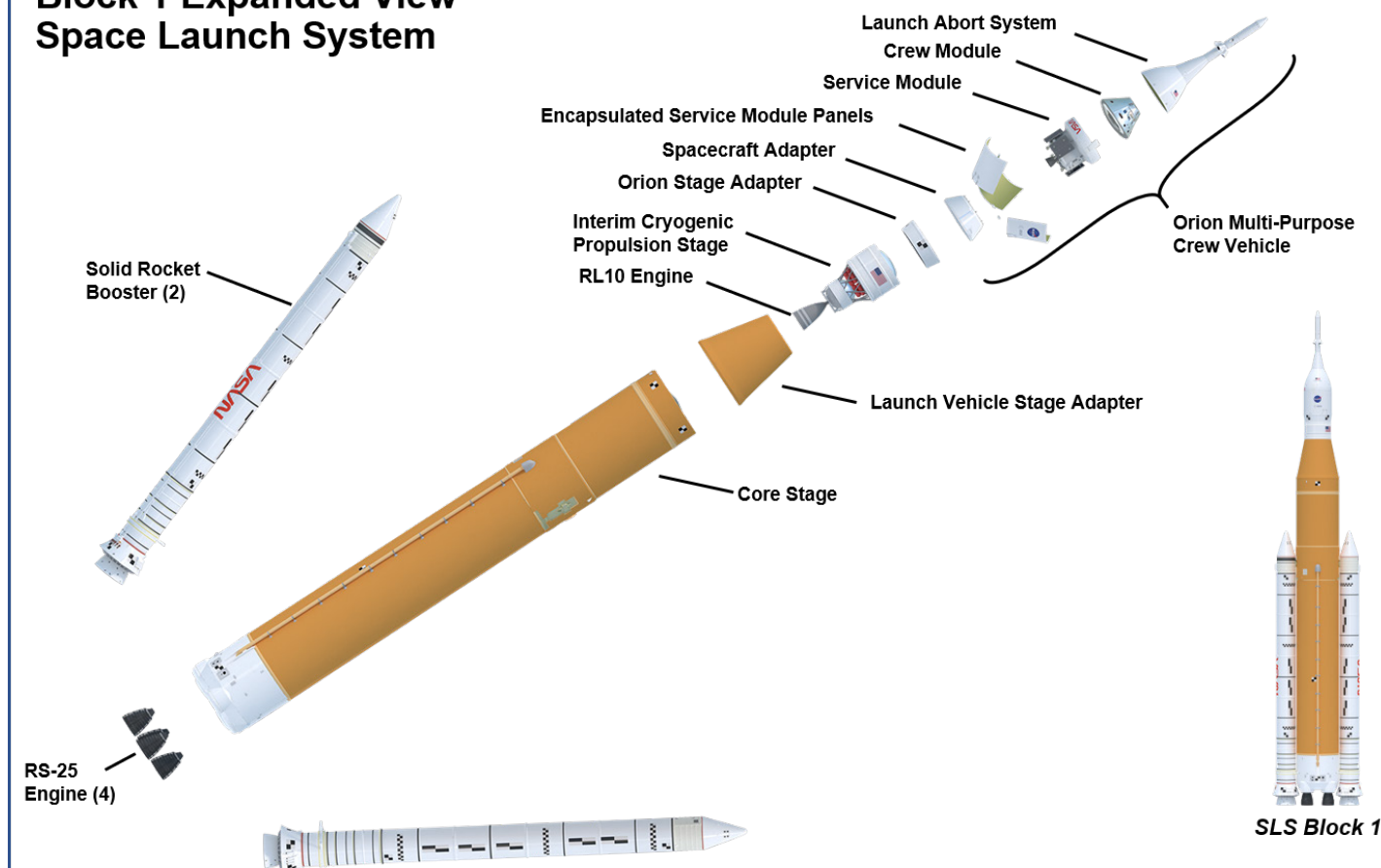


Teams at KSC integrate the LVSA with the massive SLS core stage on the mobile launcher in the VAB. Engineers used one of five VAB cranes to lift the adapter almost 250-feet in the air and then slowly lower it on to the core stage.

## Launch Vehicle Stage Adapter (LVSA)

Height	27.5 feet (8.3 meters)
Top Diameter	16.5 feet (5 meters)
Bottom Diameter	Tapers down to 27.5 feet (8.3 meters)
Contractor	Teledyne Brown Engineering

### Block 1 Expanded View Space Launch System



National Aeronautics and Space Administration

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**For more information about SLS, visit:**

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