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Space Launch System

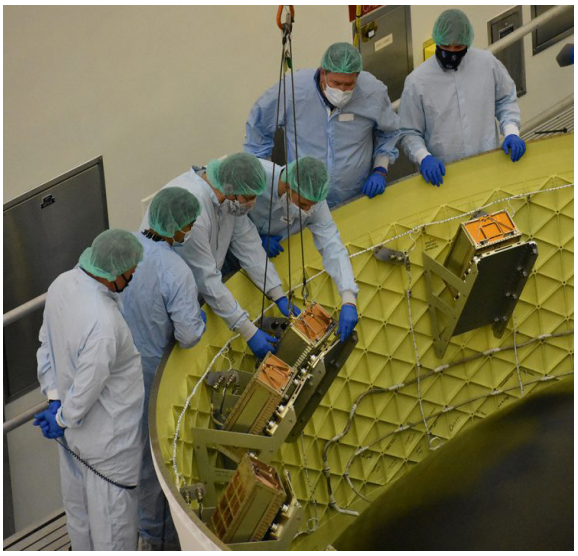
Orion Stage Adapter (OSA)

The OSA, built by Marshall Space Flight Center, connects the ICPS to the Orion spacecraft. The adapter contains a diaphragm that provides a barrier to prevent gases generated during launch, such as hydrogen, from entering Orion. The OSA can also carry small payloads, called CubeSats, to deep space.

The OSA can potentially accommodate up to 17 CubeSats in a combination of 6U and 12U sizes (one unit, or U, is 10 cm x 10 cm x 10 cm). The actual number of CubeSats manifested on a flight depends on several factors, including mission parameters and the combined weight of these small spacecraft.

The SLS Program provides a comprehensive secondary payload deployment system for CubeSats, including mounting brackets for commercial off-the-shelf (COTS) dispensers, cable harnesses, a vibration isolation system and an avionics unit.

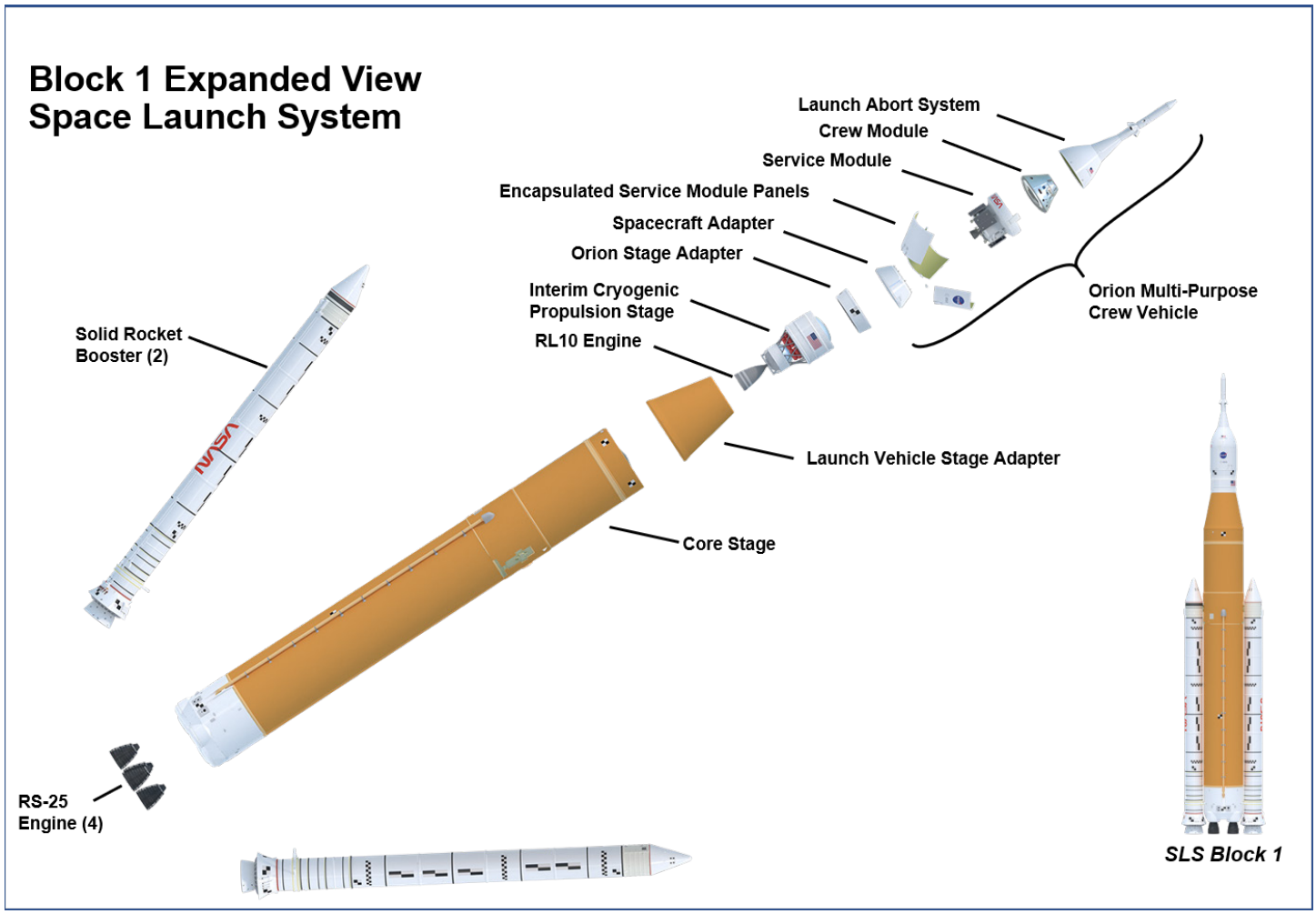
CubeSats can play a key role in the Artemis missions by gathering data and demonstrating potential technologies that reduce risk, increase effectiveness and improve the design of robotic and human space exploration missions.



All 10 secondary payloads have been installed in the Space Launch System (SLS) rocket's Orion stage adapter. The Orion stage adapter connects the SLS rocket to Orion and had slots built into it for the payloads.

Teams from Exploration Ground Systems mate the Orion Stage Adapter (OSA) to the Interim Cryogenic Propulsion Stage (ICPS) on top of the Space Launch System.

Orion Stage Adapter (OSA)	
Height	5 feet (1.5 meters)
Diameter	18 feet (5.4 meters)
Payload Volume	516 ft^3(14.6 m^3) up to 17 berths for 6U/12U CubeSats



National Aeronautics and Space Administration

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