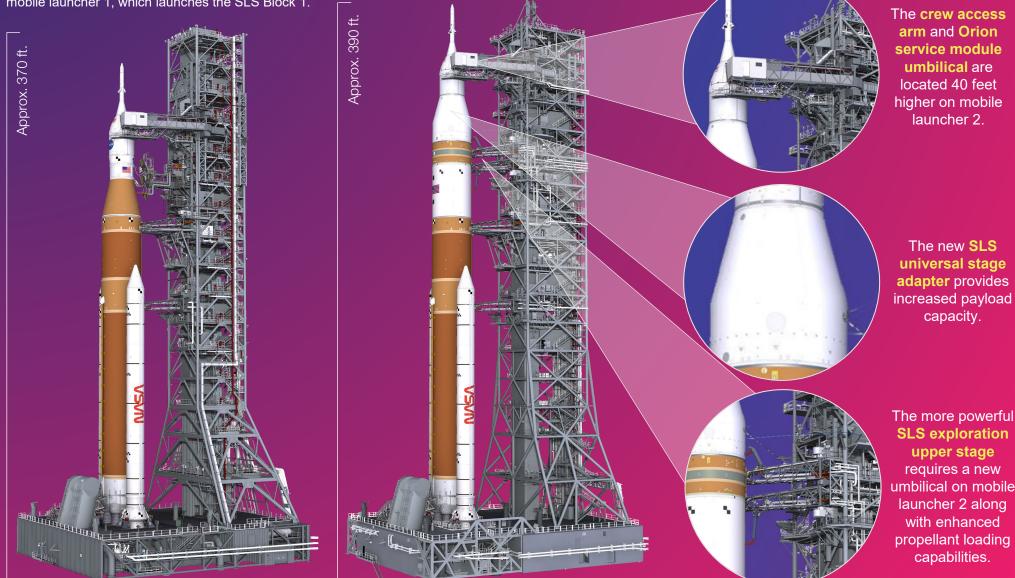
EXPLORATION GROUND SYSTEMS **NASA's Artemis Mobile Launchers**



NASA's mobile launchers are designed to send the SLS (Space Launch System rocket), Orion spacecraft, astronauts, and large payloads to the Moon in a single launch. With the new universal stage adapter and enhanced exploration upper stage on SLS beginning with Artemis IV, NASA's mobile launcher 2 will launch 40% more payload to the Moon compared to mobile launcher 1, which launches the SLS Block 1.



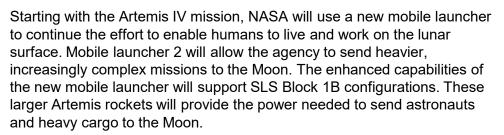
Mobile Launcher 1 (SLS Block 1 Crew) Artemis I – Artemis II – Artemis III

Mobile Launcher 2 (SLS Block 1B Crew) Artemis IV & Beyond

universal stage adapter provides

SLS exploration requires a new umbilical on mobile launcher 2 along with enhanced propellant loading

EXPLORATION GROUND SYSTEMS NASA's Artemis Mobile Launchers



A Bold Mission Calls for Big Rocket

As Artemis missions evolve, so must our ground support equipment. The powerful SLS Block 1B lifts more than double the mass to the Moon in a single launch as compared to current rockets and features a more powerful upper stage that can send both crew and large payloads to space for our most ambitious missions ever attempted. These heavy cargo missions demand a larger and more robust mobile launcher to support SLS prior to launch and withstand the tremendous power of such a large rocket.

What's New with Mobile Launcher 2?

NASA engineers implemented lessons learned from the construction of mobile launcher 1 and the launch of Artemis I to make improvements to the next generation mobile launcher. These improvements will enable mobile launcher 2 to better withstand the immense launch power of SLS Block 1B.

Structurally, the new mobile launcher will feature a wider cross-section on the launch tower to better protect equipment and an increased diameter on piping and flow nozzles of the ignition overpressure sound suppression system for a better flow of water to launch platform and flame hole.

New technology includes: a self-contained ground cooling system providing avionics cooling for Orion, reducing reliance on ground support equipment; an improved electrical system; and a new payload accommodations room enabling customers to remotely communicate with payloads.

Mobile Launcher by the Numbers:

Mobile launcher 1

Total height above ground: 380 ft Tower: 40 ft square, about 355 ft tall Approximate weight: 10.5 million lbs

Mobile launcher 2

Total height above ground: 402 ft Tower: 40 x 50 ft square, about 377 ft tall Approximate weight: 12.4 million lbs



NASA's Space Launch System rocket atop mobile launcher 1 on Launch Pad 39B at Kennedy Space Center in Florida, prior to the launch of Artemis I. Photo Credit: (NASA/Joel Kowsky)

