



SPACE LAUNCH SYSTEM

JANUARY 2020

SETTING THE STAGE FOR GREEN RUN

NASA TEAMS READY FOR ARTEMIS I CORE STAGE TEST SERIES



Employees at Michoud Assembly Facility in New Orleans gather to watch as the Artemis I core stage is readied to ship to Stennis Space Center near Bay St. Louis, Mississippi, for the Green Run test series.

NASA teams at Michoud Assembly Facility and Stennis Space Center worked together to transport and prepare for testing the largest core stage the agency has ever built.

The Artemis I core stage was rolled to NASA's Pegasus barge at Michoud and transported to Stennis, where it has begun the Green Run series of tests that will confirm that the stage is ready for its maiden voyage.

The testing – called Green Run because the series will test new, or green, hardware – is the final test campaign ahead of the rocket's maiden flight. The testing will be conducted on the B-2 Test Stand at Stennis, the nation's largest rocket propulsion test site. Green Run will take place over several months, culminating in an eight-minute, full-duration hot fire of the stage's four RS-25 engines to generate 2 million pounds of thrust, as during an actual launch. After the hot fire test, crews will refurbish the stage and prepare it for shipment to Kennedy Space Center in Florida, where it will be prepared for the Artemis I launch.

NASA is building SLS, the world's most powerful rocket, to return humans to deep space including destinations such as the Moon and Mars. Through the Artemis program, NASA will send the first woman and next man to the Moon by 2024. Artemis I will be a test flight of the rocket and its Orion spacecraft without crew. Artemis II will carry astronauts into lunar orbit. Artemis III will send astronauts to the surface of the Moon.

Read more: [go.nasa.gov/2UfAI4S](https://www.nasa.gov/2UfAI4S)

ARTEMIS I CORE STAGE SHIPPED TO STENNIS FOR TESTING



Crews used large cranes to lift the Artemis I core stage for installation in the B-2 test stand. The stage includes the liquid hydrogen and liquid oxygen tanks, four RS-25 engines and the vehicle's avionics and flight computers. When it is filled with all 733,000 gallons of propellant for flight, the stage will weigh more than 2 million pounds and will have the power to reach Mach 23 – faster than 17,000 miles per hour.



The core stage that will fly on the Artemis I mission is installed in the B-2 Test Stand at Stennis Space Center near Bay St. Louis, Mississippi, for [Green Run](#) testing. The test series is scheduled to take place over several months.

SHAKING UP THE CORE STAGE WITH FIRST GREEN RUN TESTING



Test teams at Stennis Space Center completed modal testing, the initial testing of the Green Run series, Jan. 30. Modal testing mimics the stresses the core stage will endure during launch and verifies flight control parameters.

SLS EMPLOYEES CELEBRATE ARTEMIS I CORE STAGE ROLLOUT



NASA Deputy Administrator Jim Morhard joined leadership from the SLS Program, core stage and Michoud Assembly Facility to celebrate the completion of the Artemis I core stage Jan. 8. Manufacturing the SLS rocket is a combined effort for NASA and its industry partners with more than 1,100 companies across the United States contributing to the rocket's production. Boeing is the lead contractor for the core stage.

Watch a video of the team rolling out the core stage: youtu.be/5AAp3cCcdMo

WHAT'S NEW IN SLS SOCIAL MEDIA

ROCKET SCIENCE IN 60 SECONDS



With the assembly of the first SLS core stage complete and delivered to Stennis Space Center near Bay St. Louis, Mississippi, for Green Run testing, NASA is focusing its efforts on building the core stages for the rocket's second and third missions. For this episode of *Rocket Science in 60 Seconds*, Boeing production superintendent Eric Sturgeon takes you inside NASA's Michoud Assembly Facility in New Orleans where the SLS rocket core stages are manufactured. In this episode, he'll explain how NASA and Boeing evaluate each rocket's construction and what they've learned from building the first rocket stage.

Watch the video here: youtu.be/q1W0H6VEIV8

CHARTING THE PATH TO SUCCESSFUL BOOSTER STACKING



In High Bay 4 of the Vehicle Assembly Building at Kennedy Space Center, a crane lowers one SLS solid rocket booster pathfinder segment onto another segment during a training exercise Jan. 8. A team of engineers with Exploration Ground Systems and crane operators and technicians with contractor Jacobs are practicing lifting, moving and stacking maneuvers in preparation for stacking the boosters that will power the rocket on the Artemis I flight.

Read the full story: go.nasa.gov/2vAco3a

SPACEFLIGHT PARTNERS: *Triplett Machine Co.*

NUMBER OF EMPLOYEES: 50

LOCATION: *Phelps, NY*

WHAT THEY DO FOR SLS:

Triplett Machine provides small- to medium-complexity machined hardware. For more than three decades, the company has worked to surpass the learning curve on tight tolerance components for aerospace, defense and industrial applications. Triplett recently successfully completed deliveries of machined lugs ahead of program need to support the main combustion chamber for the RS-25 engines that power the SLS rocket.



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