



Rotation, Processing and Surge Facility (RPSF) at Kennedy Space Center

The Rotation, Processing and Surge Facility (RPSF) is located near the Vehicle Assembly Building (VAB) and the mobile launcher parksite in the Launch Complex 39 area at NASA's Kennedy Space Center in Florida. The facility will receive the solid rocket booster segments for the Space Launch System (SLS) rocket and prepare them to be integrated with other hardware in the VAB prior to launch as part of the agency's Artemis missions to the Moon and on to Mars.

The agency's Exploration Ground Systems team successfully completed the system acceptance review and operational review for the facility in July 2019. This review evaluated the facility's readiness to receive, process, integrate and launch flight hardware for Artemis I and beyond.

The RPSF is over 90 feet high, more than 190 feet long, and about 90 feet wide. The large open area, called the high bay, contains several work stands and work platforms to provide access to hardware during processing. Two 200-ton cranes, one located at the

east end of the building, and the other at the west end, are positioned to lift the booster segments from a horizontal position to a vertical position. A crane control room provides access for two crane operators.

Railroad tracks lead to and continue through the facility to allow for transport and delivery of the large segments. During processing activities for the SLS rocket, the five booster segments, built by Northrop Grumman in Promontory, Utah, will arrive by rail to the RPSF. The segments will be inspected and then rotated to the vertical position in preparation for stacking operations.

The RPSF also will receive the booster aft skirt from the Booster Fabrication Facility (BFF) at Kennedy. During processing, the aft segment is attached to the aft skirt and aft exit cone that covers the nozzle to compose the lower part, called the aft assembly.

The aft assembly, three center segments and the forward segment will be transported and stored in

NASAfacts



Technicians watch as a crane and special mechanism begin breaker, or flipping, of the mated Thrust Resistance Structure and Guidance Control Assembly for the Orion Program's Ascent Abort-2 flight test during practice, or pathfinder activities, June 22, 2018, inside the Rotation, Processing and Surge Facility at NASA's Kennedy Space Center in Florida. Photo credit: NASA/Ben Smegelsky

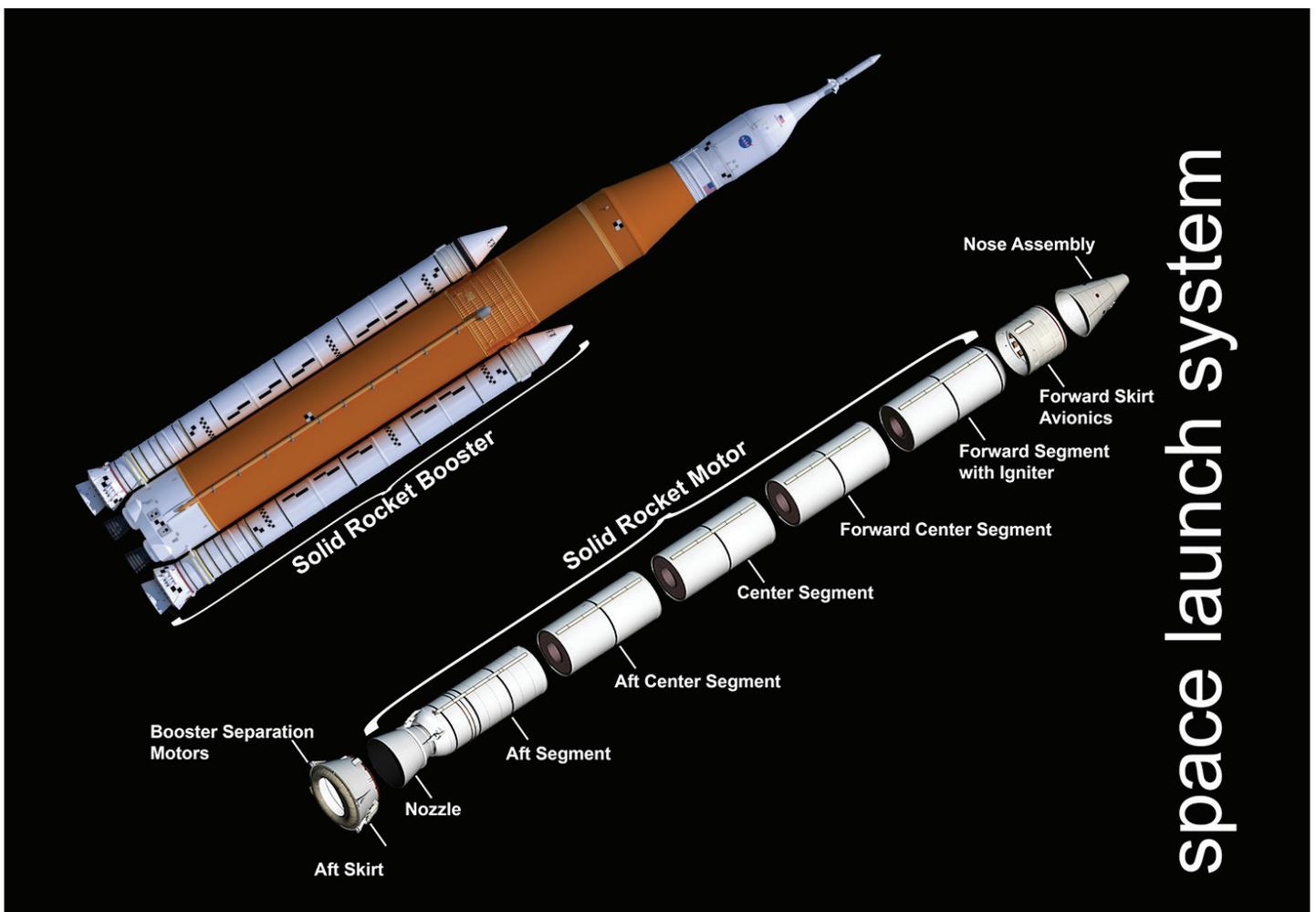
one of two smaller surge facilities that are part of the RPSF complex. The surge facilities are about 62 feet tall, 90 feet long, and 65 feet wide and are designed to accommodate components in the vertical configuration.

All of the SLS solid rocket components processed in the RPSF will be transported to the transfer aisle in the VAB, where they will be lifted by crane and transferred into High Bay 3 for final assembly on the zero-level deck of the mobile launcher.

Constructed in 1984, the RPSF was once used for receiving solid rocket motor segments for the Space Shuttle Program and was recently upgraded to prepare for SLS. The facility is eligible for nomination to the National Register of Historic Places, as determined in a historical survey conducted in 2006 and 2007.



An aft skirt similar to one that will be used on a solid rocket booster for NASA's Space Launch System rocket, arrived at the Rotation, Processing and Surge Facility at NASA's Kennedy Space Center in Florida on Jan. 20, 2016. The aft skirt was inspected and prepared for SRB pathfinder operations. Photo credit: NASA/Charles Babir



For more information on the Exploration Ground Systems Program, go to <http://www.nasa.gov/exploration/systems/ground/index.html>.

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FS-2019-10-2547-KSC