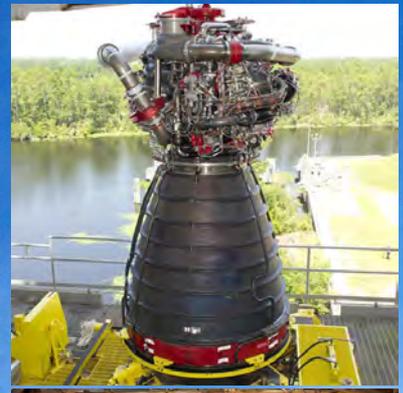
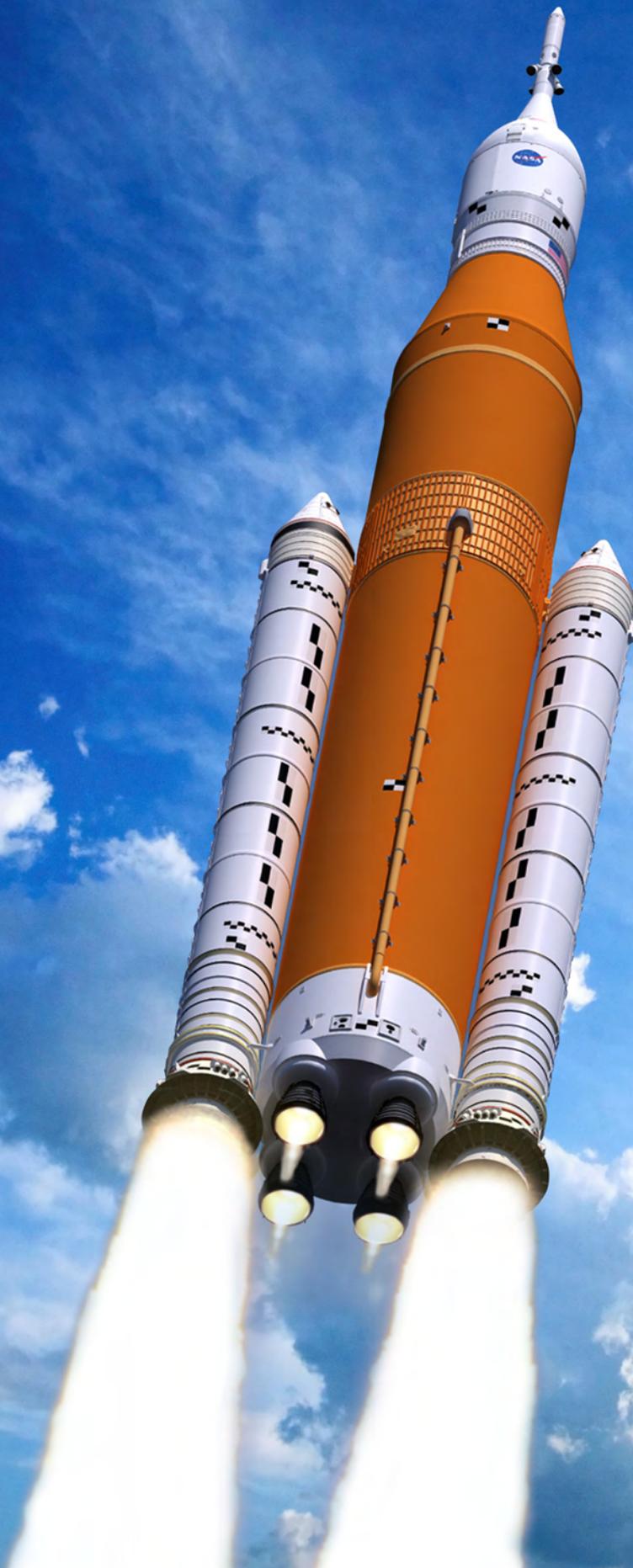


Aerojet Rocketdyne

RS-25 PROPULSION SYSTEM



Aerojet Rocketdyne

Human-rated with 100 percent flight success

The RS-25 evolved from Aerojet Rocketdyne's Space Shuttle Main Engine (SSME) that successfully provided liftoff thrust for all 135 Space Shuttle flights. The RS-25 uses a staged-combustion engine cycle and is powered by liquid hydrogen and liquid oxygen. The RS-25 will continue to serve the Nation's human exploration propulsion needs as the core stage engine for NASA's Space Launch System (SLS), America's next heavy-lift launch vehicle.

Between the Space Shuttle and SLS programs, the RS-25 and SSME engines have experienced more than 1.1 million seconds of testing - making it one of highest-performing engines the nation has ever produced. The SLS program has 16 engines in inventory at NASA's Stennis Space Center with 14 of them previously flown on the Space Shuttle. Aerojet Rocketdyne is currently adapting the RS-25 in support of SLS. All 16 engines have been upgraded with new controllers as part of a technology "refresh" and testing has been completed to verify that the engine meets the increased performance and environmental demands required for SLS.

The first flight test of the SLS will be configured for a 70-metric-ton (77-ton) lift capacity and carry an uncrewed Orion spacecraft. As SLS evolves, it will be the most powerful rocket ever built and provide an unprecedented lift capability of 130 metric tons (143 tons). SLS is built on the most powerful and proven propulsion system in the world.

RS-25 PROPULSION SYSTEM



Specifications

Block II RS-25 Engine (full power level)

Maximum Thrust: (109% Power Level)	At Sea Level: In Vacuum:	418,000 lb 512,300 lb
Throttle Range:	67% - 109%	
Pressures:	Hydrogen Pump Discharge: Oxygen Pump Discharge: Chamber Pressure:	6,276 psia 7,268 psia 2,994 psia
Specific Impulse:	In Vacuum	452.3 sec
Power: High Pressure Pumps	Hydrogen: Oxygen:	71,140 hp 23,260 hp
Area Ratio:	Exit/Throat	69:1
Weight:	Dry	7,774 lb
Mixture Ratio:	Oxidizer/Fuel	6.03:1
Dimensions:	168 in. long 96 in. wide	
Propellants:	Fuel: Oxidizer	Liquid Hydrogen Liquid Oxygen

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