National Aeronautics and Space Administration

Space Launch System (SLS)

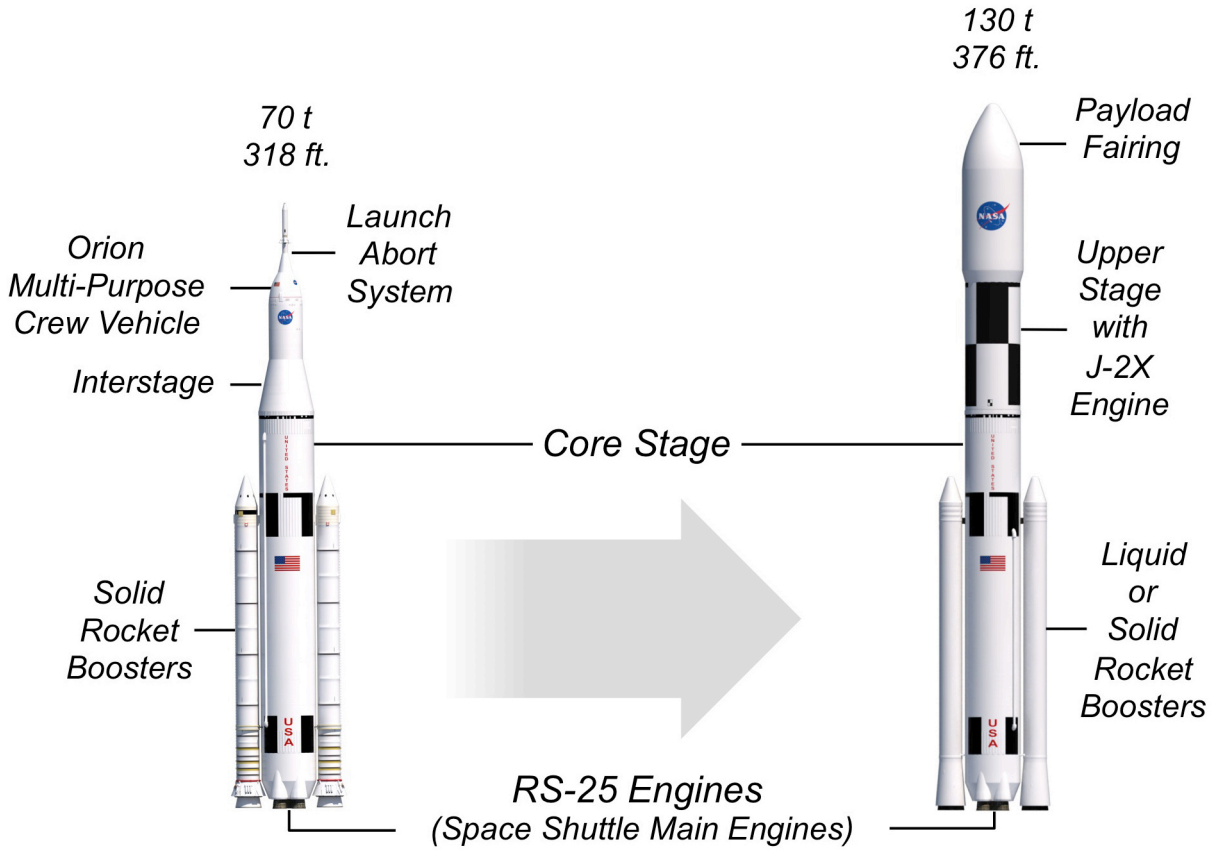
Fun Facts

The Biggest, Most Capable Rocket Ever Built
for Entirely New Human Exploration Missions Beyond Earth's Orbit

- **Designed to be flexible and evolvable for crew or cargo missions**
- **Safe, affordable and sustainable to advance America's exploration of space**

SLS Initial Lift Capability - 70 metric tons (t)
More than double any operational vehicle today
(Crew Configuration Shown)

SLS Evolved Lift Capability - 130 t
More than any past, present or planned vehicle
(Cargo Configuration Shown)



70 t

130 t

Liftoff Weights & Sizes

Weight: 5.5 million pounds

- Equivalent to 7.5 fully-loaded 747 jets

Height: 318 feet

- Taller than the Statue of Liberty

Weight: 6.5 million pounds

- Equivalent to 8.8 fully-loaded 747 jets

Height: 376 feet

- Tall as a 37-story building

Cargo Volume:

- Could carry 9 school buses

Payload

70 t (154,000 pounds) to orbit

- 77 one-ton pickup trucks' worth of cargo
- Equivalent of 12 fully grown elephants

130 t (286,000 pounds) to orbit

- 143 one-ton pickup trucks' worth of cargo
- Equivalent of 22 fully grown elephants

Thrust/Power

At liftoff, the 70 t configuration has 8.4 million pounds of thrust, more than 31 times the total thrust of a 747 jet.

Produces horsepower equivalent to:

- 160,000 Corvette engines
- 13,400 locomotive engines

10 percent more thrust than the Saturn V at liftoff

At liftoff, the 130 t configuration has 9.2 million pounds of thrust, more than 34 times the total thrust of a 747 jet.

Produces horsepower equivalent to:

- 208,000 Corvette engines
- 17,400 locomotive engines

20 percent more thrust than the Saturn V at liftoff

Propulsion

Solid Rocket Boosters (SRBs)

- If their heat energy could be converted to electric power, the two SRBs firing for 2 minutes would produce 2.3 million kilowatt hours of power, enough to supply power to over 92,000 homes for a full day.
- Each burns 5 tons of propellant per second.

RS-25 Engines for Core Stage

- The power generated by 3 RS-25 engines is equivalent to the output of 12 Hoover Dams.
- If 3 RS-25 engines pumped water, rather than fuel, they would drain a family-sized swimming pool in 25 seconds.

J-2X Engine for Upper Stage

- One J-2X Engine produces the equivalent power of 2 Hoover Dams.
- One J-2X engine uses 217 gallons (821 liters) of propellant per second.

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For more info:
www.nasa.gov/sls