

# RS-25 INCREDIBLE FACTS

## Space launch system (SLS) human-rated heavy-lift rocket engine

- > The Boeing 747-400 is powered by four large turbofan jet engines. Likewise, the Space Launch System (SLS) core stage is powered by four RS-25 engines. The thrust provided by the SLS RS-25 engines could keep eight 747s aloft.
- > The RS-25 is so powerful that if it were generating electricity instead of propelling rockets into space, it could power 846,591 miles of residential street lights. That's a street long enough to go to the moon and back, then circle the Earth 15 times.
- > The RS-25 is so powerful that if it were generating electricity instead of propelling rockets into space, it could provide twice the power needed to move all 10 existing Nimitz-class aircraft carriers at 30 knots.
- > Each turbine blade powering the RS-25's high-pressure fuel turbopump produces more than a Corvette ZR1's 638 horsepower and its airfoil is the size of a quarter.
- > Four RS-25 engines push the SLS rocket 73 times faster than an Indianapolis 500 race car.
- > In the RS-25, coolant travels through the main combustion chamber in two milliseconds, increasing its temperature by 400-degrees Fahrenheit.
- > Pressure within the RS-25 is equivalent to an ocean depth of three miles — about the same distance where Titanic lies below the surface of the Atlantic Ocean.
- > The RS-25 uses liquid hydrogen and liquid oxygen to produce thrust. The RS-25 generates about 20% more thrust at sea level than comparable kerosene engines using the same amount of fuel. The RS-25 exhaust is clean, superheated water vapor.

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1025 W. NASA Boulevard  
Melbourne, FL 32919

[L3Harris.com](http://L3Harris.com)