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## **GOES-S Launch Marks Flight of 100th Aerojet Rocketdyne AJ-60A Solid Rocket Booster**

SACRAMENTO, Calif., March 01, 2018 (GLOBE NEWSWIRE) -- Today's launch of the nation's newest weather satellite aboard a United Launch Alliance (ULA) Atlas V rocket marks the flight of the 100th Aerojet Rocketdyne AJ-60A solid rocket booster (SRB), the largest monolithically wound SRB ever flown.

The AJ-60A is one of numerous Aerojet Rocketdyne products on both the ULA Atlas V launch vehicle and the Lockheed Martin-built Geostationary Operational Environmental Satellite-S (GOES-S). These include the Atlas V's RL10C-1 upper-stage engine, pressurization tanks and various controlling thrusters for both the launch vehicle and satellite.

GOES-S is the second in a new generation of geostationary-orbiting weather satellites built under contract to NASA for the National Oceanic and Atmospheric Administration (NOAA), which is responsible for the nation's weather forecasting. NOAA requires three GOES satellites on orbit: one each, overlooking the U.S. East and West Coasts, and one on-orbit spare.

This new generation of satellites, the first of which launched in November 2016, provides weather observations with greater frequency, accuracy and detail than previous generations of weather satellites. This information enables local communities to better confine their storm warnings to areas most likely to be affected, and to deploy limited emergency resources with greater precision.

"The GOES-R Series of satellites will save lives and property every year, particularly in areas prone to severe storms like hurricanes and tornadoes," said Eileen Drake, Aerojet Rocketdyne CEO and president. "Today's launch is an excellent representation of the diversity of Aerojet Rocketdyne's product line."

The AJ-60A was designed specifically to augment the lifting power of the Atlas V, which is used to launch most U.S. national security, scientific and environmental monitoring spacecraft. The Atlas V can accommodate up to five AJ-60A SRBs, each measuring 67 feet in length and generating more than 348,500 pounds of additional liftoff thrust.

The GOES-S launch utilized four AJ-60A SRBs, bookended by the 97th and 100th units to fly to date. "What's important to note about this milestone is that it was reached with 100 percent mission success," Drake said.

The Atlas V's Centaur upper stage, meanwhile, relies on Aerojet Rocketdyne's RL10C-1 engine, which generates 22,900 pounds of thrust to deliver payloads to orbit. Variants of this engine have been in use for five decades - 487 have flown to date - and are still relied upon today to launch the vast majority of operational U.S. government satellites and exploration spacecraft.

The Centaur upper stage also uses smaller Aerojet Rocketdyne thrusters for pitch, yaw and roll control, while both stages of the Atlas V employ pressurization vessels built by Aerojet Rocketdyne's ARDE subsidiary.

The GOES-S satellite itself is full of Aerojet Rocketdyne propulsion systems, including specially designed Low Thrust Rockets (LTRs) for attitude control and station keeping, and super-efficient electric thrusters for station keeping and for decommissioning the satellite at the end of its service life. Station keeping refers to maintaining a geostationary-orbiting satellite's position relative to the Earth's surface.

The 16 MR-401 LTRs, designed specifically for the next-generation GOES-R Series, debuted on GOES-R, now GOES-16, and are used to keep the satellites stabilized in orbit on their east-west axis. The MR-510 electric thrusters are used for north-south station keeping and to propel the satellite into a graveyard orbit, where it will not pose any threat to other spacecraft in the geostationary-orbit arc, at the end of its mission.

Aerojet Rocketdyne is a leading provider of electric thrusters, which require far less propellant than conventional chemical propulsion systems. This enables spacecraft designers to dedicate more mass to the satellite's mission, such as data collection or communications.

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