



Aerojet Rocketdyne Gears Up for First Flight of Boeing's Starliner Spacecraft

December 12, 2019

EL SEGUNDO, Calif., Dec. 12, 2019 (GLOBE NEWSWIRE) -- From start to finish, Aerojet Rocketdyne will play a major role in Boeing's first demonstration mission of the CST-100 Starliner spacecraft for NASA, ushering in a new era of human spaceflight. The Starliner Orbital Flight Test (OFT) demonstration is slated to launch Dec. 20, 2019 from Cape Canaveral Air Force Station in Florida.

Aerojet Rocketdyne propulsion hardware is featured on all phases of the upcoming OFT mission, from launch to atmospheric re-entry, extending a legacy that dates to the dawn of the space age. Aerojet Rocketdyne propulsion systems will enable the mission, which calls for an uncrewed Starliner spacecraft to dock with the International Space Station, conduct in-orbit system checkouts, and then return home for a parachute-aided landing.

"We're incredibly proud that Boeing entrusted us to provide the propulsion for this critical national capability," said Eileen Drake, Aerojet Rocketdyne CEO and president. "This historic mission will lay the foundation for launching our astronauts from American soil once again."

A dual-engine Centaur powered by two RL10 engines manufactured in West Palm Beach, Florida, will be making its debut on the United Launch Alliance Atlas V rocket during the Starliner OFT mission. The dual-engine Centaur provides additional thrust to enable safe abort options along the entire ascent profile. Aerojet Rocketdyne AJ-60A solid rocket boosters will provide a total of more than 750,000 pounds of thrust as part of the boost propulsion for the Atlas V.

Aerojet Rocketdyne in-space propulsion will be used to orient and maneuver both the crew module and the service module. Aerojet Rocketdyne thrusters on the service module will also be used to reboost the International Space Station.

Additionally, the composite overwrap pressurant vessels on the launch vehicle, crew module and service module, built by Aerojet Rocketdyne subsidiary ARDÉ, located in Carlstadt, New Jersey, are manufactured based on a long history of proven flight safety and reliability. ARDÉ designs have flown more than 700 times on launch vehicles and spacecraft around the world.

Aerojet Rocketdyne propulsion on the mission includes:

- **Atlas V Rocket:** Two AJ-60A solid rocket boosters that provide more than 375,000 pounds of thrust each, manufactured in Sacramento, California. Helium tanks for the first and upper stages built by Aerojet Rocketdyne subsidiary ARDÉ, located in Carlstadt, New Jersey. Reaction control engines built in Redmond, Washington, and two RL10 engines built in West Palm Beach, Florida, for the dual-engine Centaur upper stage.
- **Crew Module:** 12 reusable thrusters manufactured in Redmond, Washington, which generate a total of 1,200 pounds of thrust to properly orient the spacecraft for re-entry into the atmosphere. Eight pressure control subsystem tanks to store nitrogen, oxygen and nitrox built by ARDÉ.
- **Service Module:** 28 reaction control system engines, which provide 85 pounds of thrust each to enable on-orbit maneuvering and International Space Station reboost. Twenty orbital maneuvering and attitude control engines, providing 1,500 pounds of thrust each, are used for abort, maneuvering and stage separation. Four launch abort engines, with 40,000 pounds of thrust each, are used only in the event of a launch emergency to propel the crew capsule away from the launch vehicle. All of these types of engines are built in Canoga Park, California. Additionally, ARDÉ provides 4 fuel, 4 oxidizer and 2 pressurant service module tanks.

"Safe, reliable astronaut access to low-Earth orbit is critical for the future of a robust deep space exploration program," added Drake. "The upcoming Orbital Flight Test builds on the successful test of Starliner's launch abort system in November and paves the way for the first Starliner flight test with astronauts on board."

Starliner was developed under a NASA-industry partnership to leverage commercial capabilities and practices to launch astronauts from U.S. soil for the first time since the retirement of the space shuttle in 2011.

About Aerojet Rocketdyne: Aerojet Rocketdyne, a subsidiary of Aerojet Rocketdyne Holdings, Inc. (NYSE:AJRD), is a world-recognized aerospace and defense leader that provides propulsion systems and energetics to the space, missile defense and strategic systems, and tactical systems areas, in support of domestic and international customers. For more information, visit www.Rocket.com and www.AerojetRocketdyne.com. Follow Aerojet Rocketdyne and CEO Eileen Drake on Twitter at [@AerojetRdyne](https://twitter.com/AerojetRdyne) and [@DrakeEileen](https://twitter.com/DrakeEileen).

Media Contacts:

Mary Engola, Aerojet Rocketdyne, 571-289-1371

Mary.Engola@rocket.com

Todd McConnell, Aerojet Rocketdyne, 561-882-5395

Todd.McConnell@rocket.com



Source: Aerojet Rocketdyne, Inc.