

Aerojet Rocketdyne Successfully Tests Hypersonic DMRJ Engine

NASA LANGLEY RESEARCH CENTER, HAMPTON, Va. – Aerojet Rocketdyne has successfully tested a new dual-mode ramjet/scramjet (DMRJ) engine, the company announced in an Oct. 8 release.

When combined with a gas turbine engine as part of a turbine-based combined-cycle propulsion (TBCC) system, this engine may provide the capability to propel a vehicle from a standstill into the hypersonic flight regime of Mach 5 or higher and back again.

“Developing hypersonic capabilities has recently been cited by Department of Defense officials as the ‘highest technical priority’ for our nation,” said Eileen Drake, Aerojet Rocketdyne president and CEO. “Aerojet Rocketdyne is well positioned to support this call to action as we have been developing hypersonic propulsion technologies for more than 30 years.

“Our scramjet engine powered the record-setting test flights of the X-51A WaveRider, and we have accelerated our development efforts since then. That progress, when combined with the advances we’ve made in additive manufacturing has enabled this next generation of hypersonic propulsion systems,” she said.

The series of tests was conducted as part of an ongoing collaboration with the Defense Advanced Research Projects Agency, NASA and the U.S. Air Force to develop hypersonic propulsion technologies. These tests also helped validate an advanced analytical tool set developed by Aerojet Rocketdyne that enables precise simulation of complex DMRJ flow fields

across a broad scale of applications.