Lockheed Martin Conducts Successful Joint Common Missile Rocket Motor Tests

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Lockheed Martin and its Joint Common Missile (JCM) rocket motor supplier, Aerojet, a GenCorp Inc. company , recently completed a series of successful tests of the rocket motor for the JCM, paving the way for controlled flight tests later this spring.

The test series included rocket safety testing of the motor case under pressure, measurement of the pressure and debris created by the motor exhaust, and static firings of two Pre-Flight Reliability Test (PFRT) motors of the same configuration that will be flown in the upcoming Control Test Vehicle (CTV) flight tests this month.

The safety tests exposed JCM's composite motor case to a high-pressure environment to ensure it would meet specified safety margins. During the tests, the JCM motor case maintained its structural integrity 65 percent beyond required stress levels, just as predicted in computer simulations performed by Aerojet, providing further confidence in the integrity of the motor. The tests were performed at Aerojet's Sacramento, CA, facility.

One motor firing test, a high temperature firing at 160 degrees Fahrenheit, completed the series of verification tests and confirmed that JCM motor exhaust pressures and debris levels are safe for the launch platforms. The test showed the JCM motor blast generates significantly less foreign object debris (FOD) than the motors of the missiles JCM will replace, reducing the possibility of damage to the launch platforms.

The two PFRT test firings, one at high temperature and one at low temperature, were conducted at Aerojet's testing facilities in Orange, NJ, and Camden, AK. The tests were performed on motors that had previously been exposed to environmental testing, including vibration and temperature. Both test firings were successful, demonstrating the reliability of the flight test motor configuration.

"These tests represent a significant milestone for the JCM program," said Steve Barnoske, JCM program director at Lockheed Martin Missiles and Fire Control. "They keep us right on schedule for a series of controlled test flights this spring that will complete Phase 1 of the System Design and Development (SDD) contract and satisfy the exit criteria to proceed further into development.

"Along with previous motor tests, both under contract and pre-contract, the results of these recent tests show JCM's motor is mature and provides the required performance in both rotary- and fixed-wing environments," Barnoske continued. "The motor will give JCM the standoff range that is so important for aircraft and crew survivability."

The Joint Common Missile is the next-generation, multi-purpose, air-to- ground precision missile that will replace the Hellfire, Longbow and Maverick air-to-ground missiles currently in the arsenal of the U.S. Army and Navy. Under the current schedule, some 54,000 rounds are expected to be produced, reaching the field in 2010.

Headquartered in Bethesda, MD, Lockheed Martin employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services.

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