Lockheed Martin Joint Common Missile Team Demonstrates Insensitive Munitions Capability Of Tactical Propulsion System

PRNewswire-FirstCall
ORLANDO, Fla.

Lockheed Martin , with teammates Aerojet and Roxel UK, today announced the successful demonstration of insensitive munitions capability in the Lockheed Martin tactical Joint Common Missile (JCM) rocket motor using a Class 1.3 minimum-smoke propellant.

"Insensitive munitions are synonymous with safety," said Steven Barnoske, JCM program director at Lockheed Martin Missiles and Fire Control. "If a missile round is struck by fragments from an explosion or hit by a bullet, it will not detonate. In addition, in extreme temperatures, the missile will only burn."

"The ability of our motor to meet these requirements when impacted by very-high-energy fragments or in the environment of a fuel fire, or fast cook- off, is critical to ensuring platform and troop survivability in the field, especially during shipboard operations," Barnoske explained.

The insensitive munitions tests, performed at the Energetic Materials Research and Testing Center (EMRTC) in Socorro, NM, were successfully completed with two tactically configured flight-weight composite-case motors exposed to the environments of fragment impact and fast cook-off.

In the fragment impact test, fragments and large debris traveling at 5,800 feet-per-second hit the motor in the side, penetrated it directly through the propellant, and exited the back side, with no violent reaction.

In the fast cook-off test, or fuel fire, 975 gallons of JP-4 jet fuel, standing eight-inches-deep in a 15-by-15-foot pit surrounded by dirt mounds, were ignited remotely and burned a motor on a stand, again with no violent reaction.

"This is one of the most important tests in our risk reduction series, because insensitive munition capability translates directly to troop safety," Barnoske said.

The boost-sustain rocket motor incorporates a suite of insensitive munitions features including the hazard class 1.3 propellant, composite case and pressure relief nozzle technology to meet JCM requirements. With its advanced design, the single rocket motor configuration meets range and time- of-flight requirements for rotary- and fixed-wing aircraft.

"We have previously demonstrated both in subsystem tests and in static firings that our tactical motor provides a robust turn-down ratio over the temperature extremes of both rotary- and fixed-wing environments that allows us to meet the range requirements for all specified aircraft with a single missile," Barnoske went on. "This significantly reduces development cost and risk by eliminating the need to conduct a dual qualification program for two motors, and it also offers the Navy important logistical advantages in shipboard operations. IM compliance completes the equation."

"The successful IM test marks another key milestone in an ongoing series of risk reduction tests," said Rick Edwards, director of Tactical Missiles for Lockheed Martin Missiles and Fire Control. "At this point we have significantly reduced risk on every critical subsystem of the missile, particularly the multi-mode seeker and the guidance, the warhead assembly, the motor and launcher/platform integration."

The Joint Common Missile is the next-generation, multi-purpose, air-to- ground precision missile and will replace the Hellfire, Longbow, and Maverick air-to-ground missiles currently in the U.S. arsenal. A decision on the JCM contract, which has an estimated long-term value of approximately $5 billion, is expected by May.

The Lockheed Martin JCM includes a tri-mode seeker with imaging infrared, semi-active laser, and

millimeter wave radar modes for active and passive "fire-and-forget" and precision-strike targeting, which protects troops and minimizes collateral damage. It also has extended range for standoff engagements, which increases troop survivability, and maximum modularity for growth, to stay ahead of the threat.

Aerojet is a world-recognized aerospace and defense leader principally serving the missile and space propulsion, and defense and armaments markets. GenCorp, Inc. is a multi-national, technology-based manufacturer with operations in the automotive, aerospace, defense and pharmaceutical fine chemicals industries.

Roxel (UK Rocket Motors), formerly BAe Systems RO, Rocket Motors Division, has a 50-year heritage as an international supplier of propellants and boost- sustain motors and has extensive experience with production Class 1.3 minimum- smoke propellants.

Lockheed Martin, headquartered in Bethesda, MD, 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.

SOURCE: Lockheed Martin

Web site: http://www.lockheedmartin.com/
http://www.aerojet.com/
http://www.gencorp.com/
http://www.roxelgroup.com/
