Lockheed Martin Joint Common Missile Successfully Performs In F/A-18 E/F Wind Tunnel Tests

Lockheed Martin has successfully completed initial F/A-18 E/F integration wind tunnel tests of its Joint Common Missile (JCM). The JCM will provide pilots a precision, all-weather, low-collateral damage weapon required to counter unconventional threats of the 21st century battle environment.

The tests were conducted at the National Aeronautics and Space Administration Ames Research Center's 11-foot wind tunnel in San Jose, CA, and at the Boeing Vertol 20-foot wind tunnel in Philadelphia, PA. The tests simulated the flight environments of the Navy's F/A-18 E/F Hornet fighter in various carry configurations of the JCM and its Joint Dual-Rail Launcher (JDRL). This testing builds on the JCM freestream wind tunnel testing previously conducted as a further step in the development and integration of JCM onto its host aircraft.

"I am pleased that the JCM successfully completed these initial tests," said U.S. Sen. Richard Shelby (R-AL), a longtime supporter of the JCM program. "I believe that the JCM, built in Troy, AL, has tremendous potential to provide technological superiority for the Army, Navy and Marine Corps. The JCM clearly represents a leap in warfighting potential, and I am hopeful that the JCM will continue to demonstrate its capability to provide a beyond-line- of-sight capability and the flexibility to be used as a joint air-to-ground and a ground-to-ground weapon."

"The JCM clearly represents an exponential leap in warfighting capability and is a prime example of meeting the Department of Defense's transformational and jointness goals," said U.S. Rep. Terry Everett (R-AL). "As the follow-on for the tactical missiles, we are expending during current military operations, the JCM's technological advancements will greatly enhance our warfighting capability at a comparable cost and at the same time significantly improve force protection."

"These recent wind tunnel tests further illustrate that we are meeting significant milestones during the System Design and Development program phase," said Rick Edwards, Tactical Missiles director at Lockheed Martin Missiles and Fire Control. "The team is achieving great success as we develop the JCM, bringing us closer to delivering this revolutionary weapon and its advanced capabilities to warfighters."

In the most recent testing, a JCM scale model was mounted on a movable support system and positioned to simulate its in-flight position on the aircraft. Tests included high- and low-speed flight, weapon store separation and aerodynamic loading. Test data and analysis are being used to further perform integration efforts on the fixed wing platform.

"This is an efficient way to control costs and continue to improve our design. It will reduce risk and the number of flight missions, which also saves cost," said Steve Barnoske, JCM program director at Lockheed Martin Missiles and Fire Control. "This wind tunnel testing meets an important milestone, providing additional information on JCM's integration on the fixed- wing platform. Combined with our previous wind tunnel testing, this verifies the missile and launcher aerodynamic designs in the high-speed fixed-wing flight environment."

When fielded on the F/A-18 E/F, the JCM will be carried by the JDRL, provided by EDO Corporation Prototype launcher electronics have already performed initial integration testing in the Navy's Advanced Weapons Laboratory at China Lake, CA, as well as fit-checks and uploads with models on aircraft at the Naval Air Weapon Station at China Lake.

"We are confident we have the right solution for placing JCM on the F/A-18 E/F," Barnoske said. "The Hornet will be able to carry up to 12 JCMs, providing far more lethality, especially against moving targets in adverse weather conditions. JCM provides more stowed kills than the Maverick missile it will be replacing. And due to JCM's lighter weight, that also means increased carrier 'bring-back' capability."

The JCM is a multi-target, multi-service weapon with fire-and-forget capability and precision-strike targeting that will increase crew survivability and minimize collateral damage.

In addition to replacing the Maverick missile on the F/A-18E/F fighter, JCM will also replace the Longbow and Hellfire missiles for three rotary-wing platforms: the Army's AH-64D Apache attack helicopter, the Marine Corps' AH-1Z Cobra attack helicopter and the Navy's MH60-R/S Seahawk armed reconnaissance helicopter.

JCM may also see service on the Air Force's F-35 Joint Strike Fighter (JSF), for which Lockheed Martin is the

prime contractor, although the JSF is currently an "Objective" platform.

JCM was the first program to be approved by the Joint Requirements Oversight Committee (JROC) under the new Joint Capabilities Integration and Development System (JCIDS) process. The JCM is on schedule and on budget in Phase 1, the risk mitigation segment of the System Development and Demonstration (SDD) contract.

The Lockheed Martin JCM builds on the heritage of the combat-proven Longbow, Hellfire and Javelin missile with greatly improved capabilities and reduced cost. Hellfire II is in the inventory of 15 countries and has a combat-proven legacy, including extensive service in Iraq, where more than 1,000 Longbow and Hellfire rounds have been expended. Javelin has been selected by 11 nations and has also seen heavy usage in Iraq, with approximately 1,000 rounds expended against both armored and alternate targets.

JCM's advanced technologies provide similar missile procurement costs and reduced life cycle costs compared to legacy missiles, such as Hellfire, Longbow, Maverick and airborne TOW.

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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