Lockheed Martin Delivers Airborne Laser Flight Turret Assembly

Lockheed Martin today announced it has delivered the Airborne Laser (ABL) Flight Turret Assembly (FTA) to Edwards Air Force Base, Calif., for integration into the aircraft. This event follows Lockheed Martin's delivery of its ABL Beam Transfer Assembly and Multi-Beam Illuminator earlier in the year.

ABL will be the world's first megawatt-class laser weapon system integrated on a specially configured Boeing 747-400F aircraft to autonomously detect, track and destroy hostile ballistic missiles. Lockheed Martin is responsible for the system that will accurately point, focus and fire the laser to provide sufficient energy to destroy the missile while it is still in the highly vulnerable boost phase of flight. The ABL program is managed by the Missile Defense Agency and is executed by the U.S. Air Force from Kirtland Air Force Base in Albuquerque, N.M.

"Integration and delivery of the FTA -- the third major element of our Beam Control/Fire Control segment of ABL marks a major milestone for both the program and our team," said Paul Shattuck, ABL technical director for Lockheed Martin Space Systems. "Our extensive testing has validated the ability to point the turret with the agility and speed required to track and negate targets."

The FTA comprises the flight turret ball, containing a 1.5-meter telescope beam director and the conformal window, and its lightweight composite roll shell structure that covers and protects the optics when they are not in use. It is the FTA that distinguishes the ABL aircraft from any other Boeing 747. It is the distinctive "nose" of the aircraft from which the high-energy laser will be "fired" at threat missiles.

The flight turret ball arrived for integration at Lockheed Martin Space Systems in early May from subcontractor L3-Brashear, Pittsburgh, Pa. The turret activity in Sunnyvale focused on testing of the outer gimbal controls using a surrogate turret configuration and regression testing of the flight ball. The testing using the surrogate configuration (surrogate ball and flight roll shell) verified that the gimbal -- or rotational -- system functions properly and reduced risk prior to integration of the flight ball, which took place in June. Following integration of the flight ball, the flight turret was subjected to a thorough set of performance tests prior to shipment to Edwards.

The end-to-end ground tests and staggered deliveries of ABL Beam Control/Fire Control (BC/FC) components to Edwards Air Force Base throughout the spring and summer of 2004 -- and their sequential integration onto the aircraft -- have been carefully planned to achieve the objective of a flight test of the ABL aircraft by the end of the year, with the complete BC/FC element as an integral part of the system.

Boeing, Lockheed Martin and Northrop Grumman, working closely with the Air Force and the Missile Defense Agency, are developing ABL. Boeing is responsible for developing the ABL battle management system, integrating the weapon system, and supplying the modified 747-400 freighter aircraft. Lockheed Martin is developing the Beam Control/Fire Control system. Northrop Grumman is providing the complete chemical oxygen iodine high-energy laser system.

Lockheed Martin Space Systems Company, a major operating unit of Lockheed Martin Corporation, designs, develops, tests, manufactures, and operates a variety of advanced technology systems for military, civil and commercial customers. Chief products include a full-range of space launch systems, including heavy-lift capability, ground systems, remote sensing and communications satellites for commercial and government customers, advanced space observatories and interplanetary spacecraft, fleet ballistic missiles and missile defense systems.

Headquartered in Bethesda, Md., Lockheed Martin Corporation 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. The corporation reported 2003 sales of $31.8 billion.

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