

# Lockheed Martin-Developed Airborne Laser Beam Control Fire Control System Completes Initial Flight Testing

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EDWARDS AIR FORCE BASE, Calif.

The Beam Control Fire Control system developed by Lockheed Martin for the Airborne Laser (ABL) program, which is managed by the U.S. Missile Defense Agency, has completed initial flight testing.

The low-power passive capabilities of the Beam Control Fire Control system were successfully demonstrated at Edwards Air Force Base, Calif. In this phase of testing, which began in December 2004, the Beam Control Fire Control system met all major requirements during more than 20 flights aboard the YAL-1A aircraft, a specially configured Boeing 747-400F.

"The ABL Beam Control Fire Control system is one of the most advanced and complex optical systems ever designed," said Linda Reiners, vice president of Missile Defense Systems, Lockheed Martin Space Systems Company. "Through our extensive test activities this year, we have been able to validate the performance of the system in the stressing environment of flight."

This testing phase verified the Beam Control Fire Control system's target tracking capability and its ability to align the high-energy laser's full optical path in the dynamic environment of flight. "This major milestone is a testament to the quality and thoroughness of the end-to-end ground testing of the system prior to its installation on the aircraft," said Tom Pavelko, ABL program director, Lockheed Martin Space Systems Company.

Other accomplishments included collection of data in the flight environment to verify the jitter performance of the Beam Control Fire Control system and the in-flight exposure of the flight turret assembly's conformed window, the technically sophisticated optical glass through which the laser will pass. Any effects by the reconfigured nose, on either the aircraft handling or air parameter measurements for pilot use, were carefully calibrated. Integrated operation of the Beam Control Fire Control system with the battle management system also was validated.

The tests built on ABL program milestones achieved in 2004, including first flight of the Beam Control Fire Control system and first light of the high-energy laser.

In the next phase for the Beam Control Fire Control system, the two illuminator lasers will be installed and active ground and flight testing will be conducted at Boeing's Wichita, Kan., facility.

The world's first airborne megawatt-class laser weapon system, ABL is designed to detect, track and destroy hostile ballistic missiles in the vulnerable boost phase of flight. Boeing is the ABL industry team leader, aircraft provider and weapon system integrator. Northrop Grumman provides the high-energy laser segment. Lockheed Martin provides the Beam Control Fire Control system, which will accurately point and focus ABL's high-energy laser beam.

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 2004 sales of \$35.5 billion.

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