Lockheed Martin Demonstrates In-Flight Beam Control For Missile Defense Agency's Airborne Laser

Lockheed Martin announced today that the U.S. Missile Defense Agency's Airborne Laser (ABL) team has demonstrated the capability to accurately point and focus the elements of the Lockheed Martin-developed Beam Control/Fire Control system on an airborne target.

The ABL team successfully directed the beam generated by a surrogate High Energy Laser at a missile-shaped target on the side of an Air Force KC-135 Big Crow aircraft. To enable the surrogate beam to focus on the simulated target, the system first located and tracked the target, determined range to the target and then compensated for atmospheric turbulence. This significant milestone verifies the ability to maintain the focus of the laser beam while continuously tracking a target.

"The key functions of the Beam Control/Fire Control system now have been verified in the rigorous environment of flight," said Art Napolitano, ABL program director, Lockheed Martin Space Systems Company. "This important accomplishment is a testament to the government-industry partnership on ABL and brings this revolutionary capability one step closer to reality."

In test flights this year aboard the ABL aircraft from Edwards Air Force Base, Calif., ABL Beam Control/Fire Control accomplishments have included the following.

-- The first open-air lasing in flight occurred with the successful firing of the Track Illuminator Laser. The Raytheon-developed Track Illuminator Laser fired multiple times to engage a simulated target on a Big Crow aircraft and calculated the range to the target.

-- The first in-flight firing of the Beacon Illuminator Laser in conjunction with the Track Illuminator Laser demonstrated the ability of the Northrop Grumman-developed Beacon Illuminator Laser to provide the signal used to measure atmospheric turbulence, as part of the Beam Control/Fire Control system.

-- The first in-flight engagement sequence involved firing both illuminator lasers and controlling a surrogate High Energy Laser in a simulated target engagement. The Beacon Illuminator illuminated the simulated target to measure atmospheric distortion, and a deformable mirror made compensating corrections to the surrogate High Energy Laser to maintain maximum energy on target.

ABL will destroy a ballistic missile during its boost phase, while it is still accelerating in the Earth's atmosphere and before it can deploy its warheads. The ABL program is managed by the Missile Defense Agency and executed by the U.S. Air Force from Kirtland Air Force Base, Albuquerque, N.M. The Boeing Company , the prime contractor for ABL, provides the modified aircraft and the Battle Management System and is the overall systems integrator. ABL partners are Northrop Grumman , which supplies the High Energy Laser and the Beacon Illuminator Laser, and Lockheed Martin Space Systems Company, Sunnyvale, Calif., which provides the Beam Control/Fire Control System, including the nose-mounted turret.

Lockheed Martin is a world leader in systems integration and the development of air and missile defense systems and technologies, including the first operational hit-to-kill missile. It also has considerable experience in missile design and production, infrared seekers, command and control/battle management, and communications, precision pointing and tracking optics, as well as radar and signal processing. The company makes significant contributions to most major U.S. missile defense systems and participates in several global missile defense partnerships.

Headquartered in Bethesda, Md., Lockheed Martin employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation reported 2006 sales of $39.6 billion.

Media Contact:

Lynn Fisher, 408-742-7606; e-mail lynn.m.fisher@lmco.com

First Call Analyst:
FCMN Contact:

SOURCE: Lockheed Martin

Web site: http://www.lockheedmartin.com/

---

https://news.lockheedmartin.com/2007-08-31-Lockheed-Martin-Demonstrates-In-Flight-Beam-Control-for-Missile-Defense-Agencys-Airborne-Laser