Boeing-led Airborne Laser Team Completes 'Low Power' Flight Tests and Prepares to Install High Energy Laser

The Boeing Company [NYSE: BA], industry teammates and the U.S. Missile Defense Agency successfully demonstrated in flight tests that the Airborne Laser's battle management and beam control/fire control systems can complete the full series of steps required to support a ballistic missile intercept.

During these "low power" tests, which concluded Aug. 23, the modified Boeing 747-400F operated from Edwards Air Force Base, Calif., and used its infrared sensors to find an instrumented target board located on a U.S. Air Force NC-135E "Big Crow" test aircraft. ABL's battle management system, developed by Boeing, then issued engagement and target location instructions to the Lockheed Martin-designed beam control/fire control system. The beam control/fire control system acquired the target and fired its two solid-state illuminator lasers to actively track the target and measure atmospheric conditions. Since the high-energy laser is not yet installed on the aircraft, ABL fired a low-power surrogate laser at the Big Crow, simulating a target engagement.

"The completion of low-power system flight tests is a key milestone for the Airborne Laser team," said Pat Shanahan, vice president and general manager of Boeing Missile Defense Systems. "These tests demonstrate that ABL can fully engage a threat missile with its battle management and beam control/fire control systems. We are now ready to install the high-energy laser in the aircraft to prepare for the first intercept test against an in-flight ballistic missile."

After the program installs the Northrop Grumman-built high-energy laser in the aircraft, it will conduct an extensive series of system-level ground and flight tests, leading to an intercept test against an in-flight ballistic missile in 2009. The high-power chemical laser already has completed rigorous ground testing at Edwards Air Force Base.

Boeing is the prime contractor for ABL, which will provide speed-of-light capability to destroy all classes of ballistic missiles in their boost phase of flight. ABL's speed, precision and lethality also have potential for other missions, including destroying air-to-air, cruise and surface-to-air missiles. Boeing provides the modified aircraft and the battle management system and is the overall systems integrator. ABL partners are Northrop Grumman [NYSE: NOC], which supplies the high-energy laser and the beacon illuminator laser, and Lockheed Martin [NYSE: LMT], which provides the nose-mounted turret and the beam control/fire control system.

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