

Boeing-led Airborne Laser Team Actively Tracks Airborne Target, Compensates for Atmospheric Turbulence and Fires Surrogate High-Energy Laser

The Boeing Company [NYSE: BA], along with industry teammates and its government customer, the U.S. Missile Defense Agency, successfully completed a key Airborne Laser (ABL) flight test Friday, demonstrating the weapon system's ability to actively track an airborne target, compensate for atmospheric turbulence and fire a surrogate for its missile-killing high-energy laser.

During the test, the modified Boeing 747-400F took off from Edwards Air Force Base, Calif., and used its infrared sensors and its track illuminator laser (TILL) to find and track an instrumented target board located on the U.S. Air Force's NC-135E Big Crow test aircraft. The Big Crow then fired its beacon laser at the ABL aircraft to allow ABL to measure and compensate for laser beam distortion caused by the atmosphere. Finally, ABL fired the surrogate high-energy laser (SHEL) at the Big Crow target board to simulate a missile shootdown. With the exception of ABL's beacon illuminator laser (BILL), this flight test demonstrated the entire engagement sequence from target acquisition to pointing and firing the SHEL.

"This successful test shows that ABL can find and track a target, use its beam control/fire control system to compensate for atmospheric turbulence, and fire a surrogate high-energy laser to simulate a missile intercept," said Pat Shanahan, vice president and general manager of Boeing Missile Defense Systems. "We have now demonstrated most of the steps needed for the Airborne Laser to engage a threat missile and deliver precise and lethal effects against it."

As announced earlier, ABL fired the TILL at the Big Crow target board for the first time March 15. This latest test demonstrated ABL's ability to transition from passive tracking of a simulated missile plume to active tracking, by "walking" the TILL beam to the nose of the missile and using the TILL light returning from the edge of missile for precision tracking and determination of where to point the SHEL on the target. In addition, atmospheric turbulence compensation was performed concurrent with active tracking and SHEL firing.

In upcoming flight tests, ABL will again demonstrate the engagement sequence, but this time use the return from its BILL instead of the Big Crow's beacon laser to measure atmospheric distortion. After these flight tests, the program will install the actual Northrop Grumman-built high-energy laser in the aircraft to prepare for the first intercept test against an in-flight ballistic missile in 2009. The high-power chemical laser has completed rigorous ground testing at Edwards Air Force Base and is being prepared for installation.

Boeing is the prime contractor for ABL, which will provide a speed-of-light capability to destroy all classes of ballistic missiles in their boost phase of flight. 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.

A unit of The Boeing Company, Boeing Integrated Defense Systems is one of the world's largest space and defense businesses specializing in innovative and capabilities-driven customer solutions. Headquartered in St. Louis, Boeing Integrated Defense Systems is a \$32.4 billion business with 72,000 employees worldwide.

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