Delivery Of First Flight Hardware For Team ABL's Beam Control/Fire Control System Keeps Program On Track

A major milestone was reached today for the U.S. Air Force's revolutionary Airborne Laser (ABL) program when its primary optical mirror was delivered to Contraves Brashear Systems, L.P. in Pittsburgh.

The mirror, built by Corning Glass, N.Y., will be used to focus the system's high-energy laser beam on to its intended target.

Contraves Brashear, a key contractor supporting Team ABL -- the Air Force, Boeing, Lockheed Martin and TRW -- will now begin the process of polishing the mirror to an optical quality required to direct the high-energy laser beam to a target hundreds of kilometers away. This effort is projected to take more than a year and will be followed by integration and test on the Airborne Laser's 747-400F aircraft.

"This event represents another successful milestone in the effort to develop and demonstrate this revolutionary weapon system," said Col. Mike Booen, U.S. Air Force ABL program manager. "I am very proud of the way Team ABL has been able to adhere to the program plan we established more than two years ago."

The mirror, which measures 62 inches in diameter and is 8 inches thick, will be mounted in a turret ball on the front of a modified 747-400F aircraft. The turret can be turned to track and engage missiles and other threats at extended ranges. The aircraft will house the system's high-energy laser and other beam control elements.

This is the first of two large mirrors required for the high-energy laser beam on the ABL aircraft. Corning successfully completed a two-year effort on the design and fabrication of this mirror. In doing so, Corning used a unique water jet machining capability to reduce the weight of the mirror core by more than 90 percent. The result was a "light-weighted" mirror that weighs approximately 330 pounds and has far superior performance than a solid mirror that would weigh close to 2,000 pounds.

"Delivery of the first flight hardware for the ABL beam control/fire control system reflects a real team effort between Contraves Brashear and Corning," said Paul Shattuck, ABL program manager at Lockheed Martin Missiles & Space. "The light-weighting of this mirror represents an important technological achievement that enables us to meet the unique environments associated with an airborne platform."

Team ABL's current Program Definition and Risk Reduction (PDRR) contract with the Air Force calls for the team to produce, integrate and flight test the first prototype ABL demonstration system. Team ABL is scheduled to conduct a boost phase 'shoot-down' of a theater ballistic missile in 2003. An ABL Engineering Manufacturing and Development program could begin as early as 2004. The PDRR aircraft will provide the Air Force with a residual operational capability.

Team ABL is led by Boeing, which has overall program management and systems integration responsibilities. Boeing also is developing the ABL battle management system and modifying the 747-400F aircraft. Those efforts will be done at their facilities in Seattle and in Wichita, Kan.

TRW, Redondo Beach, Calif., is building the ABL COIL laser and the related ground-support subsystem. Lockheed Martin Missiles & Space is developing the ABL Beam Control/Fire Control system in Sunnyvale, Calif.

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