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A major step in the production of a turret window for the revolutionary Airborne Laser (ABL) program was completed Monday when members of Team ABL accepted delivery of the largest optical quality domed window ever manufactured in a ceremony held at the Contraves-Brashear Systems, Pittsburgh facility.

The 340-pound conformal window, produced by Heraeus Quarzglas, Hanau, Germany, and Heraeus Amersil, Duluth, Ga., and shaped by Corning, Inc., Canton, N.Y., measures 1.8 meters in diameter and incorporates unique materials to meet the stringent high-energy laser beam transmission requirements of the ABL program.

When complete, the glass will be installed on the nose of a modified 747-400 aircraft and will transmit the ABL system's high-energy laser beam and illuminator laser beams used to track and destroy ballistic missiles in their boost stage.

This is the second major flight hardware component to be delivered for the Lockheed Martin Missiles & Space-led ABL Beam Control/Fire Control system, and represents a culmination of more than two years of manufacturing.

Contraves-Brashear Systems now has the responsibility to polish the shaped window into its final configuration, have it optically coated and installed into the Lockheed Martin-furnished composite turret ball located in the nose of the aircraft.

"The success of this event can be attributed to a complete team effort and to the robust risk reduction actions that preceded the manufacturing of this one-of-a-kind window," said Paul Shattuck, Lockheed Martin Missiles & Space ABL program manager.

Production of the Conformal Window represents a distinctive international teaming agreement among traditional competitors Corning and Hereaus, which was forged by Contraves Brashear Systems.

"Recognizing the importance of this program to the country, both companies agreed to work together to develop new technologies and processes needed to manufacture the window," Shattuck said. "Despite the highly competitive nature of their business relationship, Heraeus and Corning willingly shared information to ensure the success of the program."

Final integration and test of the Lockheed Martin-built Beam Control/Fire Control system is scheduled for late 2001.

Team ABL is led by Boeing, which has overall program management and system integration responsibilities. Boeing also is developing the ABL battle management system and modifying the 747-400 aircraft. Those efforts will be done at their facilities in Seattle and Wichita, Kan. TRW in Redondo Beach, Calif., is building the Chemical Oxygen Iodine Laser and the related ground support subsystem. Lockheed Martin Missiles & Space is developing the ABL Beam Control/Fire Control subsystem in Sunnyvale, Calif.

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