Deliveries Begin on Boeing C-17 Composite Horizontal Tail

A new C-17 composite horizontal stabilizer torque box which weighs about 20 percent less than the aluminum one now in use has successfully completed structural testing at Northrop Grumman in Dallas, where the horizontal tail is produced.

Northrop Grumman, a major supplier to Boeing on the U.S. Air Force C-17 Globemaster III, delivered the first production composite tail to Boeing in Long Beach, Calif., in December 1998. It will be installed on production aircraft No. 51 next year after testing on the C-17 flight test aircraft at Edwards Air Force Base, Calif. The tests at Edwards are scheduled to begin in late February.

All C-17 aircraft from No. 51 on will have the lighter, more affordable horizontal tail. It has 2,000 fewer parts and 42,000 fewer fasteners than the metal unit, and weighs about 500 pounds less -- an approximately 20 percent weight reduction.

The new tail also has proven to be very durable. It achieved more than 200 percent of the design limit load in testing completed last month at Northrop Grumman.

The composite tail program is a joint effort of the C-17 U.S. Air Force System Program Office, the U.S. Air Force Manufacturing Technology Directorate, Boeing Airlift and Tanker Programs, Boeing Phantom Works and Northrop Grumman's Integrated Systems and Aerostructures Sector. It fulfills the goals of the program to provide best quality while achieving a reduction in weight and a lower unit cost.

The program implemented best practices from both commercial and military aircraft production techniques and took advantage of state-of-the-art design, manufacturing and producibility computer simulation tools. Best practices and processes from this program are also being applied by other areas of Boeing and its suppliers.

Boeing Airlift and Tanker Programs has been named a winner of the 1998 Malcolm Baldrige National Quality Award by the U.S. Department of Commerce in recognition of achievements in quality and business excellence.

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