Airworthiness Of Boeing C-17 Composite Horizontal Tail Verified

The first composite horizontal stabilizer for the U.S. Air Force/Boeing C-17 Globemaster III has successfully completed flight tests at Edwards Air Force Base, Calif. The new tail, built by Northrop Grumman in Dallas, was installed on C-17 test aircraft No. 1 (T-1) in Long Beach, Calif., late last year.

The 418th Flight Test Squadron at Edwards Air Force Base flew two test flights totaling 8.9 hours to determine flight characteristics with the new composite horizontal tail.

Test data and test pilots' reports confirmed that the new tail performed as predicted. Tests were conducted at altitudes ranging from 20,000 to 22,500 feet up to the maximum speed of the C-17. The flight tests followed extensive ground testing in Dallas and in Long Beach.

After completion of flight test, T-1 returned to Long Beach where its composite tail was removed and refurbished for installation on a production aircraft, which will be delivered to the Air Force in June 1999. Ned Newman, general manager, C-17 Integrated Product Team, said that all C-17s beginning with production aircraft No. 51 will be equipped with the new composite tail.

Newman said that C-17 program engineers worked with the Boeing Phantom Works to develop the new tail because it offers reduced weight and complexity and a lower unit cost. "The new tail has 2,000 fewer parts as well as 42,000 fewer fasteners than the aluminum unit now in use, and weighs 470 pounds less," Newman said.

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