Boeing Delta III Return-to-Flight Team Recognized for "Stellar" Efforts

The Boeing Company recently received a Stellar Team Award from the Rotary National Award for Space Achievement Foundation.

The award recognized the company's efforts in the Delta III rocket's successful return to flight last August. The Delta III Return-to-Flight launch team demonstrated the operational status of the Delta III and validated the operation of the second stage, a critical element of the Delta IV, the next-generation of Boeing launch vehicles.

Dave Crosse, the director of Delta Mission Assurance, who spent 11 months leading the return-to-flight team, accepted the award on behalf of Boeing during the foundation's 14th annual awards banquet at Space Center Houston. Besides Boeing, the return-to-flight effort also involved Pratt & Whitney, The Aerospace Corporation, U.S. Air Force, NASA, Boeing-Rocketdyne and Lockheed Martin. Crosse was responsible for overseeing the engine testing at Pratt & Whitney and stage testing at Boeing to ensure problems were fixed and potential contributing causes were eliminated.

"It was a very rigorous, long and difficult process. But, at the same time, it was very gratifying to all of us to be able to show that the Delta III does work and really sets the stage for the future. It was important to prove the reliability of the Delta III upper stage. The Pratt & Whitney RL10 engine is used in all the large launch vehicles for the U.S. To show that the problems were corrected was very important to the U.S. launch industry," Crosse said.

Following the May 1999 failure of a Delta III rocket which left a communications satellite in a lower-than-expected orbit, the Delta III Return-to-Flight team was tasked with confirming the identified failure, implementing corrective actions and conducting a rigorous mission assurance process to ensure a successful next flight. The failure was caused by a breach in the second-stage engine combustion chamber. Deficiencies found in the braze process used to manufacture the engine resulted in the rupture of the chamber at the second-burn ignition.

The Stellar Awards are presented annually to individuals and teams who have made significant contributions to the nation's space program. A committee of scientists, engineers, managers and academicians evaluated all nominations and provided their recommendations to the Space Achievement Foundation.

Established in 1985 by the Space Center Rotary Club, the Rotary National Award for Space Achievement Foundation recognizes outstanding achievements in space while creating greater public awareness of the benefits of space exploration.

The Boeing Company has been honored with Stellar Awards before. In 1999, it received two Stellar Team Awards from the Foundation for its Delta II program. One award recognized the Delta II launch team for conducting 22 launches in an 18-month period, during which time the company successfully delivered 72 satellites into orbit. Another team at the company's Pueblo, Colo., rocket assembly facility also was honored for its Community Access to Space program, an on-site education program that has introduced thousands of college, high school and elementary school-age children to the inner workings of the plant.

Delta III was designed to address the growing size of commercial satellites. As a transitional vehicle to the Delta IV family of rockets, it can carry to geosynchronous transfer orbit up to 8,400 pounds-(3,800 kg) twice the payload of the Delta II.

Delta III features a new cryogenically propelled upper stage with a Pratt & Whitney-built single engine. The vehicle uses existing components and infrastructure similar to that used with the Delta II rocket.

Delta III engineering and program management are led by Boeing Expendable Launch Systems based in Huntington Beach, with final assembly in Pueblo, Colo. The Delta launch team at Cape Canaveral Air Force Station, Fla. handles launch coordination and operations. Boeing manufactures the Delta III main engine and the RS-27A in Canoga Park, Calif.

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