Boeing Delta IV CBC/RS-68 Engine Successfully Completes Test Program

Boeing [NYSE:BA] officials today announced the successful completion of a series of tests involving the integrated common booster core (CBC) and RS-68 engine for the Boeing Delta IV rocket. The tests, conducted at NASA's Stennis Space Center, have greatly reduced the risk associated with the initial launches of the Delta IV.

Lasting approximately 303 seconds, the final test was conducted on May 6 and completed a Delta IV Heavy mission profile simulation for the rocket's first stage.

In addition to the CBC test this past weekend, Boeing on May 5 conducted the longest continuous operation of the RS-68 engine to date.

Sunday's test concluded a series of key tests in which Boeing officials confirmed that all objectives of the CBC/RS-68 test program were successfully met.

"This successful CBC static fire test is one of the biggest events in the development of the Delta IV program," said Dan Barron, director of Boeing Delta IV common booster core development. "The firing demonstrated the integrated system operation for a Heavy mission profile. The RS-68 engine and integrated CBC performed flawlessly. We are extremely pleased with the overall results of our test program, and the entire Delta team can truly be proud of this accomplishment."

Beginning at 8 a.m. CDT, the Delta team initiated a countdown and sequence of events leading up to the ignition of the Boeing Rocketdyne-built RS-68 engine.

Liquid oxygen and liquid hydrogen fuel tanks were simultaneously chilled and fast filled, verifying procedures to be used at the launch sites. Pressure control, vent/relief valves, and hydraulic system checks were also successfully conducted.

After all integrated systems were verified, the countdown continued and -- at 1:20 p.m. CDT -- the RS-68 engine was ignited.

During the 303 seconds of full burn, the Delta team ran a series of commands similar to a Heavy payload flight profile. After successful engine shutdown, the quick-look data indicated that all test objectives were met.

At the adjacent B1B test stand at Stennis on Saturday, Boeing engineers ran a successful test on a different RS-68 engine that lasted 425 seconds (7 minutes, 5 seconds), achieving another milestone for the Delta IV program.

With this weekend's tests, and a 160-second RS-68 hot-fire test conducted at the U.S. Air Force Research Laboratory in California on May 4, the RS-68 has accumulated 889 seconds of testing within a 48-hour period, and 12,680 seconds of total test time.

Successfully concluding the CBC/RS-68 test program, the Boeing Delta team will move forward with plans for a pathfinder mission to deliver the tested unit to Delta IV launch operations at Cape Canaveral Air Force Station (CCAFS) in Florida.

The unit will be transported by the Delta Mariner, which can carry up to three integrated CBC units to CCAFS or Vandenberg Air Force Base (VAFB) in California.

Once at CCAFS, the unit will undergo a variety of integration exercises at the new Horizontal Integration Facility, which will be used to integrate the first and second stages of the Delta IV. When pathfinder exercises are complete at CCAFS, the unit will be transported to VAFB to run through similar integration exercises.

Boeing has four Delta IV launches planned for next year. The first launch in the first quarter; a U.S. government launch (Defense Satellite Communication System) in the second quarter; a commercial launch (Estrela do Sul 1) in the third quarter, and another U.S. government launch (USAF heavy demonstration) in the fourth quarter.

Boeing also has eight planned Delta IV launches in 2003, the first two of which have been announced. They are a commercial launch (Pasifik Satelit Nusantara), and a U.S. government launch (Defense Meteorological Satellite Program).

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