

Boeing JSF STOVL Ground Environment Data Beats Predictions

Extensive ground environment tests conducted on the Boeing Joint Strike Fighter Joint Strike Fighter X-32B demonstrator last week confirmed the aircraft's short-takeoff-and-vertical-landing (STOVL) system operates at acoustic and temperature levels lower than predicted at full power.

Mike Heinz, Boeing vice president and JSF deputy program manager, said the test data prove the Boeing STOVL ground environment is well within operational limits.

"The testing verifies we meet all requirements and provide a safe operating environment for the customer," Heinz said. "We confirmed that with the X-32B at 100 percent STOVL thrust, the ground environment is at or below heat- and noise-level requirements."

Ground environment tests are essential to ensure the aircraft can maintain continuous operations on takeoff and landing surfaces, and to ensure the safety of maintenance personnel working on and around the aircraft.

According to Heinz, lower acoustic and vibration levels inside the aircraft provide reduced development risk for the next phase of the program. "Our X-32B test program is moving along right on schedule, and first flight is imminent," Heinz added.

Boeing lead STOVL test pilot Dennis O'Donoghue, a former Harrier pilot, was in the X-32B cockpit for the engine tests.

"I couldn't be more pleased with the outcome of the tests and the aircraft's internal acoustics in general," O'Donoghue said. "Cockpit noise level was about the same as in a Harrier."

Other recent X-32B tests have confirmed lift system operations and verified system integrity. Boeing also has repeatedly demonstrated the ease in transitioning between conventional and STOVL propulsion modes -- a key advantage of its direct-lift configuration.

On the STOVL engine test stand, transition times between conventional and vertical thrust and back again have been accomplished consistently in one to three seconds. This rapid and direct transition capability is critically important for unrestricted STOVL operations and aircraft safety.

The X-32B will demonstrate the company's direct-lift solution to the STOVL requirements for the U.S. Marine Corps and the United Kingdom's Royal Navy and Royal Air Force.

Boeing has 30 years of experience with direct lift -- the only combat-proven approach to STOVL flight. The company is leveraging that experience into a new design that incorporates significant improvements to ensure the services receive a true third-generation low-risk STOVL solution that is more capable, reliable, affordable and easier to fly than STOVL aircraft operating today.

The Boeing X-32A -- used to demonstrate conventional-takeoff-and-landing and low-speed aircraft-carrier approach handling qualities -- completed its flight-test program Feb. 3 after 66 flights and 50.4 flight hours with six different pilots in the cockpit.

Completed X-32B SMI testing

Completed X-32B low- and medium-speed taxi tests

Completed X-32B engine accelerated mission tests

Final JSF X-32B flight-certification tests

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