Boeing Completes First Phase of JSF X-32B Engine Runs

Four days after the first flight of its X-32A Joint Strike Fighter concept demonstrator aircraft, Boeing yesterday moved its X-32B demonstrator closer to its own first flight with completion of the first phase of engine runs.

The smooth operation of the engine, installed in the short-takeoff-and-vertical-landing (STOVL) aircraft, confirmed all performance predictions. The Pratt & Whitney F119-614 engine ran at low power to verify system integrity. All propulsion-system components operated as designed and experienced no anomalies.

"This engine run parallels the same success achieved on the X-32A initial engine run, demonstrating the high commonality of engine integration between the conventional-takeoff-and-landing and carrier variant, and the STOVL aircraft," said Ad Thompson, X-32 flight-test manager. "It also reduces risk, validates our simulations and gives us further confidence toward readiness for a safe and productive X-32B flight-test program."

The X-32B, which is expected to fly during the first quarter of 2001, will validate the Boeing direct-lift approach to STOVL flight. It will undergo additional engine tests later this year.

Boeing has 30 years of experience with direct lift, the simplest, safest and most efficient approach to STOVL flight, and the only operationally successful, combat-proven STOVL system. The company is leveraging that experience, and incorporating significant system improvements to ensure the services' receive a "third-generation" STOVL solution to meet combat needs for decades to come.

To perform STOVL maneuvers, the system redirects engine thrust downward through lift nozzles in the airframe. For conventional flight the lift nozzles are closed so thrust flows rearward through a cruise nozzle to propel the aircraft forward.

On the test stand, transition times between conventional and vertical thrust have repeatedly been accomplished within one to three seconds. Integration of the attitude-control system with the direct-lift system has been nearly flawless. To date, overall system performance is meeting and beating all predictions.

The U.S. Marine Corps and U.K. Royal Air Force and Navy are expected to be the primary STOVL Joint Strike Fighter users.

Boeing, the world's largest producer of fighter aircraft, is competing to build the JSF under a four-year concept demonstration phase contract with the U.S. Air Force, Navy and Marine Corps and the British Royal Air Force and Navy. A competition winner is scheduled to be selected in 2001.

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