Boeing JSF X-32B Demonstrator Completes First Hover

The Boeing Joint Strike Fighter short-takeoff-and-vertical-landing (STOVL) aircraft, the X-32B, yesterday accomplished a major aerospace milestone and another JSF program first when it transitioned from wingborne flight to a hover.

During the aircraft's 44th flight, Dennis O'Donoghue, Boeing lead STOVL test pilot, transitioned from fully wingborne (conventional) to jetborne (STOVL) flight mode and then smoothly decelerated the X-32B to a steady hover 200 feet above the ground. The ex-Harrier pilot then accelerated out of the hover and transitioned back to conventional flight before making a "slow landing."

During four other flights the same day, the X-32B completed three additional hovers and numerous transitions to STOVL flight, demonstrating the aircraft's robustness as well as the reliability of the Boeing direct lift system.

In total, the airplane hovered for eight minutes yesterday, the single longest sustained hover covering two minutes and 42 seconds.

"The plane was extremely stable during hover," O'Donoghue said. "I was very impressed with the X-32B's controllability, responsiveness and the ease of moving into and out of the hover."

He added that the first hover was a significant milestone in preparation for the first vertical landing. "During hover testing, we establish the flying qualities and hover performance of the vehicle - a necessary step before proceeding to vertical landing."

"The other important aspect of this milestone is the fact that our direct-lift system has demonstrated such a high degree of simplicity and reliability that the transitions from conventional to STOVL mode and back again have really become routine. For the pilot the transitions are effortless, which is definitely what you look for in a STOVL fighter."

Boeing has now completed more than 50 percent of the X-32B's scheduled flight-test requirements since the aircraft's first flight in March.

"This is another great day for the JSF program, Boeing and the One Team," added Frank Statkus, Boeing vice president and JSF general manager. "These milestone flights continue to validate our simulations and predictions as well as demonstrate the operational advantages and flexibility of direct lift."

"Special congratulations to both Pratt & Whitney and Rolls Royce for their efforts in the development of such an outstanding propulsion system."

Leading up to the first hover, the X-32B flew as many as five times in one day, demonstrating in-flight transitions as well as slow landings down to 60 knots. The plane is expected to soon complete its first vertical landing.

The X-32B's first flight in March marked the aircraft's entry into a four-month test program to validate the Boeing direct-lift approach to the STOVL requirements for the Marine Corps and the United Kingdom's Royal Navy and Royal Air Force. Prior to its arrival at Naval Air Station Patuxent River, Md., on May 11, the aircraft completed 14 flights for 14.1 hours at Edwards Air Force Base, Calif.

Underscoring the commonality of its JSF design, Boeing is using just two aircraft to demonstrate all government requirements for the U.S. Air Force, Navy, Marine Corps, U.K. Royal Navy and Royal Air Force in the concept demonstration phase of the program. Boeing used its X-32A aircraft - with no service-specific modifications - to demonstrate both aircraft carrier and conventional-takeoff-and-landing objectives. The X-32A completed its flight-test program Feb. 3 after 66 flights and 50.4 flight hours with six different pilots at the controls.

Boeing is competing to build the JSF under a four-year U.S. Air Force, Navy and Marine Corps concept demonstration contract, while also defining the design for the operational JSF. A competition winner is scheduled to be selected later this year.

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