JSF X-35B Begins Vertical Flight Operations

The Lockheed Martin Joint Strike Fighter X-35B took off and landed vertically today, marking the first time in aviation history that a shaft-driven lift fan propulsion system has lifted an aircraft into the sky.

"This is a revolutionary propulsion technology and we've now proven that it produces plentiful thrust to lift the aircraft, even at 2,500 feet elevation here in the high desert, even at less than full throttle," said Harry Blot, vice president and deputy program manager of the Lockheed Martin JSF. "The aircraft that leaped into the air today is a full-up configuration capable of supersonic flight. We made history this morning. Nothing comparable to this has happened since the first flight of the Harrier around 40 years ago."

The brief flight at the Lockheed Martin plant in Palmdale comes midway through the X-35B's flight test program, but marks the beginning of the aircraft's intensive short-takeoff/vertical landing (STOVL) testing period. The aircraft completed its wing-borne flight requirements last November.

"The airplane performed and handled extremely well and we demonstrated abundant levels of thrust even at this altitude with the temperature above 80 degrees Fahrenheit," said Pilot Simon Hargreaves of BAE SYSTEMS. "We're looking forward to expanding the vertical flight envelope, then moving on through the rest of our flight-test program."

Subsequent flights will include sustained hovers, conversions to and from conventional and STOVL modes, transitions from wing-borne to jet-borne flight, short takeoffs, and vertical landings. Flight-test operations will move first to Edwards Air Force Base, Calif., then to Naval Air Station Patuxent River, Md., where the aircraft's sea-level capabilities will be demonstrated to the sea services.

The X-35B, designed to meet U.S. Marine Corps and Royal Navy/Royal Air Force requirements, features a unique propulsion system in which a drive shaft from the Pratt & Whitney engine turns a counterrotating lift fan that produces cool-air lifting force during STOVL operations. The front-mounted fan works in concert with a thrust-vectoring rear engine nozzle and under-wing lateral-control nozzles to generate nearly 40,000 pounds of lifting power. Rolls-Royce produces the fan and nozzles.

JSF will be the first operational supersonic aircraft with short takeoff/vertical landing capabilities.

The Lockheed Martin team approach to the flight-test program is based on fielding and flying a demonstrator that is virtually identical to the production model, so both technical risk and cost are reduced before the JSF's production phase. Advanced manufacturing methods already demonstrated by the Lockheed Martin JSF team will reduce manufacturing time by 66 percent and manufacturing costs by more than 50 percent over legacy fighter aircraft.

Lockheed Martin, in partnership with Northrop Grumman and BAE SYSTEMS, is in competition to build the JSF for the United States and United Kingdom. Government selection of a single contractor for the Engineering and Manufacturing Development phase is set for fall 2001.

For photos and information on the JSF, visit:http://www.lmaeronautics.com/

For government information on the Joint Strike Fighter program, visithttp://www.jast.mil/

For information on Lockheed Martin Corporation, visit:http://www.lockheedmartin.com/

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