

With Weight Issues Resolved, F-35 Focus Turns To Production

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Engineers have removed more than 2,700 pounds (1,225 kilograms) of unwanted estimated weight from the short-takeoff/vertical-landing (STOVL) version of the F-35 Joint Strike Fighter, while increasing propulsion efficiency and reducing drag. The result is an F-35 JSF design recommendation that is expected to meet or exceed all of its performance requirements.

"The F-35 is now tracking ahead of its Key Performance Parameters, and past concerns about the aircraft's aerodynamic performance have diminished," said Tom Burbage, Lockheed Martin executive vice president and general manager of F-35 JSF program integration. "Because of the design similarities among the three F-35 variants, many of the STOVL-version refinements will translate to the conventional and carrier versions, which already met their performance requirements even before the STOVL improvements were instituted."

The F-35 team anticipates final approval of the STOVL revisions when the U.S. Defense Acquisition Board meets on Oct. 14.

"We have addressed every known aspect affecting STOVL aerodynamic performance and shipboard compatibility," said Rear Adm. Steven Enewold, F-35 JSF program executive director. "We feel our proposed configuration is operationally viable. The next step is to get the trade-study results implemented into the detailed STOVL design package."

With first flight expected in August 2006, production becomes the program's central focus. All four of the first test aircraft's major subassemblies are now in work. Last month BAE SYSTEMS began assembling the aft fuselage and tails in Samlesbury, England, and Lockheed Martin started wing assembly at the company's Fort Worth plant. In May, Northrop Grumman kicked off F-35 assembly when it began making the center fuselage in Palmdale, Calif. Forward-fuselage assembly started the following month in Fort Worth. Production of control surfaces and edges will soon be under way at Lockheed Martin's Palmdale site.

Final assembly of the F-35 is planned to start next spring in Fort Worth, with completion of the first aircraft anticipated in late 2005.

The program already is preparing for the challenge of operating, supporting and sustaining thousands of F-35s worldwide. Nine countries currently are engaged in the aircraft's development and are expected to begin adding F-35s to their fleets early in the next decade. Many other nations have expressed interest in the aircraft, and the roster of international F-35 customers is likely to grow. The task of sustaining such a large number of aircraft over a geographically dispersed area for more than 40 years will be made possible by the F-35's exceptional reliability, its next-generation onboard diagnostics, its standardized and simplified maintenance processes, streamlined supply-chain management and many other advances over current fighters.

The F-35 is a next-generation, supersonic, multi-role stealth aircraft designed to replace the AV-8B Harrier, A-10, F-16, F/A-18 Hornet and the United Kingdom's Harrier GR.7 and Sea Harrier.

Lockheed Martin and its principal industrial partners Northrop Grumman and BAE SYSTEMS are employing an array of advanced and highly accurate manufacturing machines to help the F-35 achieve its goals of affordability, quality and assembly speed.

Three F-35 variants -- a conventional takeoff and landing (CTOL), a short- takeoff/vertical-landing (STOVL) and a carrier variant (CV) -- each derived from a common design will ensure that the F-35 meets the performance needs of the U.S. Air Force, Marine Corps, Navy, the U.K. Royal Air Force and Royal Navy, and allied defense forces worldwide, while staying within strict affordability targets.

Lockheed Martin is developing the F-35 in conjunction with Northrop Grumman and BAE SYSTEMS. Companies worldwide are participating in the F-35's development. Two propulsion teams, led by Pratt & Whitney and General Electric, are developing separate interchangeable engines for the F-35.

Lockheed Martin Aeronautics Co., a business area of Lockheed Martin, is a leader in the design, research and development, systems integration, production and support of advanced military aircraft and related technologies. Its customers include the military services of the United States and allied countries throughout the world. Products include the F-16, F/A-22, F-35 JSF, F-117, C-5, C-130, C-130J, P-3, S-3 and U-2. The company produces major components for the F-2 fighter, and is a co-developer of the C-27J tactical transport and T-50 advanced jet trainer.

Headquartered in Bethesda, Md., Lockheed Martin employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. The corporation reported 2003 sales of \$31.8 billion.

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http://www.lmaeronautics.com/products/combat_air/x-35/mediaKit.html

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