Lockheed Martin F-35A Becomes Second Variant To Fly With Mission Systems

The ninth Lockheed Martin F-35 Lightning II stealth fighter entered flight testing on Tuesday, becoming the second test jet to fly with the next-generation avionics package that will populate all operational F-35s. The F-35A conventional takeoff and landing (CTOL) variant, known as AF-3, flew for 42 minutes during its first flight.

F-35 Test Pilot Bill Gigliotti took off at 6:20 p.m. and initiated a series of flying-qualities tests in a flight focused on propulsion and vehicle systems operation. Some mission systems data were collected before the flight was curtailed by storms in the area.

"AF-3 is very much like the first production F-35s we will deliver to the U.S. Air Force later this year," said Doug Pearson, Lockheed Martin vice president of F-35 Test and Verification. "AF-3 will be the workhorse for demonstrating the lethal 5th generation combat mission systems capability that will reside in all F-35s."

The F-35's avionics, or mission systems, are the most comprehensive and powerful ever to fly in a fighter. The Lightning II gathers, processes and applies data from a wide array of on-board and off-board sensors, enabling the jet to perform command-and-control functions while providing unprecedented situational awareness to the pilot, other air assets and surface forces.

The jet will begin testing with its AESA radar; electronic warfare system; integrated communication, navigation and identification system; inertial navigation system; global positioning system; integrated core processor; and helmet-mounted display system, then integrate other sensors as flight testing progresses. An F-35B short takeoff/vertical landing (STOVL) variant became the first test jet to begin flying the mission systems package on April 7.

Three F-35 variants are under development - the F-35A CTOL variant to replace U.S. Air Force F-16s and A-10s, as well as aircraft employed by seven allied nations; the F-35B STOVL variant to replace U.S. Marine Corps AV-8B Harriers and F/A-18s, U.K. Royal Air Force and Royal Navy Harrier GR.7s, GR.9s and Sea Harriers, and Italian Harriers; and the F-35C carrier variant to replace U.S. Navy F/A-18s.

The F-35 Lightning II is a 5th generation fighter, combining advanced stealth with fighter speed and agility, fully fused sensor information, network-enabled operations, advanced sustainment, and lower operational and support costs. Lockheed Martin is developing the F-35 with its principal industrial partners, Northrop Grumman and BAE Systems.

The F-35 program has about 900 suppliers in 45 states, and directly and indirectly employs more than 127,000 people. Thousands more are employed in the F-35 partner countries, which have invested more than $4 billion in the project. Those countries are the United Kingdom, Italy, the Netherlands, Turkey, Canada, Australia, Denmark and Norway.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 136,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation reported 2009 sales of $45.2 billion.

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