

# F-22 Raptor Achieves Key Program Criteria -- First Flight Of Raptor 4005 Armed With Block 3.0 Avionics

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MARIETTA, Ga.

The U.S. Air Force's F-22 program soared over another milestone today with the first flight of an F-22 Raptor equipped with combat-capable avionics as Boeing test pilot Randy Neville flew the successful first flight of Raptor 4005 from Lockheed Martin's facility in Marietta, Ga.

(Photo: <http://www.newscom.com/cgi-bin/prnh/20010105/ATF013> )

One of three remaining tasks required prior to a decision to start F-22 low-rate initial production, the flight incorporated Block 3.0 software components, which provide functions such as radar processing and sensor fusion, electronic warfare and countermeasures, communication, navigation and identification, and pilot/vehicle interface.

"Flying Raptor 4005 with the Block 3.0 represented the program's current most technically demanding challenge," said Brig. Gen. Jay Jabour, F-22 System Program Director. "This successful flight, in addition to our other recent achievements, demonstrates that the program is ready for low-rate production."

The F-22 is the crucial next step to the Air Force's transformation to the expeditionary aerospace force of the future. Fielding it in sufficient numbers will guarantee U.S. air dominance for the next three decades. As a force enabler, it will reduce the risk to U.S. and friendly forces in conflicts of all sizes and lead to dramatically fewer allied casualties, he added.

The F-22 program is managed by the F-22 System Program Office, Aeronautical Systems Center, Wright-Patterson AFB, Ohio.

"Block 3.0 is the software that provides and controls the 'first look, first shot, first kill' warfighting capability of the F-22 Raptor," said Tom McDermott, Lockheed Martin Aeronautics' F-22 avionics product manager. "Block 3.0 provides the multi-sensor fusion Raptor pilots will need to accurately acquire, track, identify and engage multiple targets."

In addition to Block 3.0's ability to launch and guide multiple weapons -- such as the AIM 120 and AIM-9 air-to-air missiles -- this software package enables the aircraft to automatically detect and defeat incoming missiles by initiating the Raptor's counter-measures, according to McDermott. The Boeing Company integrates and tests the Raptor's avionics at the Avionics Integration Lab (AIL) in Seattle and on the Flying Test Bed (FTB.) Both the AIL and FTB are helping reduce avionics risks and contain development costs by enabling extensive evaluation and troubleshooting before full avionics are installed on the F-22.

The decision to enter low-rate initial production (LRIP) rests with the Defense Acquisition Board (DAB) chaired by the defense undersecretary for acquisition and technology.

The DAB, previously scheduled for January 3, has been postponed until next week. Weather was the driving factor in postponing the meeting. The program was on schedule to meet all DAB requirements until three snow storms at the Marietta, Ga., test site forced the rescheduling of the last three criteria tests. Had the weather cooperated, all DAB testing would have been completed by the first week of January.

"We were on schedule to complete all the testing until the weather turned bad on us. The good news is the F-22 is the most tested aircraft the DoD has ever developed. It features proven technology that promises to give America the most-advanced fighter aircraft in the world for the next 20 years," said Secretary of the Air Force F. Whitten Peters.

The Air Force is confident the F-22 program will meet all performance requirements while delivering 339 aircraft within the Congressional funding cap, the Secretary added. He and other senior Air

Force officials are interpreting Congress' recent approval of bridge funding to keep the F-22 on track as a sign of its faith in the program and the aircraft.

Last year, the F-22 program faced the challenging task of completing 11 DAB criteria needed to satisfy an LRIP decision by Dec. 31, 2000. Despite several delays, including the recent snow storms, it is now within days of completing the final two. So far, in addition to flying the Block 3.0 software on Raptor 4005, the program has completed eight other criteria to include: critical design review for the avionics Block 3.1 software, air vehicle final production readiness review, aircraft 4008 mate of the fuselage, wing and empennage, and the first half engine qualification test. Also completed were flight testing high angle of attack with weapons bay doors open, demonstrating missile separation for the AIM-9 and AIM-120, initiating fatigue testing, and completing static structural tests. The remaining two criteria to be completed include first flight of Raptor 4006 and initiating radar cross-section flight testing.

The Raptor contractor team, consisting of Lockheed Martin Aeronautics Company, the Boeing Company, Seattle, Wash., and Pratt & Whitney, Hartford, Conn. produce the F-22. Eleven major subsystem suppliers from across the country developed the Block 3.0 software.

The F-22 will replace the F-15 as the Air Force's next air superiority fighter aircraft.

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