

F-35C STEALTH ON THE CARRIER DECK MEANS HIGH PERFORMANCE, LOW MAINTENANCE

FORT WORTH, Texas, March 18th, 2008 -- The U.S. Navy's version of the Lockheed Martin [NYSE:LMT] F-35 Lightning II is scheduled to make its first flight next year, but technicians have spent the last decade perfecting the aircraft's stealth design and materials to ensure they stand up to harsh carrier-deck and combat conditions with very little upkeep.

"The F-35C's stealth will bring a profound increase in capability to the Navy's fighter fleet. What it will not bring is increased maintenance," said Steve O'Bryan, a former carrier fighter pilot and director of F-35 Domestic Business Development for Lockheed Martin. "The Lightning II is a 5th generation fighter with supportable stealth that was designed into the aircraft from the very beginning. It will endure extreme abuse without degrading its stealth radar-signature performance."

The F-35 is a supersonic, multi-role, 5th generation stealth fighter. Three F-35 variants derived from a common design, developed together and using the same sustainment infrastructure worldwide, will replace at least 13 types of aircraft for 11 nations initially, making the Lightning II the most economical fighter program in history. The program is on schedule to deliver aircraft to the U.S. military services beginning in 2010. The first test aircraft has completed 35 flights and has exceeded performance expectations. The inaugural flight of the first short takeoff/vertical landing F-35B is on schedule for mid-2008. All 19 test aircraft are in production flow or on the flightline, and assembly has begun on the first two production F-35s.

The F-35 achieves its Very Low Observable stealth performance through its fundamental design, its external shape and its manufacturing processes, which control tolerances to less than half the diameter of a human hair. Special coatings are added to further reduce radar signature.

The package is designed to remain stealthy in severe combat conditions, and tests have validated that capability. After obtaining baseline radar cross section (RCS) measurements from a highly detailed, full-scale Signature Measurement Aircraft (SigMA), a team of Lockheed Martin and Northrop Grumman engineers intentionally inflicted extensive damage – more than three dozen significant defects – on the model. The damage represented the cumulative effect of more than 600 flight hours of military aircraft operations. RCS measurements taken after the damage showed that the stealthy signature remained intact.

"Even operating in harsh carrier-deck conditions, the F-35C will require no special care or feeding. In fact, its stealth adds very little to the day-to-day maintenance equation," O'Bryan said. "We've come a long way from the early stealth airplanes, which needed hours or even days of attention and repair after every flight. The F-35 not only avoids that intensive level of upkeep, it will require significantly less maintenance than the nonstealth fighters it is designed to replace."

II is scheduled to make its first <http://www.globalsecurity.org/military/systems/aircraft/f-35-design.htm>
"According to November 2005 reports, the US Air Force states that the F-22 has the lowest RCS of any manned aircraft in the USAF inventory, with a frontal RCS of 0.0001~0.0002 m², marble sized in frontal aspect. According to these reports, the F-35 is said to have an RCS equal to a metal golf ball, about 0.0015m², which is about 5 to 10 times greater than the minimal frontal RCS of F/A-22. The F-35 has a lower RCS than the F-117 and is comparable to the B-2, which was half that of the older F-117. Other reports claim that the F-35 is said to have a smaller RCS headon than the F-22, but from all other angles the F-35 RCS is greater. By comparison, the RCS of the Mig-29 is about 5m²."

and its manufacturing