F-35 Lightning II Program

Public Affairs Release – 2014 11 17

F-35C COMPLETES INITIAL SEA TRIALS ABOARD AIRCRAFT CARRIER

U.S Navy Nov.17, 2014

141113-O-ZZ999-001 PACIFIC OCEAN (Nov. 13, 2014) An F-35C Lightning II carrier variant Joint Strike Fighter conducts its first carrier-based night flight operations aboard the aircraft carrier USS Nimitz (CVN 68). The aircraft launched at 6:01 p.m. (PST) and conducted a series of planned touch-and-go landings before making an arrested landing at 6:40 pm. Nimitz is hosting the F-35 Lightning II Pax River Integrated Test Force from Air Test and Evaluation Squadron (VX) 23 during the initial sea trials of the F-35C.(U.S. Navy photo courtesy of Lockheed Martin by Andy Wolfe/Released)

The F-35C Lightning II carrier variant Joint Strike Fighter completed its first phase of developmental test (DT) aboard an aircraft carrier Nov. 14,three days ahead of schedule aboard USS Nimitz (CVN 68).

During the DT-I event, F-35C Lightning II Joint Strike Fighter (JSF) the F-35 Lightning II Integrated Test Force (ITF) from Air Test and Evaluation Squadron 23 (VX-23) located at Naval Air Station (NAS) Patuxent River in Patuxent River, Maryland, tested the carrier suitability of the aircraft and its integration with carrier air and deck operations in the at-sea environment, achieving 100 percent of the threshold test points.

The aircraft demonstrated exceptional performance throughout its initial sea trails, accelerating the team's progress through the DT-I schedule and enabling them to conduct night operations - a milestone typically achieved during the second at-sea phase of developmental tests, as evidenced by the test schedules of the F/A-18 Hornet and F/A-18 E/F Super Hornet.

"We had such confidence in how the plane is flying that we lowered the weather minimums to what the fleet is actually using, knowing that when I lower my hook and come into the groove I'm going to trap," said Lt. Cmdr.Ted Dyckman, Navy test pilot. "That says a lot for the airplane. So, when it came time for night traps, we said the plane is ready and we launched it. It flew very well behind the ship. Even on the darkest night - pretty much as dark as you can get behind the boat. Two hook-down passes and two traps and that says it all right there. It's unheard of to conduct night ops on the first det."

"The engineers responsible for the aircraft's control laws at Pax (Patuxent) River and Fort Worth have done a phenomenal job designing a carefree aircraft from the pilot's perspective," said Cmdr. Tony Wilson, DT I Team Lead. "The F-35C's performance on the ball was revolutionary, providing carefree handling on approach. The Integrated Direct Lift Control (IDLC) allows ball control like no other aircraft. The control schemes of the F-35C provide a tool for the below average ball flyer to compete for top hook. And, Delta Flight Path is an innovative leap in aircraft flight controls - this command enables the F-35 to capture and maintain a glideslope, greatly reducing pilot workload, increasing safety margins during carrier approaches and reducing touchdown dispersion."

The cadre of DT-I test pilots logged a total of 39.2 flight hours as they conducted 33 flights featuring 124 catapults, 222 touch-and-go landings, and 124 arrestments. There were zero unintentional hook-down bolters, or missed attempts to catch an arresting wire on the flight deck. (Two hook-down, intentional bolters were conducted as part of the DT-I test plan.)

Successful carrier landings of the F-35C also point to an effective re-design of the once-troubled tailhook. Initial testing shore-based testing pointed toward tailhook design issues and the Atlantic Test Range (ATR) at NAS Patuxent River captured critical measurement data with their precision photogrammetric technology and modeling capabilities. The re-design collaboration between Lockheed Martin and Fokker Technologies of the Netherlands - with insight and participation by Navy airworthiness engineers - has yielded a preponderance of three-wire landings during DT-I and firmly established the success of the redesign.

The goal of DT-I, the first of three at-sea test phases planned for the F-35C, was to collect environmental data through added instrumentation to measure the F-35C's integration to flight deck operations and to further define the F-35C's operating parameters aboard the aircraft carrier. A thorough assessment of how well the F-35C operated in the shipboard environment will advise the Navy of any adjustments necessary to ensure that the fifth-generation fighter is fully capable and ready to deploy to the fleet in 2018.