NAS Patuxent River soars into the future with the F-35

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NAS Patuxent River, MD—Naval Air Station Patuxent River continues to make strides in the testing of the new F-35B joint strike fighter. The F-35 Lightning II Integrated Test Force (ITF) just conducted the third and final sea-based developmental test phase (DT-III) for the F-35B Short Takeoff and Vertical Landing (STOVL) aircraft aboard USS America (LHA 6).

The F-35B is the world's only supersonic STOVL stealth aircraft. It's the first time in aviation history a radar-evading stealth jet comes with STOVL capability. The F-35B also has the unique ability to operate from a variety of ships, roads and austere bases near the frontline of combat zones.

"With the F-35B, we have brought stealth capability to the amphibious fleet—that is unique in the Navy," said U.S. Marine Corps Maj. John Dirk, an F-35 Lightning II test pilot assigned to the Salty Dogs of Air Test and Evaluation Squadron (VX) 23 at NAS Pax River and the DT-III officer in charge (OIC). "Now we have a stealth capability off a relatively moderately-sized ship that can be anywhere in the world—which means that there is nowhere in the world that an enemy can hide."

From Oct. 28 through Nov. 17, two F-35Bs from VX-23 at NAS Patuxent River participated in the final sea-based test phase. Joining the Salty Dogs were aircraft and personnel from Marine Operational Test and Evaluation Squadron (VMX) 1 located at Edwards AFB, CA and Marine Fighter Attack Squadron (VMFA) 211 from Marine Corps Air Station Yuma, AZ. A team of Pax River ITF technicians, maintainers, engineers, logisticians, support staff and test pilots from NAS Patuxent River led the DT-III test phase.

This detachment also marked a new beginning for the Navy. It was the first time the F-35B landed aboard USS America (LHA 6), the first ship of its class. And it was the first time both new platforms were brought together to streamline processes and procedures ahead of the F-35B's eventual deployment. USS America is the first of the new America-class amphibious assault ships. The Navy designed America to specifically accommodate both F-35Bs and MV-22B Ospreys as well as Navy and Marine Corps helicopters.

USS America has some unique capabilities, including a hangar bay that is 40 percent bigger and there is no well deck. The space was transformed into an aviation intermediate maintenance space, comparable to those on aircraft carriers. "It's a robust capability to support the ship for these strategic-level F-35 and V-22 assets," Dirk explained.

During the detachment off the coast of California, one of the team's major elements was to operate in high seas and rough conditions, including sea state four. Sea states are determined by the size of the waves. Sea state four would feature waves from four to eight feet in height.

"It's been a very good experience partnering with America," Dirk added. "This has been one of the best experiences working with an amphib I've had. They were gracious hosts, they went out of their way to support our envelope expansion of the F-35B. The ship's captain and crew successfully placed the aircraft where we needed to be to get the test points while still keeping the aircraft, pilot and ship safe."

During DT-III, the joint test team logged more than 50 flight hours across 60 flights featuring 128 short take offs, 126 vertical landings and two vertical takeoffs. This could often take four months during typical fleet operations. The test team completed it in three weeks.

"It is imperative that any new aircraft that we bring into service goes through a thorough test period to ensure the safety and fit of the aircraft's envelope for generations of aviators who are going to deploy with this aircraft," said U.K. Royal Air Force (RAF) Squadron Leader Andy Edgell, an F-35 test pilot assigned to VX-23. "Likewise, any platform from which we deem the aircraft suitable to launch and recover needs to be additionally thoroughly tested."

Edgell remarked, "From a pilot's perspective, the aircraft is effortless. It is so easy to fly. I'm a Harrier pilot and she was a great aircraft, but she was a handful. This aircraft is on the other end of the spectrum. The sheer level of effort required to stabilizing her alongside the ship is so low. What happens is you can come back to the ship and you can enjoy it as opposed to being petrified of it."

Dirk agreed, noting that "you could parallel park this aircraft – it is so accurate. You have a 40,000lb aircraft that you have control over within a foot."

This final sea-test phase also focused on testing the aircraft's weapons systems with both internal and external weapons. The F-35B internal weapons storage combines with the aircraft's low-observable technology to maintain the aircraft's stealth capability, which is particularly important on the first day of war.

There is concern about the cost of the F-35 from the political sphere and some elements of the U.S. government. Right now, the cost of developing these aircraft is reportedly around $400 billion–$100 billion of which has already been spent. President-elect Donald Trump has already said he plans to slash the some of the projected cost. In a recent Twitter post Trump said, "The F-35 program and cost is out of control. Billions of dollars can and will be saved on military purchases after January 20th."

While the political machine and big government fight over the spending, NAS Patuxent River will continue to conduct developmental test of the naval variants.

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