



# F-35 Lightning II Program

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## **F-35C CONDUCTS FIRST EXTERNAL WEAPONS RELEASE WITH NOT ONE, BUT FOUR 500-POUND BOMBS**

For the first time an F-35 released an external weapon from its wings, not once, but four times during an external weapons separation test on 23 September 2015.

The aircraft, CF-2, released four 500-pound GBU-12 laser guided inert bombs from its wings' pylons during consecutive test runs over the Atlantic Test Range. The F-35 Patuxent River Integrated Test Force conducted the flight and noted all four weapon separations were successful and confirmed the accuracy of the predicted release trajectory. The ability to do quadruple separation tests during a single flight demonstrates the program's ability to efficiently test, and advances the F-35's future capability to release multiple weapons on a single pass.

During the sortie, flight test engineers monitored and reviewed telemetry data from each GBU-12 separation event to confirm it was safe to proceed to the next release point. The team also saved costs by clearing the range once rather than four times to accomplish each separation.

Traditional flight test programs often rely upon a series of individual separation flights to accommodate engineering analysis to determine if it is safe to proceed to the next test point. The F-35 weapons certification process combined extensive wind tunnel testing and computer analysis to predict the trajectory of the weapons released from the aircraft. Additionally, the F-35 features an on-board instrumentation capability that delivers real-time data analysis to engineers in the control room. Each weapon separation matched simulation models with a high degree of fidelity, which expedites the clearances of future weapons and employment envelopes.

This year, the F-35 Patuxent River Integrated Test Force, has flown 500 flights and achieved 3,400 test points. The team's five F-35B and four F-35C aircraft have supported a wide array of mission systems and flight tests. The F-35 Lightning II is a single-seat, single-engine, stealthy strike fighter that incorporates low-observable (stealth) technologies, advance avionics, internal and external weapons, and sensor fusion.



CF-2, releases one of four 500-pound GBU-12 laser guided inert bombs from its wings' pylons on 23 September 2015 over the Atlantic Test Range. The test marked the first time an F-35 Lightning II conducted an external weapons separation release. Photo by F-35 ITF photographer Andy Wolfe.