



# F-35 Lightning II Program

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## F-35 AND F-22 COMBINE CAPABILITIES IN OPERATIONAL INTEGRATION TRAINING MISSION

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33rd Fighter Wing

EGLIN AIR FORCE BASE, Fla. -- The U.S. Air Force deployed four F-22 Raptors from Joint Base Langley-Eustis, Virginia, to Eglin Air Force Base, earlier this month for the unit's first operational integration training mission with the F-35A Lightning II assigned to the 33rd Fighter Wing here.

The purpose of the training was to improve integrated employment of fifth-generation assets and tactics. The training allowed both units to gain operational familiarization and capture lessons learned to improve future exercises.

"When the F-22 and F-35 come together, it brings out the strength of both airplanes," said Lt. Col. Matt Renbarger, F-35 pilot and 58th Fighter Squadron commander. "The F-22 was built to be an air-to-air superiority fighter and the F-35 was built to be a strike fighter. These airplanes complement each other and we're trying to learn how to take that from a design perspective into a tactical arena and be the most effective combat team we can be working with the F-22s."

The F-35s and F-22s flew offensive counter air, defensive counter air and interdiction missions together, exploring ways to maximize their fifth-generation capabilities.

"The missions started with basic air-to-air and surface attacks," said Maj. Steven Frodsham, F-22 pilot and 149th Fighter Squadron, Virginia Air National Guard, Joint Base Langley-Eustis, Virginia. "As the training progressed, the missions developed into more advanced escort and defensive counter air fifth-generation integration missions."

The Air Force recently employed fifth-generation combat airpower for the first time against the self-proclaimed Islamic State of Iraq and the Levant during the most recent joint coalition campaign. The ground strike was the F-22 Raptor's combat debut, demonstrating the decisive impact fifth-generation capabilities bring to real-world scenarios.

Like the F-35, the F-22 brings an unrivaled stealth capability to the fight. However, as seen in the recent employment in Syria, it's the aircraft's ability to provide heightened situational awareness to other aircraft through the platform's integrated avionics and fused sensors – often referred to as "fusion" - that makes all the aircraft in the strike package more lethal and survivable, maximizing the full capabilities of airpower.

"Fusion and stealth - those are the two things that fifth-generation aircraft bring to the fight," said Renbarger. "It's all of those sensors coming in to give me that fused battle picture that I have displayed in my cockpit along with fifth-generation stealth that enables me to go undetected into the battlefield with that high situational awareness to do what I need to do for the fight."

The F-22 sparked the Air Force's fourth-to-fifth generation integration efforts. Now that the F-35 program is moving closer to its initial operational capability, it too can begin to integrate with the fourth-generation systems as well as its fifth-generation F-22 counterpart.

"The F-22 and F-35 squadrons integrated very well," said Frodsham. "The lessons learned and tactics developed from this training opportunity will help to form the foundation for future growth in our combined fifth-generation fighter tactics."



F-35 and F-22 Raptors from the 94th Fighter Squadron, Joint Base Langley-Eustis, Virginia, and F-35A Lightning IIs from the 58th Fighter Squadron, Eglin Air Force Base, Florida, fly in formation after completing an integration training mission over the Eglin Training Range, Florida, Nov. 5, 2014. The purpose of the training was to improve integrated employment of fifth-generation assets and tactics. The F-35s and F-22s flew offensive counter air, defensive counter air and interdiction missions, maximizing effects by employing fifth-generation capabilities together. (U.S. Air Force photo/Master Sgt. Shane A. Cuomo)