



F-35 Lightning II Program

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F-35A AFE Airmen are pioneers in flight equipment

EGLIN AIR FORCE BASE, Fla. – -- Helmet and oxygen mask parts lay scattered across blue padded tables as aircrew flight equipment specialists carefully inspect each component for flaws. While reconstructing the gear, these Airmen search for changes that can be made to improve the performance and usability of each item.

This is the thought process day-in and day-out for Aircraft Flight Equipment Airmen at the 33rd Operations Support Squadron at Eglin Air Force Base, Fla. The team here is the leading AFE shop for the F-35A Lightning II program, making them pioneers for fifth generation equipment improvements.

With this title comes the responsibility of ensuring action reports and joint technical data are created and refined so other F-35 units across the services will have access to the most up-to-date maintenance instructions.

“We have been responsible for over 241, and counting, action reports that pave the way for other F-35 AFE shops,” said Tech. Sgt. Edwin Portan, 33rd OSS aircrew flight equipment non-commissioned officer in charge. “We’ve provided in-house training and laid the groundwork for Luke, Nellis and Hill’s quality assurance program, AFE continuation training program and many other programs within AFE.”

The need for updated technical data is rooted in the fact that flight equipment for the F-35 is unlike anything used in legacy inventory. Not only is the gear specifically designed for the Air Force’s newest jet, but each piece is custom fit for each pilot.

F-35 flight equipment has gone through many changes compared to its legacy counterparts including an integrated arm restraint system that prevents arm movement upon ejection, a pilot interface connector that centralizes connections for the oxygen breathing hose, anti-G suit inflation, and communication cord making it a single connection point for the pilots as they enter the aircraft.

“Our AFE troops have done an outstanding job learning these new systems and becoming experts on how it functions with the jet,” said Maj. David Nagle, 33rd OSS wing weapons officer. “It is through their rigorous flight gear inspection process [that they] find and fix issues to ensure all fighter pilots are safe on every sortie. Their tireless efforts help maintain smooth flying operations.”

According to Portan, experience and expertise acquired on different aircraft have played an integral part in writing guidance for the F-35 program.

“Everyone brings a different perspective on how things could be done or improved,” said Portan. “Some of us with experience with [the] F-15’s Joint Helmet Mounted Cueing System had the advantage of knowing how to custom fit display visors on the helmet and work with helmet display systems. Some of those with heavies experience brought diversity, parachute packing and post ejection insight.”

Among these experienced Airmen is the first and only F-35 AFE Airman, Senior Airman Sean Gregory, 33rd OSS F-35 AFE technician, at the 33rd Fighter Wing, who pipelined from technical school directly into the F-35 unit.

Gregory says that coming straight from technical training to the F-35’s AFE shop, she is able to bring a fresh perspective to the program.

“[I’m] able to think on my own or outside of the box, rather than through previous Air Force processes, said Gregory.



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The work of 33rd FW AFE Airmen is based on their mission to support flight operations and ensure pilots have safe equipment in case of ejection. Portan says, in the future, their shop will continue to be on the front lines of flight equipment development as they receive and test gear.

"I feel privileged to be a part of history," said Portan. "It's a good feeling to come to work knowing we work on the world's leading edge of fighter pilot equipment...and the best thing about it is our inputs make a difference."