

# F-15EX Eagle II Performs First Live Fire Event As Operational Testing Moves Forward



The 40th Flight Test Squadron's Majors Benjamin Naumann and Mark Smith fly the F-15EX Eagle II preparing to fire an AIM-120D missile during a Weapons System Evaluation Program mission near Tyndall Air Force Base, Fla, Jan. 25, 2022. This was the first live fire performed from the Air Force's newest aircraft. In the box: The F-15EX Eagle II fires an AIM-120D missile during a Weapons System Evaluation Program mission. (U.S. Air Force photos by Tech. Sgt. John Raven)

## The new F-15EX aircraft fired an AIM-120D at a target drone during Combat Archer.

The U.S. Air Force's newest fighter, the F-15EX Eagle II, successfully fired an AIM-120D missile during its first live fire event while flying over the Gulf of Mexico on January 25, 2022. During the event, the first prototype of the Eagle II, airframe 20-0001 assigned to the 40th Flight Test Squadron, engaged a BQM-167 aerial target drone as part of one of the numerous air-to-air Weapon System Evaluation Programs events run by the 53rd Wing at Tyndall Air Force Base.

Known also as "Combat Archer", the WSEP is an air-to-air exercise hosted by the 53rd Weapons

Evaluation Group to improve air-to-air tactics and practice weapons systems employment: fighter pilots rarely get a chance to fire live missiles, WSEP events are almost always the first (and sometimes only) opportunity to use live air-to-air weapons and validate their shots. Missiles used in Combat Archer tests usually don't carry a warhead, replaced by telemetry packages, and are shot over the Eglin-Gulf Test and Training Range at various types of drone targets.

The 83rd Fighter Weapons Squadron is responsible for the air-to-air WSEP, which is held monthly together with the air-to-ground equivalent, known as "Combat Hammer". "The squadron was thrilled to help orchestrate and support this historic shot with our sister organization from Eglin," said Maj. Andrew Smith, F-15C WSEP program manager. "The F-15EX represents the next era of air-to-air capabilities and the opportunity to execute a first shot utilizing that platform was monumental."

During this specific Combat Archer flight, the F-15EX detected the drone using onboard sensors, most probably its AN/APG-82(V)1 Active Electronically Scanned Array (AESA) radar, acquired a weapons-quality track and launched the AMRAAM at the target. After tracking the missile's release and flight toward the BQM-167, the shot was determined a WSEP success, at which point the missile flight was terminated without destroying the drone.

The successful missile release marked the first weapon fired from the Eagle II and another major milestone for this program, following more than six months of integrated developmental and operational flight testing in preparation for the live fire event. "This was an end-to-end verification of the entire weapons system, which will pave the way for more complex missile shots in the future," said Colton Myers, F-15EX test project manager with the Operational Flight Program Combined Test Force.

As we mentioned, Combat Archer is often the first opportunity for a pilot to employ live air-to-air weapons, and this is true also for experimental test pilot Maj. Benjamin Naumann, the F-15EX's pilot for this test. "I am humbled to have the opportunity to fire the first weapon, but the bigger success is the verification of the F-15EX capability to live-fire a missile," said Maj. Naumann. "This shot is another important step towards fielding the aircraft to combat units." Compared to a "standard" operational WSEP, test aircrew also have to account for specific test parameters when firing to ensure the appropriate data is collected for analysis, in addition to the weather, extra safety precautions and aircraft settings usually taken in account.

The 40th Flight Test Squadron's F-15EX Eagle II waits to taxi out for a Weapons System Evaluation Program mission Jan. 25 at Tyndall Air Force Base, Fla. The aircrew aboard fired an AIM-120 missile during the sortie marking the first live firing from the Air Force's newest fighter aircraft. The fighter fired the missile at a BQM-167 aerial target over the Gulf of Mexico. (U.S. Air Force photo/1st Lt. Lindsey Heflin)

The missile shot is the latest of many milestones achieved by the F-15EX test team at Eglin Air Force Base in just 10 months since the aircraft was delivered. Only two months after arrival, the F-15EX was deployed to exercise Northern Edge 21 in Alaska. The Eagle II was pushed to its limits in the multi-service exercise, collecting a significant amount of data during 33 flight sorties which saw the

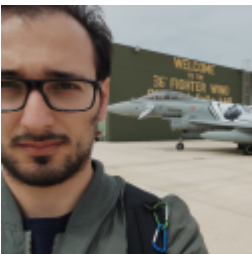
aircraft performing in the roles usually assigned to the F-15C, both shooting down adversaries and getting shot down itself.

Following this successful first deployment, the F-15EX underwent developmental flight and ground testing to include survivability testing in various electromagnetic environments. This series of tests lead to the discovery and resolution of issues identified in the F-15EX's Suite 9 software system, according to the press release, leading to a more mature and stable product. Suite 9.1X is the Operational Flight Program (OFP) developed for the F-15EX, which also helped to develop the latest operational flight program for the F-15C and F-15E, called Suite 9.1RR (Re-Release), which brought many improvements to the Eagles and Strike Eagles.

After the developmental testing, it was time for some operational testing in October 2021, with the Eagle II deploying to Nellis Air Force Base for another week-long exercise focused on the air-to-air dominance mantle it will inherit from the F-15C. This exercise proved that while the platform still needs more development, according to Myers, but it is completely capable of fulfilling its expected air dominance role. The F-15EX is eventually expected to take part in Red Flag exercises in the future.

"For a new platform, we've made an incredible amount of progress in a short period of time," said Myers. "I don't know of any other platform that has undergone such a rapid test program and it's been incredible to be a part of the team that's bringing this to reality." The advancement of the program and the EX's successes over the past 10 months are due to the integrated testing efforts by the 96th Test Wing and 53rd WG. "The combined DT/OT strategy has been critical to our test success, allowing us to break the mold of 'traditional' testing, while ultimately resulting in an overall better product for the warfighter, and in a shorter timeline than if we adopted the traditional approach".

As we mentioned when the aircraft was first delivered, while the 40th Flight Test Squadron took possession of EX1 for the developmental testing (DT), EX2 was assigned to the 85th Test and Evaluation Squadron, which will be in charge of the operational testing (OT). The two units are working together to complete the combined developmental and operational testing simultaneously and allow the EX to be delivered to the warfighter as soon as possible, while ensuring the aircraft meets test objectives. This combination of Eglin's testers allows the teams to identify any system issues early on, so they can be addressed before the F-15EX's increased production and delivery to the squadrons.



Stefano D'Urso is a contributor for TheAviationist based in Lecce, Italy. He's a full-time engineering student and aspiring pilot. In his spare time he's also an amateur aviation photographer and flight simulation enthusiast.

Source: [F-15EX Eagle II Performs First Live Fire Event As Operational Testing Moves Forward](#)