

F-15EX Eagle II



In March 2025, DOT&E published a classified live fire annex update to the November 2023 combined F-15EX Eagle II IOT&E and LFT&E report. This live fire annex cleared the way for the program to begin FOT&E, which is now underway, in accordance with a DOT&E-approved TEMP. While initial FOT&E events have occurred, those events attempted during a large force exercise in FY25 were deemed not operationally representative, precluding the use of its data.

SYSTEM DESCRIPTION

The F-15EX is a two-seat, twin-engine, multi-role fighter aircraft. It is a derivative of the Qatari F-15QA, which is derivative of the Air Force F-15E Strike Eagle. The F-15EX inherits modern advances such as “fly-by-wire” flight controls, dual Digital Helmet

Mounted Cueing Systems, a large touchscreen display, and additional improvements, such as the AN/ALQ-250(V)1 Eagle Passive Active Warning Survivability System.

MISSION

Although the aircraft is multi-role capable, the Air Force intends to use the F-15EX initially in an air

superiority role. Units equipped with the F-15EX will provide offensive counter-air, cruise-missile defense, and defensive counter-air capabilities, including escort of high-value airborne assets. The F-15EX can employ a full complement of air-to-air weapons and has four additional air-to-air weapons stations compared to the F-15E. The F-15EX has a limited capability to employ precision-guided, air-to-surface

munitions, in addition to its primary air superiority mission.

PROGRAM

The F-15EX is an Acquisition Category IB program currently in FOT&E following the full-rate production decision in June 2024. The Air Force intends to procure 129 F-15EX aircraft, training systems, and support equipment over 8 procurement lots. The arrival of aircraft at the Portland Air National Guard Base, Oregon in June 2024, marked the first delivery of the F-15EX to an operational unit. In April 2025, DOT&E approved the FOT&E TEMP and the initial FOT&E test plan. A detailed F-15EX cyber test plan for an on-aircraft cooperative vulnerability and penetration assessment (CVPA) was subsequently approved in June 2025.

» MAJOR CONTRACTORS

- Boeing Defense, Space & Security – St. Louis, Missouri
- RTX, Agile Radar Solutions – El Segundo, California
- General Electric – Cincinnati, Ohio

TEST ADEQUACY

During FOT&E in FY25, DOT&E and the Air Force Operational Test and Evaluation Center observed a large force exercise. Both organizations determined the test was not operationally relevant, precluding the use of the data for operational assessment and highlighting the need for rigorous test discipline in future events. The Air Force is making progress toward improving

the maintenance technical orders, which DOT&E found to be immature during IOT&E. Air Force testers are holding focus groups with operational maintainers to correct and revise the technical orders, which is a crucial step for assessing suitability during FOT&E.

LFT&E that occurred during IOT&E was adequate and conducted in accordance with the DOT&E-approved test plan. Air Force analysts used a set of operationally relevant threats and scenarios from the F-15EX's expected roles and missions to assess platform survivability. The Air Force applied engineering analysis, modeling and simulation, and utilized prior data to assess critical LFT&E issues for susceptibility and vulnerability. The Air Force used data from the joint live fire program, prior test data from earlier F-15 models, and other relevant tactical aircraft to inform susceptibility and vulnerability assessments.

PERFORMANCE

» EFFECTIVENESS

No FOT&E testing data are available to determine operational effectiveness. DOT&E will publish a classified FOT&E report once data is received and analysis is complete.

» SUITABILITY

DOT&E will publish a classified FOT&E report determining suitability once data is received and analysis is complete.

» SURVIVABILITY

In March 2025, DOT&E published a classified live fire annex update

to the November 2023 combined F-15EX Eagle II IOT&E and LFT&E report. The analysis from this live fire annex found that the legacy data used to model F-15EX ballistic vulnerabilities were incomplete for certain munitions, resulting in uncertainties of vulnerability calculations. In the November 2023 report, DOT&E previously stated that cyber testing on a production-representative Lot 2 aircraft was required. The Air Force has since shifted plans to conduct this testing on Lot 3 aircraft. A CVPA was completed on a Lot 3 aircraft in FY25, and an adversarial assessment is planned for 1QFY26.

RECOMMENDATIONS

The Air Force should:

1. Ensure the F-15EX test fleet is production-representative by modifying test aircraft to include any configuration changes that occur in future production lots, as recommended in the FY22 – 24 Annual Reports.
2. Continue to incorporate advanced, high-fidelity threat systems during ongoing F-15EX FOT&E.
3. Collect additional data for select munitions so that F-15EX vulnerabilities can be calculated with higher confidence. Specific details on the data to collect are in the classified March 2025 live fire annex update.