

# EA-37B Compass Call Rehost



In July 2025, the Air Force completed EA-37B Compass Call IOT&E, in accordance with DOT&E-approved test plans. The Air Combat Command EA-37B full-fielding authorization decision is scheduled for 1QFY26. DOT&E is awaiting final test data from IOT&E in order to publish a classified IOT&E report in FY26 to assess EA-37B operational effectiveness, suitability, and cyber survivability.

## SYSTEM DESCRIPTION

The EA-37B is a wide-area airborne electromagnetic attack weapon system utilizing a Gulfstream G550 conformal airborne early warning (CAEW) aircraft, modified to host an updated EC-130H Compass Call mission system. The EC-130H Baseline 2 prime mission equipment (PME) was

redesigned to fit into the G550 airframe. The EA-37B's new PME (Baseline 3) includes obsolescence and modernization updates to the hardware and software while reducing the size, weight, and power. Baseline 3 is a software-based open architecture design with software-defined radios, which converts the previous mission software from a proprietary operating system to a modern, open-source operating system.

## MISSION

Combatant commanders will use the EA-37B to amplify joint force military advantage in the electromagnetic battlespace and build a more robust combat force by employing electromagnetic attack capabilities to deny peer competitors' tactical networks and information ecosystems. The system denies, degrades,

and disrupts adversary communications, information processing, navigation, radar systems, and radio-controlled threats.

The Compass Call system will employ offensive counter-information and electromagnetic attack capabilities in support of U.S. and coalition tactical air, surface, and special operations forces.

## PROGRAM

The EA-37B is an Acquisition Category II program established to rehost and integrate proven EC-130H Compass Call mission systems into a derivative of the G550-based CAEW aircraft modification developed for use by allied air forces. It was added to DOT&E oversight for operational and live fire testing in September 2022 already post-Milestone C. DOT&E approved the EA-37B Compass Call Integrated Test Plan in January 2025.

Ten EA-37B aircraft will replace the Air Force's current fleet of 14 EC-130Hs: five in the Baseline 3 configuration and five in a future Baseline 4 configuration. The 55th Electronic Combat Group will continue to employ EC-130Hs into FY26 as it ramps up EA-37B training, testing, and initial operations. Five EA-37B aircraft have been delivered, with the remaining five deliveries planned through 2028. The Air Force plans to make a full-fielding decision in 1QFY26.

## » MAJOR CONTRACTORS

- L3Harris Technologies, Inc. – Waco, Texas (aircraft integration)
- BAE Systems – Nashua, New Hampshire (mission system)
- Gulfstream Aerospace Corp. – Savannah, Georgia (aircraft subcontractor to L3 Harris)

## TEST ADEQUACY

EA-37B integrated testing began in August 2023, and dedicated IOT&E completed in July 2025. Integrated testing consisted of 10 phases, covering 25 weeks of ground and anechoic chamber testing, and 40 weeks of flight testing. The final three test phases were the operational test events. DOT&E approved the IOT&E test plan and observed some of this testing. These events evaluated the Compass Call mission systems in operationally relevant basic conditions, to include the altitudes, ranges, and geometries that reflect realistic combat-like conditions against available threat representations. Test personnel flying the mission were Air Force pilots, electromagnetic warfare officers, and mission crews with experience in the EC-130H Compass Call mission, with many having significant combat experience. The test aircraft were the first two production aircraft equipped with the production-representative PME and flight test instrumentation. End-to-end mission testing included anechoic chamber tests and open-air flight tests, using available test resources representing Compass Call targets. Most testing occurred against systems that are considered less advanced threats;

however, this is a DoW-wide limitation with available modeling and simulation, hardware-in-the-loop test facilities, and open-air flight test range limitations. Testing was adequate to assess operational effectiveness, suitability, and survivability at a baseline level.

## PERFORMANCE

### » EFFECTIVENESS, SUITABILITY, AND SURVIVABILITY

DOT&E is working with the Air Force to obtain all of the integrated and operational test data. DOT&E will publish a classified IOT&E report in FY26 to assess EA-37B operational effectiveness, suitability, and cyber survivability following completion of data analysis.

## RECOMMENDATION

The Air Force should:

1. Support investments to improve the modeling and simulation, hardware-in-the-loop, anechoic chambers, and open-air flight test ranges required to test systems such as the EA-37B operating in a modern, complex electromagnetic environment representative of combat against a peer adversary.