



AIR COMBAT COMMAND

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EA-37B COMPASS CALL

Current as of November 8, 2023

MISSION

The EA-37B Compass Call is a wide-area airborne electronic attack weapon system using a heavily modified version of the Gulfstream G550 airframe. The EA-37B sustains Joint Force military advantage in the electromagnetic battlespace and builds a more lethal force by modernizing 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 electronic attack (EA) capabilities in support of U.S. and Coalition tactical air, surface and special operations forces.

FEATURES

The EA-37B aircraft carries a combat crew of up to nine people. The pilot and co-pilot are responsible for aircraft flight, while an additional seven members operate and employ the EA mission equipment permanently integrated into the cargo/mission compartment. The mission crew can include the mission crew commander (electronic warfare officer), weapon system officer (electronic warfare officer), mission crew supervisor (an experienced cryptologic linguist), analysis operators (linguists), one acquisition operator and/or an airborne maintenance technician.

Compass Call is designed with System-Wide Open Reconfigurable Dynamic Architecture (SWORD-A) capabilities, which allow for rapid updates to adopt new capabilities and counter emerging technologies, tactics, techniques and procedures. Its adaptability is directly attributed to its spiral upgrade acquisition strategy which ensures the EA-37B can counter new, emergent communication technology.

The aircraft effectively jams communications, Early Warning/Acquisition radars and navigation systems during tactical air and ground operations.

A majority of the components found in the EA-37B Compass Call are classified modifications to the mission system that enhance precision and increase target capacity. The system was designed to incorporate options for "plug-and-play" quick reaction capabilities, which have historically allowed the program to counter unique high-profile threats. This flexibility allows the aircraft to keep pace with adversary use of emerging technology. It promotes enhanced crew proficiency and effectiveness, maintenance and sustainment with a common fleet configuration, new operator interfaces, increased reliability and better fault detection.

The aircraft's communication capabilities have been improved with an expansion of satellite communication connectivity compatible with emerging DoD architectures, increased multi-asset coordination nets and upgraded data-link terminals. Improved external communications allow Compass Call crews to maintain situational awareness and connectivity in dynamic operational and tactical environments. Furthermore, modifications to the airframe provide improved aircraft performance and survivability.

The Compass Call integrates into tactical air operations at any level. The versatile and flexible nature of the aircraft and its crew enable the power of electronic combat to be brought to bear in virtually any combat situation.

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BACKGROUND

On Oct. 23, 2018, Secretary of the Air Force Heather Wilson approved Air Combat Command's request to replace EC-130H Compass Call aircraft from the 55th Electronic Combat Group (ECG) located at Davis-Monthan AFB, Arizona, with EA-37B aircraft. The basing decision memo was signed on Nov. 15, 2018. Since then, basing actions have been in place to successfully deliver the first set of re-hosted EA-37B and divest the EC-130H fleet. Emerging threats in multiple theatres and rising sustainment costs on the legacy EC-130H platform compelled the Air Force to re-host the Compass Call capability.

The Air Force plans to procure up to 10 EA-37B aircraft. Once acquired, all Compass Call aircraft will be assigned to Air Combat Command, and operated by the 55th ECG. The 55th ECG consists of two operational squadrons (41st and 43rd Electronic Combat Squadron (ECS)), a formal training unit (the 42nd ECS), the 755th Operations Support Squadron (OSS), and the 755th Aircraft Maintenance Squadron (AMXS). The 55th ECG is a tenant unit of the 355th Wing at Davis-Monthan AFB. Although located at Davis-Monthan, the group reports to the 55th Wing at Offutt AFB, Nebraska.

Characteristics

Primary function: Airborne Electromagnetic Attack

Contractors: BAE Systems, L3Harris Technologies

Power plant: Two Rolls Royce BR700-710 C4-11 turbofans

Thrust: 15,385 pounds (each engine)

Wingspan: 93 feet, 6 inches (28.5 meters)

Length: 96 feet, 5 inches (29.4 meters)

Height: 25 feet, 10 inches (7.9 meters)

Weight: 48,300 pounds (21,908 kilograms)

Maximum takeoff weight: 91,000 pounds (41,276 kilograms)

Fuel capacity: 41,300 pounds (18,733 kilograms)

Speed: 767 mph (Mach 0.82)

Range: 4,410 nautical miles (8,167 kilometers)

Ceiling: 45,000 feet (13.7 kilometers)

Crew: Two pilots, plus mission crew up to seven (crew size varies according to mission)

Initial operating capability: FY 2026

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