



ULD

Low Frequency and Long
Wavelength Technology

What happens if an aircraft disappears from the radar screen and is nowhere to be found? Searching for the wreckage of an aircraft can be simpler on land than in the ocean. To tackle this problem, ICAO has recommended an Underwater Locator Device (ULD) for overwater operations. EASA has adopted this operational requirement and now demands compliance, and other countries have similar regulations.

Regulations

- » **ICAO:** Aircraft flying long range over water with an MTOW >27,000kg must be equipped with a ULD. The long range over water is determined by the exceedance of the distance from a suitable emergency landing place. The distance corresponds to 120 minutes at cruise speed or 400NM (whichever is the least).
- » **EASA:** Passenger aircraft flying long range over water, with an MTOW >27,000kg and cargo aircraft with MTOW >45,500kg, must be equipped with a ULD. The long range over water is determined by a distance >180NM from shore.
- » **CASA:** Aircraft with an MTOW >27,000kg carrying a life raft should be equipped with a ULD by December 2, 2023.

Product

The ULD uses low frequency and long wavelength technology to increase the range at which submerged aircraft wreckage can be located. It is mounted on the aircraft fuselage structure, and the ULD transmits an 8.8 kHz acoustic signal (pinger) for a minimum of 90 days. Its low frequency ensures a four times increased detection range of 13-22 km (7-12 NM) over the standard ULDs installed on FDRs and CVRs. The maximum operational depth is 6,000m (20,000ft) while activated upon immersion in salt and fresh water, and the single-cell battery type has a six-year life.



Our Modification Solution Includes:

- » An Engineering Bulletin.
- » Manual supplements.
- » A ULD DK180 Beacon.
- » A ULD Mounting bracket.
- » An aircraft adapter plate if required.



The technical content of the Engineering Bulletin is approved under the authority of DOA ref. EASA.21J.059. Therefore, it is classified as a minor modification and no STC is applicable. A Dukane forward exchange program ensures that the original ULD beacon is to be returned to the vendor for battery replacement (every six years) and that you are part of an overhaul rotatable pool. The installation and periodic testing (every two years) can be completed on-aircraft with the use of a Dukane test set (the TS500). The same test set can also be used for the Dukane ULB's DK120 series as installed on the FDRs and CVRs.

Aircraft Applicability

Our modification is available for a wide range of aircraft types, including Airbus, Boeing, Bombardier, Embraer, Fokker and more.

Regulatory Documents

ICAO (Mandate: January 1, 2018):
ICAO Annex 6, Amendment 36 6.5.3.
Europe (Mandate: January 1, 2019):
EU 2015/2338 CAT.IDE.A.285.

Equipment Qualification

SAE-AS6254A, ARINC 677,
(E)TSO-C200a).



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