



MINIMUM OPERATIONAL PERFORMANCE STANDARD FOR AIRCRAFT EMERGENCY LOCATOR TRANSMITTERS 406 MHz

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ED-62B Change 1

June 2020

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FOREWORD

- a. This document, prepared by EUROCAE Working Group 98 "Aircraft Emergency Locator Transmitters" and RTCA SC-229 "406 MHz Emergency Locator Transmitters (ELTs)", was accepted by the Council of EUROCAE on 10 June 2020.
- b. EUROCAE is an international non-profit making organisation. Membership is open to users and manufacturers, in Europe, of equipment for aeronautics, trade associations and, under certain conditions, non-European Members. Its work programme is directed to the study of technical problems facing users and manufacturers of equipment for aeronautics and all related topics. It aims to contribute at national and international levels to the solution of such problems.
- c. The findings of EUROCAE are resolved after discussion among members of EUROCAE, European airlines and interested administrations, and in collaboration with the Radio Technical Commission for Aeronautics (RTCA), Washington, DC.
- d. This document complete ED-62B "Minimum Operational Performance Specification for Aircraft Emergency Locator Transmitters 406 MHz and 121.5 MHz (Optional 243 MHz)" dated December 2018.
As compared with the previous document, the main changes are erratum and clarifications. Only sections with modifications are reproduced here and these modification are marked in track-change.
- e. This document is technically identical to RTCA DO-204B Change 1.
- f. This MOPS contains technical specifications coordinated with the requirements of the Cospas-Sarsat Secretariat as published in the document "Specifications for Cospas-Sarsat 406 MHz Distress Beacons" C/S (COSPAS-SARSAT) T.001 for first generation ELTs or C/S T.018 for second generation ELTs.
Users of this MOPS should refer to C/S T.001 for first generation ELTs or C/S T.018 for second generation ELTs and C/S G.005 for details on beacon coding which are not included in this document. Test procedures are coordinated with C/S T.007 for first generation ELTs or C/S T.021 for second generation ELTs, and TABLE of Frequencies are included in C/S T.012.
- g. Where documentation is referenced in the text, the edition current at the time of writing has been used. Future updates of reference documents may be used subject to the agreement of the approving authority.
- h. EUROCAE performance specifications and other documents are recommendations only. EUROCAE is not an official body of the European Governments. Its recommendations are valid as statements of official policy only when adopted by a particular government or conference of governments.
- i. Copies of this document may be obtained from:

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CHAPTER 1

CHANGES IN CHAPTER 1

1.1 SECTION 1.3.1 TYPES OF ELT

On Page 3, replace the text in Section 1.3.1 as shown below:

Five basic types of ELT are described in this document. They are: Automatic Fixed (ELT(AF)), Automatic Portable (ELT(AP)), Automatic Deployable (ELT(AD)), Distress Tracking ELT (ELT(DT)) and Survival (ELT(S)). The type of ELT implies the compliance with a certain set of specifications from this document. The header of the subsection or the text of the specification may identify the ELT type(s) it applies to. If no type is identified, the specification applies to all ELTs.

Multiple ELT types may be combined into a single unit or system so long as the resultant system complies with all specifications for each of the declared types.

An Automatic ELT as referenced in the ICAO SARPS is either an ELT(AF), ELT(AP), or ELT(AD). For these ELTs, the term automatic is used to identify ELTs which have the capability to determine that a crash or a ditching has occurred and either activate or deploy as required.

The five basic types of ELTs are described below:

Automatic Fixed (ELT(AF))

This type of ELT is intended to be permanently attached to the aircraft before and after a crash, to automatically activate upon a crash, and is designed to aid SAR teams in locating a crash site and/or survivor(s).

Automatic Portable (ELT(AP))

This type of ELT is intended to be rigidly attached to the aircraft before a crash, to automatically activate upon a crash, but is readily removable from the aircraft after a crash. If the ELT does not employ an integral antenna, the aircraft-mounted (external) antenna may be disconnected and an auxiliary antenna (stored on the ELT case) connected in its place. After removal from the aircraft, the ELT can be tethered to a survivor or a life raft. This type of ELT is intended to aid SAR teams in locating a crash site and/or survivor(s).

Automatic Deployable (ELT(AD))

This type of ELT is intended to be rigidly attached to the aircraft before a crash or ditching and automatically deployed when a crash occurs or after activation by a water sensor. This type of ELT also operates while floating in water and is intended to aid SAR teams in locating a crash site and/or survivor(s). The ELT(AD) may be either a stand-alone beacon or may be an inseparable part of an Automatic Deployable Flight Recorder (ADFR).

Distress Tracking (ELT(DT))

This type of ELT is designed to be activated prior to a crash upon detection of a distress condition by logic such as that defined by EUROCAE MASPS ED-237. This type of ELT is intended to provide information prior to the crash to aid in locating a crash site and/or survivor(s).

Survival (ELT(S))

This type of ELT is intended to be removed from the aircraft after a crash and activated manually by survivors or automatically with the deployment of other survival equipment. There are two categories of ELT(S), Category A which is buoyant and designed to operate when floating in water and Category B which is not designed to operate when floating in water. This type of ELT is intended to aid SAR teams in locating survivor(s).

CHAPTER 2

CHANGES IN CHAPTER 2

2.1

SECTION 2.9.5.1 ELT(DT) FUNCTIONAL SPECIFICATION

On page 15-16, replace the text of 2.9.5.1 as shown below:

The ELT(DT) shall be capable of being armed/disarmed upon reception of a signal from an aircraft system (e.g. automatic triggering system). Once armed, the ELT transmitter shall automatically activate and radiate a signal through an antenna on any of the following conditions:

- upon command from the automatic triggering system;
- if the ELT(DT) determines that a triggering command can no longer be provided based on inputs from aircraft system(s) or automatic triggering system;
- when the communication connections necessary to automatically trigger the ELT(DT) become unavailable.

ELT(DT) shall stop transmitting an alert signal and shall start transmitting a cancellation signal only when the cancellation command is from the same means that activated it, as specified per C/S T.001 and T.018 as applicable. Once disarmed, it will not begin transmitting when any of the three activation conditions listed above occurs. .

Whatever its arming state, the ELT(DT) shall activate, except in OFF mode, when manually triggered by the crew.

An ELT(DT) with crash survivability shall continue 406 MHz satellite transmissions upon crash condition detection. The required endurance time for 406 MHz satellite transmission is specified in Cospas-Sarsat specifications C/S T.001 and T.018 as applicable.

The ELT(DT) shall have a maintenance input overriding the routine arming logic and preventing its automatic activation when any of the three activation conditions listed above occurs. . The intent is to avoid inadvertent activation of the ELT(DT) during maintenance or flight tests, and also make the controls for the maintenance input inaccessible during routine flight operations.

An ELT(DT) shall transmit an encoded location as defined in C/S T.001 or C/S T.018 as applicable.

The ELT system shall incorporate an external, integral or internal antenna. Means shall be provided to prevent antennas from interfering with normal operation of the aircraft or with its occupants. If the antenna is not attached directly to the ELT unit, it shall be connected to the ELT unit by means of a suitable RF cable resistant to disconnection during normal operations (see § 3.4), distress conditions, and, if the ELT(DT) has the crash survivability capability, accident events.

If fitted with a homing capability, the homing signal shall be transmitted following the ELT activation and detection of a post-crash condition. Acceptable means for detection of a post-crash condition are for example: static GNSS position for more than one minute (provided that the GNSS position is actually being updated at least once every 5 seconds over this period of time), water-detection or crash-sensor activation. If the ELT(DT) is automatically activated, homing signals shall not be transmitted while the aircraft is still in flight.

2.2

SECTION 2.9.5.2.1 (e) REQUIRED INTERFACE FUNCTION

On page 16, replace the text of section 2.9.5.2.1 (e) as shown below:

- e) Continuously monitor its inputs to determine if a triggering command can no longer be provided or if the communication connections necessary to automatically trigger the ELT(DT) become unavailable. If either of these conditions occurs while the ELT is armed the ELT shall be activated until both conditions cease and the ELT receives an indication that a triggering command is not active, in which case a cancellation message is sent by the ELT, and the ELT returns to the armed mode.