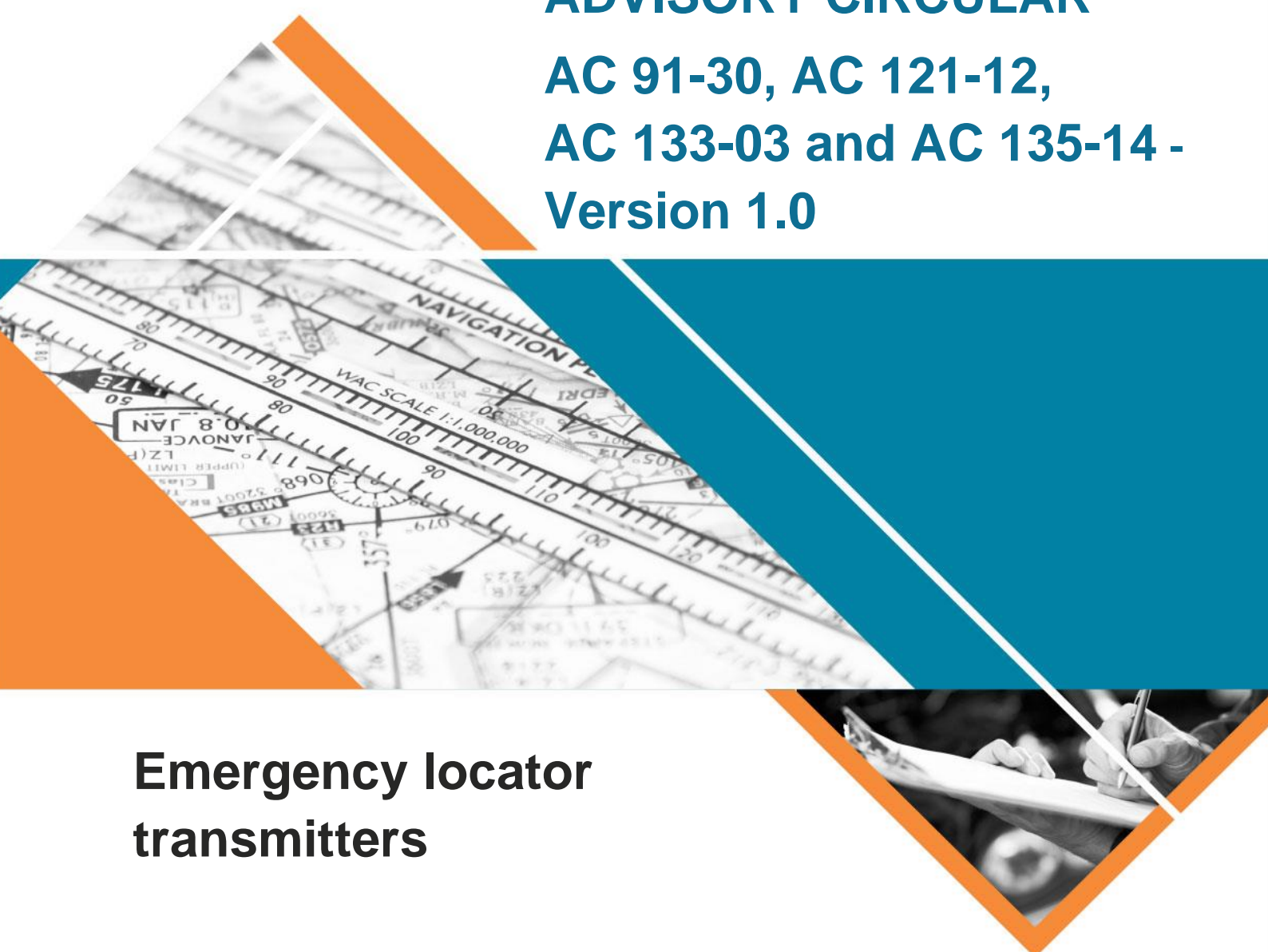




**Australian Government**  
**Civil Aviation Safety Authority**

# **MULTI-PART ADVISORY CIRCULAR**

## **AC 91-30, AC 121-12, AC 133-03 and AC 135-14 - Version 1.0**



# **Emergency locator transmitters**

**Date** June 2023  
**File ref** D23/86046

Advisory circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

**Advisory circulars should always be read in conjunction with the relevant regulations.**

## Audience

This advisory circular (AC) applies to:

- operators and owners of aircraft
- crew members
- passengers who wish to carry a survival ELT (PLB).

## Purpose

This AC provides guidance regarding the requirements for registration and use of Emergency Location Transmitters for operations that fall under Parts 91, 121, 133, and 135 of CASR.

The purpose of this AC is to:

- provide guidelines for the registration of ELTs
- assist operators, crew members and passengers with the background and reasoning to register ELTs using relevant and up to date information
- highlight the need for appropriate ELT storage, installation, use, maintenance, testing and disposal
- help ensure the link between ELTs, as referred to by CASA, and distress beacons, as referred to by AMSA.

## For further information

For further information, contact CASA's Flight Standards Branch (telephone 131 757).

## Status

This version of the AC is approved by the Branch Manager, Flight Standards.

Version	Date	Details
v1.0	June 2023	Initial Multi-Part AC.

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998 (CASR)*.

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# 1 Reference material

## 1.1 Acronyms

The acronyms and abbreviations used in this AC are listed in the table below.

Acronym	Description
AC	advisory circular
AMC/GM	Acceptable means of compliance, Guidance material
AMSA	Australian Maritime Safety Authority
AWB	Airworthiness Bulletin
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
ELT	Emergency Locator Transmitter
EPIRB	Emergency Position-Indicating Radio Beacon
GPS	Global Positioning System
JRCC	Joint Rescue Coordination Centre
MOS	Manual of Standards
PLB	Personal Locator Beacon
RCC	Rescue Coordination Centre

## 1.2 References

### Legislation

Legislation is available on the Federal Register of Legislation website <https://www.legislation.gov.au/>

Document	Title
Regulation 91.810 of CASR	Requirements relating to equipment
Part 91 MOS, Division 26.12	Emergency locator transmitters
Regulation 121.460 of CASR	Requirements relating to equipment
Part 121 MOS, Chapter 11, Division 10	Emergency locator transmitters
Regulation 133.360 of CASR	Requirements relating to equipment
Part 133 MOS, Chapter	Emergency locator transmitters

Document	Title
11, Division 10	
Regulation 135.370 of CASR	Requirements relating to equipment
Part 135 MOS, Chapter 11, Division 10	Emergency locator transmitters

### Advisory material

CASA's advisory materials are available at <https://www.casa.gov.au/publications-and-resources/guidance-materials>

Document	Title
Part 91 AMC/GM	GM 91.810

### Other

Document	Title
Airworthiness Bulletin	AWB 02-002 Emergency Locator Transmitter (ELT) Installation and Maintenance
Airworthiness Bulletin	AWB 25-015 Artex ELT Installation
Airworthiness Bulletin	AWB 25-018 Emergency Locator Transmitters - Dongle Reprogramming
Airworthiness Bulletin	AWB 25-023 Hook and Loop Style Fasteners as Mounting Mechanism for an Emergency Locator Transmitter (ELT)
Airworthiness Bulletin	AWB 25-024 Emergency Locator Transmitter Battery Wiring Installation Discrepancies

## 2 ELT Registration

### 2.1 Registration of your ELT

ELTs, PLBs and EPIRBs are all types of distress beacons, which transmit distress signals when activated.

Once a distress beacon is detected, AMSA's JRCC Australia is tasked with coordinating the response. When a distress beacon is registered, JRCC Australia can quickly investigate critical contact information and determine if assistance is needed. When assistance is needed JRCC Australia can initiate a response as soon as possible.

It is free to register an ELT (distress beacon) and you will need the following information:

- Name, address and phone number
- An email address to create an online account
- Beacon Hex ID/UIN
- Beacon Serial Number
- Beacon Manufacturer
- Beacon Model
- Name and phone numbers of at least one person who can act as a 24-hour emergency contact
- Name of the business or person who supplied the beacon to you
- The purpose for which you'll most likely be using the beacon, for example: vessel, aircraft, vehicle, hiking etc.

Registration can be completed [online](#).

Alternatively there is also a printable [registration form](#) that can be sent to AMSA.

Further information is available from [www.beacons.amsa.gov.au](http://www.beacons.amsa.gov.au).

### 2.2 The Do's

Do carry ELTs, when required to or if desired.

Do maintain ELTs in working condition.

Do register your ELTs for quick response time.

### 2.3 The Don'ts

Don't waste search and rescue resources by using an unregistered ELT.

Don't waste search and rescue resources with accidental activations.

Don't ignore manufacturer's instructions for your ELT.

## 3 The Background

### 3.1 What is an Emergency Locator Transmitter (ELT)?

#### 3.1.1 CASA terminology

An Emergency Locator Transmitter, or ELT, is a device that transmits a distress signal that allows search and rescuers to find or locate the device. In the regulations managed by CASA there are 2 types referred to: 'automatic ELT' or 'survival ELT'. Prior to 2 December 2021 these were known as 'approved ELT' and 'approved portable ELT' respectively. An automatic ELT must automatically activate, or start transmitting, on impact. A survival ELT does not detect impact and must be activated manually (deployed) but can be removed from the aircraft and hence can be kept on your person. For the full requirements of automatic and survival ELTs see the Part 91 Manual of Standards (MOS), Sections 26.49, 26.50 and 26.51 (or for Australian air transport operations the relevant sections of the Part 121, 133 or 135 MOS).

#### 3.1.2 AMSA terminology

For an ELT to be of use, someone needs to be listening for a distress transmission. In Australia, the organisation tasked with responding to distress beacon transmissions is AMSA via JRCC Australia.

AMSA refer to ELTs as distress beacons, of which they describe 3 types. The 3 types are based on where and how you want to use the beacon:

- Personal Locator Beacon or PLB, which are smaller and easier to transport and are designed to be worn or carried by individuals. PLBs may meet the requirements of a survival ELT, see Part 91 MOS 26.51 (and equivalent sections of the Part 121, 133 or 135 MOS for Australian air transport operations).
- Emergency Position Indicating Radio Beacon or EPIRB, which are required for boats under certain circumstances. EPIRBs may meet the requirements of a survival ELT, see Part 91 MOS 26.51 (and equivalent sections of the Part 121, 133 or 135 MOS for Australian air transport operations).
- Emergency Locator Transmitter or ELT. EPIRBs or PLBs may be suitable as a survival ELT and carried in place of an automatic ELT in some cases, see Part 91 MOS 26.48 (and equivalent sections of the Part 121, 133 or 135 MOS for Australian air transport operations).

### 3.2 How do distress beacons work?

Distress beacons and ELTs, when activated, must transmit on 406 MHz and 121.5 MHz.

The Cospas-Sarsat satellite system detects 406 MHz signals and alerts the search and rescue authority in the region where the signal is detected. In Australia this is AMSA's JRCC Australia. The 406 MHz signal contains an identification code called the hexadecimal identity (HEX ID). The HEX ID is used to identify the owner of the beacon and emergency contacts of the owner if the distress beacon is registered. Hence the importance of the ELT being correctly registered.

Radio communication systems, when required in Australian aircraft, must be able to tune to 121.5 MHz, see Part 91 MOS 26.18 (and equivalent sections of the Part 121, 133 or 135 MOS for Australian air transport operations). Many Australian pilots tune in to 121.5 MHz, when possible, to listen out for distress transmissions and alert authorities if one is heard. Many aircraft have equipment that can determine the direction that the distress signal originates from, which is often used to confirm the location of the beacon and possible distress situation. More modern distress beacons also transmit GPS co-ordinates in the 406 MHz signal, which can provide location accuracy to within 120 metres.

### 3.3 Why register your ELT?

Once a distress beacon is detected, AMSA's JRCC Australia is tasked with coordinating the response.

In 2022 more than 2300 distress transmissions were detected in Australia. Typically, less than 15% of these occurrences are actually distress situations<sup>1</sup>. Hence more than 85% are accidental activations, but each needs to be investigated by JRCC Australia to determine if help is actually required.

A registered distress beacon provides critical contact information which assists JRCC Australia to quickly investigate if assistance is needed. When assistance is needed JRCC Australia can initiate a response as soon as possible.

The regulations managed by CASA require that if your ELTs are fitted to, or carried on, an aircraft in Australia then they must be registered, and their registration information is relevant and up to date. See Part 91 MOS 26.49(b), Part 121 MOS 11.49(b), Part 133 MOS 11.42(b) and Part 135 MOS 11.48(b).

Typically, around 25% of detected beacons are not registered and approximately another 25% of detected beacons have out of date information<sup>2</sup>, which further delays the response.

Don't let your ELT waste search and rescue time by accidental activation and help your ELT to be found quickly by registering it with AMSA using relevant and up to date information.

### 3.4 How to avoid accidental activations?

The main causes of accidental activation of distress beacons is due to mishandling during their life cycle. This can be reduced by careful attention to manufacturer's instructions specifically around storage, installation, use, maintenance, testing and disposal.

JRCC Australia (phone number 1800 641 792 or +61 2 6230 6899) should be advised immediately of any accidental activations, which is free of charge.

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<sup>1</sup> 2023 annual Cospas-Sarsat Australian report on System Status and Operations.

<sup>2</sup> Same as above



### 3.5 Will your ELT work when needed and how do you test an ELT?

In Australia statistics have shown that, under high G accidents, only around 50% of automatic ELTs activate as designed<sup>3</sup>. The primary causes were determined to be incorrect operation and installation, along with damage during the accident. The two most effective defences against this are: following the manufacturer's instructions for storage, installation, use, maintenance and testing, and activating your automatic ELT early, prior to impact where time permits. Note that once manually activated 50 seconds +/- 2.5 seconds is needed before the first data is broadcast, hence early activation is appropriate once a distress situation arises.

Carrying an additional survival ELT on your person can be beneficial as functionality of the automatic ELT may cease due to damage on landing or submersion in water. If you are floating in the water, via life jacket or life raft, it is highly likely that you will float away from the last position sent from the aircraft's automatic ELT, hence activating a survival ELT will help rescuers find you.

All 406 MHz distress beacons can be tested at any time using the self-test functions without any notification to JRCC Australia. But any test of a 406 MHz distress beacon in the operational mode requires prior approval from JRCC Australia (phone number 1800 641 792 or +61 2 6230 6899). Note that maintenance facilities typically test remote activation of automatic ELTs for up to 5 secs within the first 5 minutes of the hour.

### 3.6 Who needs to carry an ELT?

The regulations managed by CASA stipulate when ELTs are required to be carried. See Part 91 MOS 26.48, Part 121 MOS 11.47 & 11.48, Part 133 MOS 11.41 & 11.45 and Part 135 MOS 11.47 & 11.51.

There are no restrictions on who or when additional ELTs can be carried. If you want to be found anytime that you can't help yourself, you should consider carrying an ELT. Registration is mandatory for any CASA mandated ELTs and having all ELTs registered will help you be found quickly.

### 3.7 Other useful links

General information about registration of distress beacons can be found [here](#).

The AMSA beacon testing policy can be found [here](#).

Information about maintaining and looking after your beacon can be found [here](#).

How to correctly deploy your beacon can be found [here](#).

More information how distress beacons work can be found [here](#).

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<sup>3</sup> A review of the effectiveness of emergency locator transmitters in aviation accidents, ATSB Transport Safety Report, Aviation Research Investigation, AR-2012-128, 21 May 2013, Summary and Key Messages, page 18.

### 3.8 AMSA contact information

Contact AMSA for registration, renewal or more information as below.

Email: [ausbeacon@amsa.gov.au](mailto:ausbeacon@amsa.gov.au)  
Phone: +61 2 6279 5766 or 1800 406 406  
Fax: International +61 2 9332 6323  
Local 1800 406 329  
Post: Beacon Registration Section  
Australian Maritime Safety Authority  
GPO Box 2181 Canberra City ACT 2601