



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

CIVIL AVIATION DEPARTMENT
Ministry of Transport and Civil Aviation

Male'
Republic of Maldives

AIR SAFETY CIRCULAR

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EMERGENCY LOCATOR TRANSMITTERS

1. INTRODUCTION

- 1.1 All aircraft (i.e. fixed wing and Rotary Wing) which are engaged in Public Transport Operations or Aerial work in the Republic of Maldives, are required to be equipped with an Emergency Locator Transmitter.
- 1.2 This regulation also applies to foreign-registered aircraft which are operating into and out of the Republic of Maldives.
- 1.3 This Air Safety Circular sets out the new regulatory and technical requirements and minimum performance standards for Emergency Locator Transmitters (ELT) installed in aircraft operating in the Republic of the Maldives, taking into account the introduction of 406.025 MHz (referred to henceforth as 406MHz) for use with the international Search And Rescue Satellite (SARSAT).

This feature enables the appropriate regional SAR reporting and co-ordination centre to identify the aircraft Nationality, Registration Mark and position to an accuracy of 15-20 km, and report accordingly to the State of Registration within minutes of ELT activation.

The standard international distress frequency of 121.5 Mhz permits Search and rescue operations to an accuracy of 1-2 km.

2. REGULATORY REQUIREMENT

- 2.1 All aircraft, (fixed wing and rotary wing) operating within Maldivian airspace and certified in the Public Transport category, (Passenger and Cargo), are required to be fitted with an Emergency Locator Transmitter that meets or exceeds FAA TSOC91a and complies with European Directive 62.

The technical specifications of FAA-Technical Service Order-C91a and C126 and European Directive 62 and Joint Technical Service Order 2C91a are outlined in Part 3 Technical.

3. TECHNICAL

The following specifications comprise TSO-C91 and ED 62.

- 3.a Automatic Operation. The ELT shall incorporate as an integral part, an inertia switch with a 6g threshold and a minimum velocity of 3 (three) feet per second.

Note 1: As an alternative to an inertia switch, a frangible switch which distorts in the event of a crash is acceptable.

- 3.b Frequencies The ELT shall be capable of transmitting on the International Distress frequency of 121.5 MHz and 406 MHz simultaneously.

*Note 2: It is recognised that many ELTs produced for Civil Aviation use also incorporate 243 MHz for military aviation use.
This additional frequency is acceptable to CAD.*

- 3.c Sea-worthiness The ELT shall be water proof in both fresh water and salt water.

- 3.d Buoyancy The ELT shall be buoyant in both fresh water & salt water, and shall float in such manner as to ensure that signal radiation is omnidirectional and vertically polarised.

- 3.e Signal Strength Peak Effective Radiated Power (PERP) shall be not less than 75 milliwatts on EACH Carrier frequency.

Note 3 The ELT shall be capable of producing a useable signal in open seas up to seastate 7 (Wind force 10- beaufort scale).

- 3,f Colour and shape. The ELT shall be either international orange or fluorescent orange for easy identification.

The ELT shall be of such a shape that it has no projections or sharp edges which could damage survival equipment (life jackets/life rafts) or cause personal injury.

- 3.g Fire Resistance The ELT shall be constructed of a material which does not support combustion.

- 3.h Battery Life The ELT shall incorporate an integral battery capable of continuous transmission at PERP of 75 milliwatts for a minimum period of 48 hours.

- 3.i Remote Activation The ELT shall be installed in the aircraft in such a manner that it may be activated by the flight crew from the flight deck. (See also Part 3. k.v.i)

3.k Activation

- (i) The ELT shall be capable of activation by either:-
 - an automatic inertia switch
OR
 - a frangible switch
AND
 - a remote switch at the flight deck
AND
 - an ON/OFF switch on the ELT itself.
- (ii) The ELT shall be capable of producing a signal at not less than 75 milliwatts PERP within not more than 5 seconds of activation.
- (iii) The ELT shall be constructed in such a manner that it cannot be accidentally activated by mechanical shocks or electro-magnetic forces encountered during normal (see note 5) aircraft operation.

Note 5: 'Normal Operation' means horizontal, vertical and component forces produced during Take-off, landing and turbulence encountered in flight.
- (iv) Activation of the ELT during normal operation of the aircraft (i.e accidental activation) shall not present a threat to the continued safe flight of the aircraft.
- (v) The ELT shall be constructed in such a manner that accidental activation is minimal.
- (vi) The flight crew shall have easy access, whilst seated at their normal duty stations, to an ELT switch which will be guarded and labelled to minimise inadvertent operation of the ELT. This switch, when moved to the ON position, will override the inertia switch and activate the ELT.
- (vii) The ELT unit shall have a warning light incorporated into its construction which will illuminate to indicate that it is activated.

4. MARKINGS

The ELT shall display on an exterior face which shall be visible & legible when the unit is mounted in its approved position in the aircraft the following information:-

- 4.a Aircraft Registration.
- 4.b ELT Serial number
- 4.c ELT Specification (eg. TSO# and/or ED#)
- 4.d Date of Manufacture.
- 4.e date of expiry of battery (Day/month/Year).

5. LOCATION

- 5.a The ELT shall be installed in the aircraft at a convenient location such that any member of the flight or cabin crew is able to detach it quickly from its mounting point and carry it out of the aircraft in the event of a crash-landing or ditching.
- 5.b The Location of the ELT shall be clearly marked in bold lettering in capital letters not less than 1.5 cm high in Dhivehi and English immediately adjacent to the ELT itself with the words:- "EMERGENCY LOCATOR TRANSMITTER HERE"

6. FUNCTIONAL TESTING

It is the responsibility of the operator to conduct a functional test of the ELT every 90 days. Such tests are to be recorded in the aircraft Technical Log Book and the Airframe log book. All tests should be carried out within five minutes of the hour (i.e five minutes BEFORE to 5 minutes PAST) the hour. ATC should be notified in advance.

SAFETY WARNING

It is common international practice to conduct a functional test by selecting 121.5 MHz on the aircraft VHF communication equipment, and then by means of the remote switch at the flight deck activating the ELT for 2-3 seconds.

Over a period of some months, this will deplete the integral battery and reduce the continuous transmission life (item 3-h refers)

Operators are to refer to the manufacture Operating & Maintenance Manual for guidance in this matter and make provision for increased frequency battery replacement as appropriate.

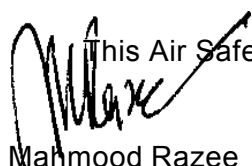
7. FREQUENCY 406MHz REGISTRATION WITH CAD

Those ELTs with 406 MHz capability are intended for use with the SARSAT (Search And Rescue Satellite) System.

Each individual ELT having 406 MHz capability is required to be "coded" with the following information:-

- National registration (eg: 8Q)
- Serial Number of the individual ELT.

It is required of each operator that the ELT Serial number and registration mark of the aircraft in which it is installed be registered with the CAD



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