

AERONAUTICAL CIRCULAR CIVIL AVIATION AUTHORITY – MACAO, CHINA

SUBJECT:

Coding and Registration of
Macao 406 MHz Emergency Locator Transmitter (ELT)
for Search and Rescue

EFFECTIVE DATE:

01 March 2010

CANCELLATION:

This AC supersedes AC/AW/005R01 dated 07 November 2008.

GENERAL:

The President of Civil Aviation Authority – Macao, China, in exercise of his power under Paragraph 89 of the Air Navigation Regulation of Macao (ANRM) and Article 35 of the Statutes of Civil Aviation Authority, approved by the Decree-Law 10/91/M, established this AC.

1 Introduction

- 1.1 International Civil Aviation Organization (ICAO) has published Standards in Annex 6 that require Emergency Locator Transmitters (ELTs) to be installed in certain aircraft as defined in the Standards.
- 1.2 The requirements for carrying the ELTs in aircraft registered in Macao were laid down in the Fifth Schedule of Air Navigation Regulation of Macao (ANRM).
- 1.3 ICAO has published standards in Annex 10 Volume III Chapter 5 that states shall make arrangements for a 406 MHz ELT register. Register information regarding the ELT shall be immediately available to search and rescue authorities. States shall ensure that the register is updated whenever necessary.

- 1.4 The purpose of this AC is to provide information to Macao operators on how to register a new ELT, or de-register or change information of an existing ELT in Macao.

2 Definitions

For the purpose of this Circular, the terms are defined as follows:

- (a) **AACM** – *Autoridade de Aviação Civil* that is in English Civil Aviation Authority of Macao;
- (b) **ANRM** – Air Navigation Regulation of Macao, approved by *Ordem Exectiva n.º 25/2003* published on *Boletim Oficial da Região Administrativa Especial de Macau N.º 28 – I Série – Suplemento 14-7-2003*;
- (c) **Emergency locator transmitter (ELT)** – A generic term describing equipment which broadcasts distinctive signals on designated frequencies and, depending on application, may be automatically activated by impact or be manually activated;
- (d) **COSPAS** – Space system for search of vessels in distress;
- (e) **SARSAT** – Search and rescue satellite-aided tracking;
- (f) **Unique ELT Serial Number** – a unique number assigned by a beacon manufacturer. Assigned serial numbers must provide a unique beacon identification when used with the Country Code. Serial numbers assigned by a manufacturer must provide a unique beacon identification when used with the COSPAS-SARSAT type approval certificate number assigned to that beacon model. The COSPAS-SARSAT type approval certificate number is required to be encoded into the beacon identification in order to signify the equipment is an AACM approved type.

3 ELT Coding

- 3.1 The ELT digital message must contain the unique identification of the ELT. The complete ELT identification code includes protocol flag, protocol code, country code and identification data.
- 3.2 The Country Code used for Macao Aviation ELTs must be **453** (three-digit decimal country code assigned by International Telecommunication Union (ITU) to Macao Special Administrative Region of China).
- 3.3 The AACM accepts the following **User Protocols**:

Protocols	Identification Data
Serial User	Unique ELT Serial Number
Aviation User	Aircraft Nationality and Registration Marking

4 Registration

- 4.1 In Macao, 406 MHz ELT (Aviation) registration together with a cover letter must be submitted to:

Airworthiness Department
Civil Aviation Authority
Alameda Dr. Carlos D'Assumpção, 336-342,
Centro Comercial Cheng Feng, 18º andar,
Macao,
China

Tel: (853) 2851 1213
Fax: (852) 2833 8089
E-mail: airworthiness@aacm.gov.mo
AFTN: VMMCYAYI

- 4.2 All 406 MHz ELTs must be registered with AACM, even if not fitted to an aircraft. Many ELTs are inadvertently activated when in storage or transit, and these false alerts invariably result in search and rescue action if the owner cannot be identified and questioned. It is of extreme importance that a 24-hour telephone contact number is provided when registering ELTs. The form to be used when registering ELTs is AACM Form 406 (shown as the Appendix 1 of this AC), which is obtainable from the address shown in paragraph 4.1. This form could also be downloaded from the AACM website at <http://www.aacm.gov.mo>.
- 4.3 Whenever an ELT is replaced, re-registration is required. De-registration is also mandated for any ELT which is permanently not fitted in any Macao registered aircraft.
- 4.4 Register information regarding the ELTs will be updated immediately and made available for search and rescue authorities.
- 4.5 ELT register information shall include but not limited to the following:
- (a) Transmitter identification (expressed in the form of an alphanumerical code of 15 hexadecimal characters);

- (b) Transmitter manufacturer, model and, when available, manufacturer's serial number;
- (c) COSPAS-SARSAT type approval number;
- (d) Name, address (postal and e-mail) and telephone number of the owner and operator;
- (e) Name, e-mail address and 24-hour telephone number of emergency contacts to whom the owner or the operator is known;
- (f) Aircraft manufacturer and type;
- (g) Colour of the aircraft;
- (h) Aircraft nationality and registration marks.

4.6 In addition to ICAO Annex 10, further information related to 406 MHz ELTs may be obtained from the COSPAS-SARSAT system documents which are available to be downloaded from their website at <http://www.cospas-sarsat.org>. The documents that are felt to be of prime interest are:

- (a) G.003 – Introduction to the C-S System;
- (b) G.005 – Guidelines on 406 MHz Beacon Coding, Registration and Type Approval; and
- (c) S.007 – Handbook of Regulations on 406 MHz and 121.5 MHz Beacons.

- END -

AACM Form 406 Filling Instructions

The AACM Form 406 is divided into 5 sections.

Section 1 is a mandatory fill-in section in which only one of the boxes should be ticked for either new registration, change of existing information or de-registration of an ELT.

Note: For change of the 15 Character Hexadecimal Beacon Identification code of an ELT. Two AACM Form 406, one for De-registration and one for New Registration, should be submitted.

Section 2 is a mandatory fill-in section which contains the concerned beacon's details.

Section 3 contains the owner's or operator's contact details in which two emergency contacts details must be provided. This section is not required to be filled for de-registration of ELT.

Section 4 is mandatory fill-in section that states the ELT's current Status.

- *Sub-section a)* is for ELT installed in an aircraft
- *Sub-section b)* is for ELT not fitted in an aircraft
- *Sub-section c)* is for existing ELT which is removed from an aircraft. In this sub-section, removal reason could be stated in detail, for example – removed for inspection, removed due to life raft overhaul, returned to store as serviceable part, etc.
- *Sub-section d)* should be ticked if the ELT is contained in the life raft. Life raft PN should also be provided.

Below is a list of most common ELT status combination:

- ELT replacement (installation AND removal): Tick Sub-sections a) & c)
- Additional ELT in aircraft (installation only): Tick Sub-section a)
- ELT removal from aircraft (removal only): Tick Sub-section c)
- For the De-registration of an ELT which is removed from an aircraft, not only Section 2 must be filled but also Section 4.c) must be filled in order to provide removal details.

Section 5 is a mandatory fill-in section that includes the applicant's details.

AC

No. : AC/AW/005R02

Date : 05 Feb 10



FOR INTERNAL USE ONLY		Checked by:
Entrada No.:		Date:
Reply Ref No.:		
Note:		

Macao 406 MHz Emergency Locator Transmitter (ELT) Registration Form

1. Purpose: ☐ **New Registration** ☐ **Change of Existing Information** ☐ **De-registration**
(including change of ELT ownership, installation/removal of ELT, change of contact details. Also see Note below.)

Note: Change of the 15 Character Hexadecimal Beacon Identification code of an ELT is considered as De-registration **and** New registration of two ELTs. **Two** AACM Form 406 must be filled, that is one for De-registration and one for New Registration.

2. Beacon Data:

Beacon Manufacturer: _____

COSPAS-SARSAT Type Approval Number: _____

Model/Type Number: _____

Part Number: _____

Unique Serial Number: _____

Type of ELT:

- ☐ Automatic Fixed (AF)
☐ Automatic Portable (AP)
☐ Automatic Deployable (AD)
☐ Survival (S)

User Protocol:

- ☐ Serial
☐ Aviation

The unique 15 Character Hexadecimal Beacon Identification code must be provided below:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----

3. User Data: (not required for De-registration purpose)

Owner's / Operator's Name: _____ 24-Hour Telephone Number / Mobile: _____

Address: _____

Emergency Contact #1

Name: _____

Telephone Number (Work): _____

24-Hour Telephone Number / Mobile: _____

Fax Number: _____

Email address: _____

Emergency Contact #2

Name: _____

Telephone Number (Work): _____

24-Hour Telephone Number / Mobile: _____

Fax Number: _____

Email address: _____

4. ELT Status:**a) ☐ Installed ELT -**

Aircraft Registration Mark: _____

ICAO homebase (4 letter code): _____

Aircraft Manufacturer and Type: _____

Maximum No. of Persons on Board (incl. Crew Members): _____

Colour of Aircraft: _____

Installation Date (dd/mm/yy): _____

ELT Battery Expiry Date (dd/mm/yy): _____

c) ☐ Removed ELT (if applicable) -

Enter 15 Character Hexadecimal Beacon Identification code below:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----

Removal Date (dd/mm/yy): _____

Remarks / Further Information for details of removal (if any):

--

b) ☐ ELT not fitted in an aircraft**d) ☐ ELT contained in life raft****5. Applicant's Details:**

Name/Position: _____ Signature: _____ Date (dd/mm/yy): _____

Please complete the registration form and send, fax or email it to the following address:

Airworthiness Department, Civil Aviation Authority

Alameda Dr. Carlos D'Assumpção, 336-342, Centro Comercial Cheng Feng, 18º andar, Macau, CHINA

Tel: (853) 2851 1213, Fax: (853) 2833 8089, E-mail: airworthiness@aacm.gov.mo, AFTN: VMMCYAYI

AACM Form 406 Issue 4