

AIRCRAFT EMERGENCY LOCATOR TRANSMITTER INSTALLATIONS

1. Introduction

Although not mandatory in the UK at the time of writing, the installation of an Emergency Locator Transmitter (ELT) is an important safety addition to an aircraft, particularly when flight over inhospitable terrain or water is made. In the event of an accident, the ELT is designed to trigger automatically and transmit a signal on a frequency that is monitored by the emergency services. The information transmitted includes the location of the ELT, which minimises the time taken for help to reach the accident site.

To date, flight into Dutch airspace requires that an ELT is fitted to all aircraft whereas in France only C of A aircraft are required to carry an ELT. An alternative to permanently installing an ELT in an aircraft might be to carry a Personal Locator Beacon (PLB) instead, however it is understood that the Dutch will only accept ELTs. As the requirements of each country may change without prior notice, check with the relevant authority of whose airspace you might wish to use before embarking on a flight there. PLBs are designed to be kept on the person and need to be triggered manually, often requiring multiple actions to do so.

2. Radio Licence

An ELT is a transmitting device, however, because it is normally quiet and will (should) only transmit in the event of a crash no radio licence is required.

3. Equipment Approval

All avionics equipment including ELTs installed in UK aircraft must be of a 'type' approved by the CAA or EASA or JAA. Usually the equipment manufacturer or importer will have dealt with this matter. Details of ELT types that have been approved are provided on the CAA, EASA and JAA websites. If in doubt about the status of new equipment, check with the supplier or contact the CAA, Tel. 01293 573134. Note that equipment obtained abroad, and even the latest products from well established manufacturers may be found to be of a type that is not approved by CAA, EASA or JAA. Aircraft imported or found fitted with non-approved equipment will need to have that equipment removed.

4. ELT Installation Approval

Permanent ELT installations in LAA aircraft must be approved by the LAA. Note that Personal Locator Beacons (PLBs) designed to be portable do not need installation approval.

The investigation of an ELT installation involves checking that the equipment is of an approved type, an inspection and ground test of the installation and that the ELT registration form for the UK ELT Database has been submitted. Applications for ELT installation approval must be made using a form LAA/MOD 7 which must be completed and signed up by a suitably approved LAA inspector or suitably licensed CAA aircraft radio engineer. (Form LAA/MOD 7 may be downloaded from www.laa.uk.com).

Approval is given by LAA Engineering once the installation is shown to be of an acceptable standard. This will take the form of LAA Engineering issuing an avionics installation approval certificate AD917/LAA which is sent to the aircraft owner.

Subsequent changes and upgrades to ELT equipment will require the same attention as above, including application on form LAA/MOD 7.

AIRCRAFT EMERGENCY LOCATOR TRANSMITTER INSTALLATIONS

5. ELT Installation Practices

The following particular points are those that will need to be satisfied during installation and maintenance.

Electrical installation must be in accordance with **equipment manufacturer's instructions**. Equipment must be securely installed leaving no possibility that equipment can fall free, perhaps causing injury or **jamming controls**, especially in aerobatic aircraft. The existing **structural integrity** of the aircraft must not be compromised by the radio installation. The pilot must be able to operate associated switches and controls **from the 'strapped-in'** position and switches and controls should be suitably **marked** and **placarded**. Installation must not interfere with the satisfactory operation of the aircraft's controls or systems. E.g., movement of control column must not be restricted and the pilot's line of sight of cockpit instruments should not be impeded. The quality of the pilot's **external view** should not be degraded. Installation must not present a hazard to the aircraft in the event of failure of the equipment; proper **electrical circuit** installation should avoid this possibility. Equipment should not unduly restrict occupant **emergency egress** from the cockpit. Associated **wiring and cables** must be properly 'bundled' and secured. Unsupported and 'spaghetti' wiring is not acceptable. Only aviation quality wiring and terminals should be used. Attention should be paid to amending the aircraft **weight schedule** and the aircraft **compass** should be checked and **swung** if required. Proper circuit protection must be incorporated. **Aerials** should be soundly installed with aerial cables properly routed and secured.

Consult your ELT manufacturer for the necessary wiring and switching circuits required to achieve the above.

6. Continued Maintenance

LAA aircraft ELT installations must be inspected during the annual inspection for Permit to Fly renewal to show that it is in good working order and remains securely installed. In particular, a function check, in accordance with the manufacturer's instructions should be made. Take especial care not to cause the ELT to transmit inadvertently; the disruption caused would not go down well with the emergency services.

CAA's Light Aircraft Maintenance Schedule (LAMS) does not require that C of A aircraft have an ELT function check at a specific time interval, but instead that a check is carried out based on the ELT manufacturer's instructions. However LAA recommends that LAA aircraft are checked at least at each annual inspection.

-oOOo-