

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
VFR PILOT EXAM-O-GRAM* NO. 54

EMERGENCY LOCATOR TRANSMITTERS (ELTs)

This Exam-O-Gram is issued to help fill the need of those studying for FAA airman written tests and of certificated pilots for additional information concerning the Emergency Locator Transmitter (ELT).

What is an Emergency Locator Transmitter or ELT?

It is a small, self-contained radio transmitter which is activated automatically by the impact force of a crash. It may also be activated manually by an "On-Off" switch. It transmits a distinctive variable tone on the emergency frequencies 121.5 and 243.0 megahertz. The range of an activated ELT varies from 75 to 150 miles, depending on environment. Its useful life varies from 3 to 8 days, depending on battery condition.

Is there a law requiring an ELT in all airplanes?

Yes. Public Law 91-596 was passed by Congress in 1970. As a consequence, FAR 91.52 now requires that an approved ELT must be installed in most U.S. registered airplanes by July 1, 1974. (Date extended from 12/30/73.) There are certain exceptions to this law; they are: (1) Turbojet airplanes, (2) Agricultural airplanes while dispensing chemicals, (3) Scheduled airline operations not over water or uninhabited areas, (4) Training airplanes operated within 50 miles of point of origin of flight, and (5) Aircraft equipped to carry not more than one person.

What is the purpose of an ELT?

It is designed to transmit an immediate electronic distress signal which can be used by other pilots and search and rescue organizations to locate a downed airplane. The pilot should always determine the ELT's location in the airplane; how to activate it manually; and, if it is portable, how to remove it from the airplane.

How can it be determined if an ELT is approved?

In order to carry out the provision of the law, a Technical Standard Order (TSO C91) has been issued by the FAA which covers the design and operational characteristics of approved locators. A label on the ELT indicates whether the unit meets these standards.

How often must battery be changed?

Battery replacement is required at 50 percent of the normal shelf life as defined by the manufacturer, or after one cumulative hour of use. Under the preventative maintenance provision of FAR 43, this battery replacement may be made by a certificated pilot. For expected reliability and life expectancy only those batteries recommended by the manufacturer should be used. Purchased batteries should be stamped with the date of the 50 percent battery life. Failure to replace batteries at the specified dates may not only limit the operating time but may cause some damaging corrosion within the unit.

How can premature battery deterioration be minimized?

Premature battery deterioration can be minimized by preventing exposure to high temperature such as might be experienced in an aircraft parked on a ramp, or to extremely low temperatures. Anything that a pilot can do in time of emergency to obtain a battery temperature of approximately 70° will result in improved performance and longer operation of the ELT.

How can the pilot check ELT operation?

Operational testing can be done by tuning the VHF receiver to 121.5 MHz and actuating the unit. Tests should be limited to three audio sweeps and conducted during the first five minutes after any hour. If the testing must be done at any other time, it should be coordinated with the closest FAA Control Tower or Flight Service Station. (See Advisory Circular 20-81 for additional information.)

* Exam-O-Grams are non-directive in nature and are issued solely as an information service to individuals interested in Airman Written Examinations.

How can the pilot tell if the locator is on?

The signal, because of the close proximity of the locator, will probably saturate the communications receiver regardless of the frequency it is on. However, accidental triggering of the ELT should be checked during the pre-takeoff check and before engine shut down by turning the VHF receiver to 121.5 or 243.0 MHz and listening for the ELT signal.

What should be done if an ELT is activated accidentally or by an unauthorized person?

If audio sweeps are heard and it is determined that they are coming from the airplane, turn off the ELT immediately. The pilot in command of an ELT-equipped plane is responsible for accidental inflight signalling by an ELT. If the plane is parked, the owner is liable. The Communications Act of 1934 prescribes fines and imprisonment for "the willful transmission of unauthorized signals on emergency frequencies." If you experience malfunctioning of the ELT, report the incident to the FAA through the "Malfunction Defects" program to provide a factual basis for corrective action. Contact any FAA District Office for the proper forms to report the malfunction.

What should you do if you hear an ELT signal?

The FAA suggests that you notify the nearest FAA ground facility stating your position when the ELT signal was first heard and when it was last heard. You need do nothing more unless requested by the ground facility. However, if you have actually discovered the site of a crash, and circumstances permit, you have the option of advising that you will circle the crash site to guide rescue teams.

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