

“The ELT Conundrum”

I was recently approached with a concern by an Examiner, as in Designated Pilot Examiner (DPE), a designee of the Federal Aviation Administration who is tasked with the testing of applicants for pilot certificates and ratings. He wanted to address an issue that so many of the applicants he was testing did not seem to understand. That issue being the typical questions concerning the Emergency Locator Transmitter (ELT) and its battery.

An ELT is a radio that is designed to assist in locating a distressed aircraft. To learn a bit more about different kinds of ELTs take a look at this [informative article by AOPA](#).

To properly answer the typical line of questioning regarding ELTs one must first understand whether the question being posed is in reference to the ELT itself or the battery that powers the ELT.



WHAT YOU SHOULD KNOW ABOUT THE ELT ITSELF:

The most common question that will be asked pertaining to the ELT itself has to do with the functionality test of the radio. Federal Aviation Regulation (FAR) 91.207(d) requires that **each ELT radio be inspected within 12 calendar months**. It must be inspected for the following:

- Proper installation
- Battery corrosion
- Operation of the controls (switches)
- The presence of sufficient signal radiated from its antenna

It strikes me that perhaps many experienced pilots, as well as student pilots, struggle to remember the ELT testing requirement because it is identical to the time requirement for the aircraft to have an

(Annual) Inspection. As a matter of practice, the ELT inspection is typically complied with during the Annual Inspection of the aircraft. The FAA would give the nation's student pilot population one less thing to remember if they would just remove this requirement from FAR 91 and place it in [FAR 43, Appendix D](#) – Scope and Detail of Items to be Included in Annual and 100-Hour Inspections. Since that is not the case and not likely to change, Applicants for pilot certificates and ratings will continue to be tested on this regulation. **Just remember that the ELT must be inspected within 12 calendar months.** You will find evidence of such included in the maintenance logbook entry for the most recent Annual Inspection of your aircraft.



WHAT YOU SHOULD KNOW ABOUT ELT BATTERIES:

Here's where it gets complicated. Okay, not really. But remember most people who are answering these questions are facing an oral exam by a Pilot Examiner or a Flight Review by a Flight Instructor. There is sometimes quite a bit of stress involved! Let me try to help. **Just remember there are only two instances in which you need to be concerned with replacing your ELT batteries.** If you really want to impress the DPE or CFI just flip open your well-worn (but current) copy of the FARs to 91.207(b).

Here you will see that ELT batteries must be replaced if the ELT transmitter has been in use for more than one cumulative hour. This means that if the ELT was turned on, accidentally or otherwise, for 40 minutes last week and again this week for more than 20 minutes you are required to replace the batteries since the cumulative time the ELT was transmitting exceeds one hour. Many times ELTs are activated unintentionally and there is no way to determine how long it has been transmitting. If you want to be sure that the ELT isn't transmitting before parking and securing your aircraft, take a minute to dial in 121.5 in a COMM radio and listen for the signal. Who knows, it may save you the cost of a battery!

The second instance in which the ELT batteries must be replaced is when 50% of their useful life has expired. Continuing to read in 91.207(b)(2) we see that the expiration date for replacing the battery must be legibly marked on the outside of the transmitter and entered in the aircraft maintenance logbook. This expiration date IS the half-life of the battery, aka when 50% of the

battery's useful life has expired. Look for the maintenance logbook entry when the ELT battery was last replaced and you will find an indication of the half-life of the new batteries.



So let's review the ELT conundrum...

First, is the question being asked about the ELT Inspection or the ELT battery? If about the Inspection it is due every 12 calendar months.

If the question is about the ELT battery remember that it needs replaced when: 1.) the transmitter has been used for one hour TOTAL or, 2.) at the date stamped on the battery which is the battery half-life.

As with many questions pertaining to the Federal Aviation Regulations the answers aren't usually that difficult if you break it down into manageable pieces. Remember also that you can always look up the appropriate regulation, using the FAR Index if necessary, to help you answer the question. It may feel a bit like cheating but nobody can remember every regulation. As pilots it is important not only that we commit to memory the appropriate material but also that we know how to use the proper references to find the correct answers to our questions.