

ACK E-04 406 MHz ELT Frequently Asked Questions

July, 10th 2013

Is a form 337 required to install an ELT

The FAA has determined that installation of an ELT in a non-pressurized aircraft weighing 12,500 pounds or less is a minor modification and no form 337 is required. Our web site has a copy of this letter under Tech Support.

Recently there was an ELT fire in a Boeing 787 is fire a possibly with your ELT

Most 406 MHz ELT do not have certification of the lithium battery pack. The ACK E-04 and E-04C ELT's have a Lithium battery pack that has been certified to FAA TSO-C142a requirements for use in aircraft. The cells we use are manufactured by Saft America and utilize the latest design in safe Lithium cell technology. The electrolyte is non-flammable and Saft has demonstrated that the cell is safe even if penetrated by a high powered rifle bullet. These cells are extensively used by the military. During our certification we had to demonstrate that the battery pack and cells would not produce fire or flame when subjected to crushing of the cells, direct shorting if the individual cells and battery pack, when subjected to very high temperature, accidental charging by exterior voltage, penetration of the cells and many other tests.

Am I required to install a 406 MHz ELT to legally fly in the U.S.?

No, you can legally fly without a 406MHz ELT installed. The current 121.5/243 TSO-C91a has been rescinded and no new 121.5/243 ELT's can be certified. Flying with a TSO 91/91a ELT is legal however the FCC is in the process of a new rulemaking that may prohibit the use of 121.5/243 ELT's.

Can I fly into Mexico without a 406 MHz ELT?

No, as of July 1st. 2013 GA aircraft is required to have a 406 MHz ELT.

Can I fly into the Bahamas without a 406 MHz ELT?

Yes, the Feb 2013 requirement date has been extended.

Can I fly into Canada without and 406 MHz ELT?

Yes, there is currently no policy requiring a 406MHz ELT in GA aircraft.

I am based in Canada, will I legally be able to fly without a 406 MHz ELT?

Yes, there is currently no policy requiring a 406MHz ELT in GA aircraft.

Do you have Canadian Approval?

Yes, we have Transport Canada, as well as Industry Canada approval

Approval Certificates posted on the 406 page of our website

Is the ACK 406 ELT approved in European countries?

Yes, we have ETSO 2C126, 2C91a and C142a approval. Brazil ANAC and ANTEL, and Canadian approvals,

Approval letter posted on 406 page of our website

What are the benefits to upgrading to a E-04 406 ELT?

The 406 MHz beacons transmitted power is 50x greater than the old 121.5 / 243 beacons. Location accuracy without GPS is greatly improved over the 121.5/243 ELT's. And with GPS location can be as accurate as several hundred feet. With GPS connected, your exact location will be downloaded to Search and Rescue organizations within 10 minutes of activation. Without GPS input location can take up to 3 hours, and accurate to 1- 5 km radius.

Can I upgrade my current 121.5/246 E-01 to an E-04 406MHz ELT?

No, we have designed the new E-04 to be the same size and shape as our current E-01 so people replacing our units can use the same mounting tray and straps without having to modify anything, however the internals are completely different and modifying an E-01 into an E-04 is not possible.

What is the retrofit kit you have listed for MSRP \$620.00 U.S.D.?

The retrofit kit is what you would buy if you currently have our E-01 installed in your aircraft. It will include only the components you need to change over to the E-04. This includes: The new 406/121.5 frequency antenna, the Audible Alert Indicator, Installation Manual, and the E-04 itself. It will NOT include the Remote Control Panel Indicator, Remote cable, Antenna Coax Cable, or Mounting Tray and Straps.

My plane is in / nearing annual, how would I pre-install for an ACK E-04 ELT?

To easily prepare for an E-04 installation while your aircraft is apart you will want to run the wiring for the remote control panel indicator, since this is typically run through the floor of the aircraft. The cable is RJ-11 phone cable, using phone connectors. You will run the cable with the male end resting where you want to install the remote control panel indicator, and then run the female side to where you want to mount the new E-04 ELT. This cable part# **E0110A** can be ordered directly from us, or your typical avionics parts dealer.

[See GPS pre-install question below for instructions.](#)

What will the new 406 installation entail if I already have an ACK E-01 model ELT installed?

The changeover will be quite simple, and we estimate it taking a half hour or less without the GPS interface. You would simply snap the new E-04 into the mounting tray and straps you currently have. Then plug the pigtail coming off the E-04 into the female socket to the remote control panel indicator. Next disconnect the BNC at the base of the antenna and remove the nut and lock washer holding the antenna in place, then replace the old antenna with the new E-04 antenna that has the same footprint. Lastly you will have to plug in the in-line audible alert indicator. The indicator will have two female jacks on each side. You will simply plug the male pigtail off the E-04, or the male end connecting into the remote unit into one side. Then plug the male extension cable into the unused side of the audible alert indicator, and into your remote, or remote cable.

What antennas are you going to offer for the new E-04 ELT?

Two different antennas will be offered. The basic whip antenna included with every E-04 kit. This antenna will have the same footprint and installation procedure as our previous antenna for an easy swap out. This antenna will be swept back twenty degrees, and slightly longer than the antenna for the E-01, and recommended up to 250Knots. We will also have available a high speed blade type antenna manufactured by Sensor Systems and rated to MACH 1. (Part# S65-1231-1)

Do I have to use the ACK antenna with my E-04 installation?

Yes, you have to use our antenna or a COSPAS/SARSAT / FAA TSO C-126 approved antenna meeting our VSWR requirements. You may not use any previous generation ELT antenna with the E-04 406MHz ELT.

Does the ACK 406 ELT have a built in “Self Test” procedure, and how frequently do I need to test the ELT?

The “Self Test” on the ACK E-04 ELT is performed from the aircraft cockpit by pressing the “Reset” button when the ELT is in the “Armed” mode and is not operating. This should be performed every 3 months. This test sends 3 audio sweeps of the 121.5 MHz transmission followed by a single 406MHz burst.

The audio alert indicator replies with a single beep if all systems are “Ok” or a series of beeps to indicate various fault conditions. The ELT checks for the following during the “Self Test.”

- Battery condition
- Transmitted power
- Frequency lock
- Data error
- High VSWR

What is the weight of the ACK 406 ELT transmitter and mounting?

1.75 Lbs.

Do all your new ACK E-04 406 ELT’s have GPS interface?

Yes, every E-04 ELT we build will have a GPS interface.

Do I have to connect the GPS interface for my ELT installation to be legal?

No, the GPS interface is optional but recommended.

What GPS data formats, and baud rates do you’re new E-04 ELT’s accept?

The new E-04 will accept Bendix/King, Garmin aviation format @9600 baud, or NEMA 0183 input @1200, 2400, 4800, or 9600 baud. The commercial model E-04C also accepts ARINC 429 high and low speed position data.

Can I interface a handheld GPS into the ACK E-04?

Yes, virtually all handheld GPS devices output the NEMA 0183 data format.

How does the ACK E-04 handle the GPS data input?

The E-04 receives the data input from your GPS once per second. The ELT uses the last data received from your GPS as its location when the ELT is activated either manually or by the crash sensor.

What will I need to interface my GPS into the new ACK E-04 ELT?

You will need 3 shielded wires, 24 gauge or greater. (Power, Ground, and RS232 Data) The A+ and A/C ground wire will need to reach where aircraft buss power is available, to your ELT mounting location. The RS-232 data line needs to extend from your navigation equipment data output, to your ELT mounting location.

What kind of connector does your E-04 ELT use to connect to my GPS?

The GPS interface uses a 4 pin MINI DIN circular connector. The mating plug will be supplied with the ELT.

Are you going to use Duracell D-cell batteries to power the new E-04 ELT?

No, the ACK 406 ELT will use a sealed lithium battery pack.

How long will the batteries last, and how much will they cost for the E-04?

The lithium battery pack will be good for 5 years from the manufacture date printed on the battery. Replacement battery packs currently cost around \$100 U.S.D.

Do I have to register my E-04 ELT for a legal installation?

Yes, you MUST register your E-04 ELT with the authority regulating ELT's in the country in which it is installed. You can face possible sanctions or fines for operating a 406 MHz ELT without registration.

How do I register my ACK 406 ELT?

In the U.S. we supply ELT's using the serial number standard location protocol you may register online with NOAA.

Can I reprogram my E-04 ELT?

Yes, users may reprogram the ELT, different aircraft formats may be programmed using our windows based PC software interfaced through a USB port dongle which is available for purchase. The dongle and software may be purchased directly from us. Most users will take it to a local avionics shop for reprogramming.

Where can I buy an ACK E-04 ELT?

We do not sell direct, so you would have to purchase your new ACK E-04 ELT through your local avionics shop or avionics parts supplier.

If I have some obscure question that is not on this list who can I ask?

You can E-mail us at info@ackavionics.com with your question, or you can always give Greg, Jose, or Mike a call here at ACK and we will do our best to answer your questions. The phone number is (408) 287-8021 and believe it or not, a real live person will answer the phone, with out having to go through a 10 step recorded program.