



# TECH

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## touch points

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# The 406 MHz Emergency Locator Transmitter Era

**W**e now are in the 406 MHz ELT era — not the 121.5 MHz era. As with many innovations brought into being by the FAA and other organizations, the rules don't always get changed to reflect the new items.

This is the case with the new 406 MHz emergency locator transmitters. The FAA did not mandate your customers to replace their old 121.5 units — nor did the FAA let your customers know the units would not be monitoring on a local level. Therefore, because of the cost of new 406 ELTs, many folks stayed with their old 121.5 units. Some of your customers also might not know many counties will not allow them to fly into their air space without a 406 unit onboard.

Last month, two maintenance facilities called me about how to check the 406 ELTs in accordance with FAR 91.207. They wanted to know how to set the AM radio to tell if the unit was working as presented in AC 43.13-1B 12-21d. I almost laughed, but did not.

There are several things called out in FAR 91.207d that cannot be accomplished with the new 406 units. Operation of the crash sensor is a big one. Several of the 406 units need the wiring harness in place to activate the ELT. This prevents the units from going off during shipping. The average IA/A&P cannot make the rap test work like they did with the 121.5 units.

Presence of sufficient signal radiated

from its antenna is another problem. In AC 43.13, it calls out setting off the ELT at the top of the hour to five minutes after the hour with an AM radio nearby to demonstrate sufficient signal. Even if your 406 unit also contains a 121.5 section, this does not test the 406 section. A test set is required.

I called my FAA inspector to verify the following information. The inspector's understanding of the new 406 MHz ELT — as presented at [www.sarsat.noaa.gov](http://www.sarsat.noaa.gov) — is that a unit cannot be certified per FAR 91.207 unless you have a test set to check the following items: operation of the controls and crash sensor; and the presence of a sufficient signal radiated from its antenna.

Without a test set, you cannot tell if the unit is generating the correct HEX code or other parameters called out by the manufacturer. The self-test feature only allows you know this by the flash of the panel-mounted light the system turned on and off; it does not give you the sufficient signal radiated answer. Remember, you should be checking the unit in accordance with the manufacturer's requirements as well.

The 406 MHz emergency beacons should never be activated unless you are in grave and eminent danger. In addition, the 406 MHz emergency beacons should only be tested using the self-test feature of the beacon, or the beacon should be taken to an authorized dealer or test facility.

If you have a 406 ELT set up for

lat/long from a GPS, you must connect a coax from the ELT to the test set to give the system sufficient time to send the lat/long data to be read on the test set. This can be as long as 90 seconds. If you do this while connected to the antenna, it will set off the alarms at Cospas-Sarsat!

What should you do if you have accidentally activated the emergency beacon?

If, for any reason, your beacon is activated accidentally, you should contact the appropriate rescue coordination center, air traffic facility or Flight Service Station at 1-800-WXBRIEF. In the Atlantic Ocean or the Gulf of Mexico region, you should contact the U.S. Coast Guard Atlantic Command Center at 212-668-7055. In the Pacific Ocean region, you should contact the U.S. Coast Guard Pacific Area Command Center at 510-437-3700. On land, you should contact the U.S. Air Force Rescue Coordination Center at 757-764-8112.

If you cannot contact these organizations directly, you should use any means available to inform the appropriate authorities that a false alert has been transmitted and should be cancelled.

In short, your shop should be equipped with a 406 MHz ELT test set. Suggest to your FBO, maintenance shops and customers to bring their ELT testing to you. It brings in revenue and complies with the FARs. The regulations will one day catch up with technology and you already will be ready. □