

Remarks by Ric Peri, AEA vice president of government and industry affairs, to the National Transportation Safety Board Forum to Improve General Aviation Search and Rescue

July 17, 2012

Washington, D.C.

Madam Chairman, Members of the National Transportation Safety Board:

Thank you for your invitation to participate in this General Aviation Search and Rescue Forum and the opportunity to represent the 1,300 member companies of the Aircraft Electronics Association.

Most, if not all, of the manufacturers of emergency locator transmitters represented here are members of our association, as well as more than 900 repair stations who sell, install and maintain ELTs. The association represents companies worldwide, which is important because while we have limited maintenance experience domestically, we have more than four years of experience in other National Aviation systems.

It is not my intent to address ELT technologies. Other presenters are much more capable than I for that purpose. My primary focus is on the installation and continued airworthiness of the ELT.

My aviation career began with the U.S. Air Force Aerospace Rescue and Recovery Service (ARRS) in 1971. Following my first tour of duty, I transitioned to the U.S. Coast Guard where I completed my 26 years of service. During this time, I have searched for my share of aircraft as well as vessels, and unfortunately attended too many funerals of co-workers who lost their lives trying to rescue others. As you consider the benefits of the various technologies, I ask that you consider not only the welfare of the accident victim, but also the safety of those searching for them.

We are all familiar with the requirement to carry an ELT; these regulations have changed little in the 30 years I have been an aircraft owner.

The utility and viability of the legacy TSO c91a ELT was seriously changed in 2009 when Sarsat stopped monitoring the 121.5 MHz signals. That was four years ago. Since that time, the AEA has encouraged the installation of the newer generation of 406 MHz ELTs in our communications with our membership, as well as the owners and operators of aircraft. Unfortunately, in 2009, there really weren't any good, affordable alternatives for the general aviation fleet. That since has changed, and modern, affordable ELTs are readily available.

In 2010, the Federal Communications Commission proposed to shut down the pipeline of legacy ELTs by prohibiting the certification, manufacturing and sale of the 121.5 MHz ONLY ELTs: a proposal that we support. During the comment period, the FCC received comments from the NOAA, the U.S. Coast Guard, the U.S. Air Force, and NASA, which strongly recommended users of the legacy beacons switch to the modern 406 MHz beacons. And, without objection from the FAA, the FCC expanded the original proposal to include the prohibited use of the more than 160,000 ELTs installed general aviation aircraft. This was the downfall of the proposal, and we commend the FCC for withdrawing the proposal. We continue to support shutting down of the manufacturing pipeline for outdated TSO-C91a ELTs in a managed approach.

Like the requirement for ELTs in general, the FAA has not modernized the inspection requirements to reflect the capability, functionality or technology of the modern 406 MHz ELTs. Part 91 still only provides the minimum inspection criterion applicable to a legacy TSO-C91a ELT. It is quite reasonable for an ELT to pass the minimum inspection criterion and still not be in a condition for proper operation. While there has been a significant amount of discussion regarding the use of hook and pile fabric restraint systems, the inspection only requires an inspection to verify “proper installation;” the wear of the restraint system, the deterioration of the fabric or a routine replacement of the strap are not addressed.

In addition, there is no requirement to verify the transmitting data is correct, only that the transmitting signal can be picked up by a nearby receiver. Nor is there a requirement to verify that the ELT has been registered with NOAA.

As I stated earlier, the AEA represents companies in 42 countries. So, while the U.S. is a bit behind the curve in installing modern ELTs, we have acquired a fair amount of information on the continued airworthiness of the systems. Following the first 12-month inspection cycle in New Zealand, our shops found faults in the initial installation and mounting; antenna placement, installation and connection; and, errors in the programming of owner information. In a number of cases, the ELT broadcast data was still set to the manufacturer’s code.

The legacy ELTs were simple stand-alone transmitters with simple installation instructions, which could be reasonably installed by any qualified mechanic. Today’s modern ELT is a complex, integrated piece of avionics with critical installation, programming and testing procedures requiring advanced knowledge and skills, as well as specialized test equipment.

In the U.S., in particular, there is a conflict between the FAA’s guidance on ELT installation and inspections as well as the appropriate continued airworthiness criterion for the modern ELT.

As you can see, the advisory circulars regarding ELTs are all significantly dated: AC 20-106 dates back 35 years; AC 43.13-1B 15 years; and AC 91-44 32 years. None of them address the proper procedures to maintain TSO-C126 ELTs but all are considered “acceptable” inspection criteria.

In addition, nearly all guidance on the regulatory requirement to test for “the presence of a sufficient signal” is based on open-air testing. As we know, there are no provisions under the new regulations for open-air operation of an ELT on 406 MHz.

Our recommendations are simple.

Modern avionics that are essential for the survivability of the occupants of the aircraft should be installed and maintained by qualified technicians. The Canadian model of “specialized maintenance” should be adopted by the FAA for ELTs as well as other critical communication, navigation and surveillance systems. The classification of specialized maintenance would require that crucial avionics systems, such as the 406 MHz ELTs be installed, inspected and maintained by trained and certified radio repair stations.

And, the FAA must modernize the inspection and maintenance guidance for ELTs. It must eliminate unlawful procedures, such as open-air testing, and either update the guidance to include appropriate procedures for TSO –C126 ELTs or clarify that the installation, inspection and maintenance of these systems are governed by the ELT manufacture in their installation and maintenance manuals.

Thank you for this opportunity to address this important issue, and I look forward to answering any questions you may have.

Forum to Improve General Aviation Search and Rescue



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Who we are...

- The Aircraft Electronics Association (AEA) is a trade organization that represents over 1300 aviation businesses in 42 countries worldwide including:
 - Repair stations that specialize in maintenance, repair and installation of avionics and electronic systems in general aviation aircraft.
 - Instrument repair stations
 - Manufacturers of avionics equipment, instruments, aircraft, and test equipment;
 - Major distributors, and;
 - Educational institutions.



- A & P mechanic
- 40 years of maintenance experience
 - Fixed wing/Helicopters
 - Piston engines
 - Turbo-prop/turbo-shaft/turbo-fan engines
- USCG veteran
 - 26 years of Airborne Search and Rescue

ELT Requirement

- No person may operate a U.S.-registered civil airplane unless there is attached to the airplane an approved automatic type emergency locator transmitter (§ 91.207(a)(1))
 - Rule does not specify : TSO c91a (121.5 MHz) or c126 (406 MHz)



Inspection Requirement

- Each emergency locator transmitter required by paragraph (a) of this section must be inspected within 12 calendar months after the last inspection for -
 - (1) Proper installation;
 - (2) Battery corrosion;
 - (3) Operation of the controls and crash sensor; and
 - (4) The presence of a sufficient signal radiated from its antenna.

(§ 91.207(d))

Maintenance Experience

- New Zealand (12 month inspection):
 - Mounting
 - Antenna
 - Programming
- United States
 - Lack of procedures

ELT/Aircraft Maintenance

- AC 20-106 - AIRCRAFT INSPECTION FOR THE GENERAL AVIATION AIRCRAFT OWNER (April 1978)
- AC 43.13-1B ACCEPTABLE METHODS, TECHNIQUES, AND PRACTICES — AIRCRAFT INSPECTION AND REPAIR (September 8, 1998)

Recommendations

- Designate ELT installation and inspection as “Specialized Maintenance” (Canadian model)
 - ELTs should be installed, inspected and maintained by trained and certified Radio Repair Stations
- Update maintenance procedures
 - FAA guidance should address modern ELTs.



Questions?

Thank you