

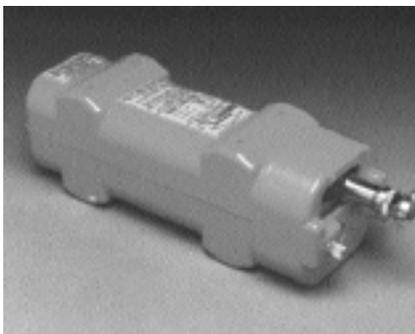
# Demystifying the FAA's ELT Compliance Mandate

BY DALE SMITH

*When it comes to whether or not they need to comply with the ELT installation requirements that take effect on January 1, 2004, a lot of Part 91 aircraft owners and operators are still feeling a little "lost."*

**W**ith apologies to Mr. Shakespeare, "To ELT or not to ELT? That is the question ..." And that is the question that more than a few business aircraft owners and operators are asking themselves as the FAA's January 2004 compliance deadline for FAR Part 91.207 approaches.

But, you ask, what's the big hang up? Like the seemingly endless list of FAR compliances that preceded 91.207, you either have to comply or you don't. Ah, if it were only that easy to understand. "Ever since the FAA pulled the (turbojet) waver, I've been getting what seems like 50 questions a day about whether or not an operator needs to comply with this new regulation," said Dave Pleskac, avionics sales manager for Duncan Aviation.



Artex C-406N three frequency beacon transmitter.

"It's a very confusing situation for operators."

"I've encountered a lot of confusion about who needs to comply on both sides of the fence," Jerry Keizer, avionics sales manager for Stevens Aviation added. "I had a guy come in with a turboprop who thought he had to do it and a Falcon operator who didn't know that he had to comply.

"Often the FARs can be confusing anyway," he continued, "but generally the paragraph that deals with what is applicable is pretty clear. But in this case the wording seems to be a bit of a problem."

## The 4-1-1 on ELT compliance requirements.

On April 5, 2000, Congress passed H.R. 1000, the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21). We're sure you've all read it by now. Anyway, among its directives, Section 501 of this legislation set forth the following requirements: (1) It removed the current exemption of turbojet-powered aircraft from the ELT requirements. (2) It limited the scope of the rule change by creating a new exemption category for aircraft with a maximum payload capacity of more

than 18,000 pounds when used in air transportation. (3) It required that the affected turbojet-powered aircraft be equipped with ELTs that transmit on the 121.5/243 megahertz frequency or the 406 megahertz frequency or with other equipment approved by the secretary. (4) It specified a compliance date for the new changes, of January 1, 2002, unless the Administrator grants operators up to two years after January 1, 2002, to equip affected turbojet-powered aircraft with ELT equipment." (The compliance date has since been extended to January 1, 2004).

After reading through this bit of 'FAAese,' you can see how there may be more than a bit of confusion. It would have been so much simpler for the rule to have read something like this: "As of January 1, 2002, unless an extension is authorized by the Administrator, all turbojet-powered aircraft having maximum payload capacity of 18,000 pounds, or less and operated under part 91 of the FARs, will need to be equipped with an ELT that transmits on the 121.5/243 megahertz frequency or the 406 megahertz frequency."

A consensus among the industry representatives *Avionics News* spoke to was that the real point of confusion

was the FAA's creating another "exemption category" for turbojet-powered aircraft with a maximum payload capacity of more than 18,000 pounds when used in air transportation. "People just don't understand clearly what aircraft are 'exempt,'" one industry executive said. "The wording leaves a lot of room for interpretation and even more room for confusion."

"The weight classification really seems to be the confusing part," Keizer said. "When you begin to look at the types of jets that come in our hangar, it pretty much covers all of them that are privately operated."

"Another area of confusion that I was surprised by," added Pleskac, "was that so many jet owners and operators don't know if their aircraft already has an ELT on board. They didn't know about the past exemption for most jets. Most are surprised to find out they don't have something as simple as an ELT."

### **The disappearing Learjet.**

Just in case you are wondering just why the government decided that there had to be a change in the ELT requirements in the first place, it all stems from an incident that happened back in 1996. Prior to this unfortunate accident, turbojet-powered aircraft were exempt from the ELT requirements because it was believed that since they operated under IFR, ATC would know their location in the event of a crash.

However, Congress took action to remove this exemption and require ELT equipment on turbojet-powered aircraft as a result of a Learjet that 'disappeared' during an approach to Lebanon Municipal Airport in New Hampshire in 1996. The Lear 35A had been operating under instrument conditions and did not have an ELT on board when it began an approach it never completed.

An exhaustive search of the surrounding woods came up with no trace and left everyone wondering what happened to the ill-fated 35. Almost forgotten, the wreckage was not found until 1999 when it was located by a forestry worker approximately 17 nautical miles from the airport.

The FAA's removal of the standing exemption for turbojet-powered aircraft affects not only private business jets, such as the one lost in New Hampshire, but also any turbojet-powered aircraft that does not qualify for one of the other exemptions—confusion alert? Maybe not. "Put quite simply," Keizer said, "if you have a jet aircraft and you operate under Part 91, you need to have an ELT on board by January 1st."

### **You could be stuck between a rock and a hard place...**

So pretty much, everyone with a business jet needs to be ELT compliant—end of story. Right? Not quite. Like most projects that nobody is quite sure about, a lot of effected owner/operators have waited until the proverbial last minute to get their ELTs installed. And, like a lot of things in life, just because you need it, doesn't mean you can get it.

As any experienced technician can tell you, while it's a rather simple project, installing an ELT isn't like going to Sears for a new set of tires. "An 'easy' installation can be done in 15 to 20 hours and a more difficult one can exceed 40 hours," he continued. "Most of that time is taken in running the wires up the vertical tail to where the ELT antenna is mounted. For example, there's not much room to work back in a Lear 35. Running a wire bundle up through that vertical tail can be a real pain in the neck."

Duncan's Pleskac agrees and adds, "It's pretty simple and straight forward but the part of the installation that takes most operators by surprise is



*Artex navigation interface unit.*

how expensive and time consuming it is to remove the interior components so you can run the wiring from the tail to the cockpit. We've made it a point to try and tell customers about the new requirement so they could schedule it to be done during any interior work."

And downtime and cost aren't the only obstacles that owners are facing as they try to beat the ELT compliance deadline. Another is product availability. "We have a long order backlog right now and we're working hard to try and fill the orders," explained Wendell Neumeyer, marketing manager for Artex Aircraft Supplies, a leading ELT manufacturer. "Most of our customers (avionics shops) say that they are booked for the rest of the year."

"About 50 percent of the airplanes that come into our shop need the ELT installation," Keizer said. "Unfortunately, we can't always react quickly to their needs because of the lead times from our ELT supplier."

"If an airplane comes in on a Monday and has to be out on Friday, there's not much we can do," he continued. "The only thing we can do is maybe do some preliminary installation work and schedule them to come back when the ELT is available."

Keizer and Pleskac both said that November and December are shaping up like blockbuster months for their ELT installation teams. Time slots and available products are pretty much spoken for. "We're getting right down

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## ELT COMPLIANCE MANDATE

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to the wire,” Keizer said. “About now some operators will start getting panicky, so I figure we’ll see them lined up outside the hangar door waiting to get it done—that’s a pretty good problem for us to have.”

### The 406 factor.

You may think that once you know that you need to install an ELT and that you can actually get one, the confusion would be over. Yeah, you’d think. But no, there’s still one more point of confusion to clear up: whether you “need” a 121.5 MHz or a 406 MHz ELT.

Here the FAA’s mandate is pretty clear—you are required to have an ELT that transmits on the 121.5/243 megahertz frequency which is pretty much the ELT we’re all familiar with. That will keep you compliant until January 31, 2009 when the analog 121.5 frequency will no longer be monitored by the COSPAS-SARSAT search and rescue satellites—after that date, you’ll need a 406 MHz digital ELT.

The directive to drop processing of the 121.5 MHz signal was made by the International COSPAS-SARSAT program with guidance from the United Nations. This decision was due to numerous signal reception problems, a high incidence of false alerts (over 99 percent) and a host of other limitations associated with the 121.5 frequency.

So, sometime now and then, owner/operators will need to upgrade their existing 121.5 ELTs to the digital 406 frequency ELTs. Or you can eliminate the chance of suffering through another compliance deadline bottleneck and install the 406 MHz unit today.

“For most operators it’s a matter of cost versus security,” Artex’s Neumeyer explained. “Today a 406 unit will cost three- to five-times as much as a standard 121.5 unit. That’s

substantially more money and it’s an investment that someone who is not planning on keeping their aircraft for much longer may not want to make.”

“But when you weigh the cost against the many benefits, I think the wise operator will go with the 406,” he continued. “It’s something you never want to use, but will be thankful to have if you ever need it.”

Along with the higher cost for the 406 ELT itself, Neumeyer said that the installation of the unit is more time-consuming and therefore costs more than what you’d have with a 121.5 system.

That added installation cost is tied into one of the major benefits of the 406 technology—you can use navigation information to provide spot-on location of the distress signal. To do that, you need an optional interface unit that ties the ELT into the aircraft’s GPS or FMS system to provide rescuers real-time, pinpoint aircraft location information. “It greatly enhances the resolution accuracy of the beacon’s location,” Neumeyer added. “It reduces the possible search area by an order of magnitude or more.”

In fact, instead of having to search hundreds of square miles, the digital processing in the standard 406 beacon can narrow the area down to within two nautical miles radius. And if you connect the aircraft’s GPS or FMS, the area is reduced down to the size of a football field.

According to Neumeyer, an Artex ELT/NAV Interface box currently sells for \$1,500 (plus installation and interface cabling). But, if there’s a chance of reducing the time it will take search and rescue to find you down from hours to mere minutes, you’d have to consider that pretty cheap insurance.

### Remember to register your 406 ELT.

Of course even choosing the 406 MHz ELT has its own level of confu-

sion associated with it—if it didn’t it wouldn’t be in this article. But thankfully, it’s confusion that’s easily cleared up.

Whenever an operator installs a 406 MHz ELT in their aircraft they must make sure to register its paperwork so that search and rescue can take full advantage of the benefits the system offers. “Owners need to register the beacon. If they don’t they’re defeating the purpose of having the 406 in the first place,” Neumeyer said. “And I can tell you that a substantial number of 406 ELT owners—not airline or fleet operators—but bizjet owners, have not registered or reportedly not registered their units.”

The digital circuitry of the 406 ELTs can be coded with critical information about the aircraft type, base location, ownership and the like. This coding allows search and rescuer (SAR) coordinating centers to contact the registered owner or operator if a signal is detected to determine if the aircraft is flying or safely in its hangar. This type of identification permits both the rapid SAR response in the event of an accident, and of equal importance, saves valuable SAR resources from having to go looking for a ‘false alarm.’

“It is critically important for installation technicians and avionics shop operators to proactively tell their customers that they need to register these units immediately,” he continued. “We put all kinds of labels and cards in the packaging with the units, but technicians and/or the customers don’t understand the critical importance of this step. I guess they think it’s just another marketing ploy. But in truth, it is a critical step in making the 406 ELT an effective life-saving tool.”

So if you’ve done any 406 installations, do your customers a favor and contact them with a reminder about the importance of properly registering their beacons. Chances are they’ll really appreciate the consideration. □