

ARTEX C406-N EMERGENCY LOCATOR TRANSMITTER SYSTEM - TROUBLESHOOTING

1. General

- A. This section contains the information that is needed to complete the self test for the ARTEX C406-N Emergency Locator Transmitter (ELT) system. The system transmits on three frequencies at the same time.

2. Tools and Equipment

- A. For information on tools and equipment, refer to Equipment and Furnishings - General.

3. C406-N Emergency Locator Transmitter (ELT) Self Test Preparation

CAUTION: Operate the Emergency Locator Transmitter (ELT) system only during the first five minutes of each hour. If you must complete the functional test at a time other than the first five minutes of the hour, you must do the test with a direct connection to the ELT and a 30 dB attenuator. Refer to the FAA Advisory Circular 91-44A.

CAUTION: Do not operate the Emergency Locator Transmitter (ELT) for more than five seconds at a time. Do not operate the ELT again for 15 seconds. The ELT will transmit a 406.028 MHz signal for 520 milliseconds approximately every 50 seconds. This transmission is an encoded digital message and is sent to a satellite as a distress signal.

- A. Prepare the Airplane for the C406-N Emergency Locator Transmitter Troubleshooting.

- (1) Put the BATTERY switch in the ON position.
- (2) Examine the ELT battery to make sure that it is serviceable.
 - (a) If you must replace the battery, use the manufacturer's instructions.

NOTE: If you use the navigation position function of the ELT, make sure that both the ELT and the airplane's navigational system are on at least 30 seconds before the ELT test.

- B. Do the ELT Test.

- (1) Tune the receiver (usually the aircraft radio) to 121.5 MHz.
- (2) Turn the ELT instrument panel remote switch to the ON position and wait for 3 sweeps on the receiver which takes about 1 second.
- (3) Turn the remote switch back to the ARM (OFF) position and observe the LED activity at this time.

NOTE: The microprocessor in the ELT makes a check of the G-switch (automatic activation switch) latching circuit, pins 12 and 13 on the 22-pin circular connector at the ELT; the 406.028 MHz transmitter for proper RF output; presence of valid navigation data (navigation system must be active) and a battery check. If the ELT operates correctly, the sequence that follows the entry to the "ARMED" (OFF) condition will result in the panel LED ON for approximately 1 second and then it will go off. If a problem is detected, the LED has a coded signal that follows the initial 1 second pulse. The coded signal and related problem are as follows (the LED will flash in order of importance with approximately a 0.5 - to 1-second pause between each error code if there are multiple errors):

- (a) One flash - Shows a G-switch loop open failure.
- (b) Three flashes - Shows a 406-028 MHz transmitter problem (i.e. bad or unconnected coax, antenna problem, or low power output).
- (c) Five flashes - This shows that there is no navigation data. This is possibly the result of incorrect wiring between the system interface connections, incorrect programming, or invalid navigation data (navigation system not powered up).

NOTE: This error is not present when the ELT is programmed with a short message (User Protocol).

- (d) Seven flashes - This shows that the ELT battery has too much accumulated operation time and you must replace it to meet FAA specifications.

NOTE: There is a sequence to the problem-reporting, which is the same order as that listed above. That is, if the G-switch circuit has a failure, there will be a single flash, then 3 flashes if there was a transmitter problem and so on.

NOTE: There is an error condition where the LED on the ELT and remote switch will flash rapidly with

a 2-flash pulse made of a short and a long flash. This occurs immediately after power is applied to the ELT, if either of the conditions that follow occur:

1. The ELT does not use the optional C406-N Programming Adapter (P/N 453-5068) and pins 3 and 4 are not connected with a jumper (or connection is interrupted) at the mating circular connector.
2. The Programming Adapter is used and there is a communication problem or wiring error.

NOTE: This error will continue for up to one minute even after aircraft power is removed due to the internal ELT power supply backup.

- (4) Do a monthly "self-test" of the ELT with the steps outlined in the section.

NOTE: The ELT is not to be tested more than once a month as excessive activations will decrease the battery life.