ARTEX ME406/ELT1000 EMERGENCY LOCATOR TRANSMITTER (ELT) SYSTEM - TROUBLESHOOTING

- 1. General
 - NOTE: The Artex ELT1000 unit (if installed) has the same maintenance and function as the Artex ME406 unit unless otherwise noted.
 - A. This section contains the information that is needed to complete the self test for the ARTEX ME406/ELT1000 Emergency Locator Transmitter (ELT) system. The system transmits on two frequencies at the same time.

2. Tools and Equipment

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

3. ME406/ELT1000 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 AC-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 after it is activated for approximately 50 seconds. This signal is identified as a distress signal.
- A. Prepare the Airplane for the ME406/ELT1000 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 the battery must be replaced, follow the manufacturer's instructions to replace it.
 - (3) Tune the receiver (usually the aircraft radio) to 121.5 MHz.

B. ME406 ELT (if installed); do an ELT 121.5 MHz Test.

(1) Turn the ELT instrument panel remote switch to the ON position and wait for 3 sweeps on the receiver which takes about 1 second.

Turn the remote switch back to the ARM (OFF) position immediately and the switch's LED and the buzzer will give 1 pulse. If more pulses are displayed, find the problem from the list below:

- (a) One flash Indicates that the system is operational and that there were no error conditions found.
- (b) Three flashes Shows an open or short condition on the antenna output or cable. Use the list below to isolate and repair the problem:
 - Make sure the BNC cable is connected and in good condition. Do a continuity check of the center conductor and shield. Examine for a shorted cable. Refer to the Model 208 Series Wiring Diagram Manual, Chapter 20, Bonding and Grounding - Maintenance Practices for additional information.
 - Examine for a intermittent connection in the BNC cable.
 - Examine the antenna installation if this error code persists. You can examine it with a VSWR meter. Examine the antenna for opens, shorts, and a resistive ground plane connection.
- (c) Four flashes This shows a low power condition. This occurs if the output power is below approximately 33 dBm (2 watts) for the 406.028 MHz signal, or 17 dBm (50mW) for the 121.5 MHz signal. Also, this may indicate that the 406.028 MHz signal is off frequency. For this error code, the ELT must be sent back to ARTEX for repair or replacement.
- (d) Five flashes This shows that the ELT has not been programmed. However, this does not show erroneous or corrupted programmed data.
- (e) Six flashes This shows that the G-switch loop between pins 5 and 12 at the D-sub connector is not installed. The ELT will not activate during a crash.
 - Do a resistance test to make sure the harness D-sub jumper is installed. There must be less than 1 ohm of resistance between pins 5 and 12.
- (f) Seven flashes This shows that the ELT battery has too much accumulated operation time and you must replace it to meet FAA specifications.
- C. ELT1000 (if installed); do the Artex ELT1000 Emergency Locator Transmitter Self-Test.

NOTE: The self-test checks critical functions of the ELT system.

(1) Put the ELT remote switch on the right instrument panel in the ON position for approximately 1 second, then return the switch to the ARMED position. Check the AM receiver for the 121.5 MHz 2 cycle burst that indicates a self-test.

NOTE: If the ELT is left activated for longer than 2 seconds, no self-test will be performed on turn off.

- (2) Results of the self-test are displayed by a series of flash codes where the local LED, remote switch LED, and buzzer activate for 1/2 second ON followed by 1/2 second OFF. Refer to the list of codes that follows to determine the error on your ELT.
 - (a) One flash Shows that the system is operational and that no error conditions were found. This message is suppressed if there are errors.
 - (b) Four flashes Shows an open or a short condition on the antenna output or cable. Use the list below to isolate and repair the problem:
 - Make sure the coaxial cable is connected and in good condition. Do a continuity check of the center conductor and shield. Examine for a shorted cable. Refer to the Model 208 Series Wiring Diagram Manual, Chapter 20, Bonding and Grounding - Maintenance Practices for additional information.
 - Examine for an intermittent connection in the coaxial cable.
 - If error code persists, examine the antenna installation. This can be examined with a VSWR meter. Examine the antenna for opens, shorts, and a resistive ground-plane connection.
 - (c) Five flashes Shows that no position data is present. Check that the navigation system is ON. If the navigation system is on, check the integrity of the wiring and the connection that goes to the ELT. Repair wiring or connection as necessary.
 - (d) Six flashes Shows that there is no G-switch loop present between pins 5 and 12. Inspect pins 5 and 12 of the ELT electrical connector for less than 1 ohm of resistance. If there is more than 1 ohm, repair wiring as necessary.
 - (e) Seven flashes Shows that battery operating time is less than 1 hour. Replace the battery pack.
- D. Return the airplane to service.
 - (1) Put the BATTERY switch in the OFF position.