

BE SURE TO REGISTER
ELT WITH NOAA

EBC-406AP

EMERGENCY LOCATOR TRANSMITTER OPERATING AND MAINTENANCE MANUAL

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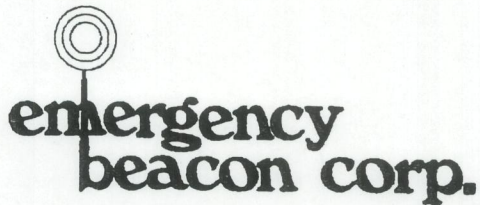
BE SURE TO REGISTER
AT THE SHOW

EBC-100AP

ENERGY LOCATOR PARAMETER

OPERATING AND MAINTENANCE MANUAL

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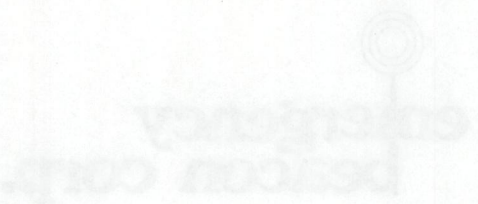
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A D D E N D U M

When installing the EBC-406AF-series ELT in a location where humidity can be an issue, seal the backside of the 15-pin harness D-connector (especially the soldered pins) to keep out any moisture as moisture may cause the ELT to activate. Once the sealant has been applied, the plastic backshell can be installed on the D-connector

Also, place a bead of sealant around the outside metal shell of the beacons' 15-pin connector to keep moisture from wicking its way onto the mating surfaces.

When installing the EBC-406AP-series ELT in a location where humidity can be an issue, seal the backside of the D-connector on the mounting bracket.



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ADDENDUM

When installing the EBC-408AF-series EBT in a location where humidity can be an issue, seal the backside of the 15-pin female D-connector (especially the soldered pins) to keep out any moisture as moisture may cause the EBT to operate. Once the signal has been applied, the plastic protection can be installed on the D-connector.

Also, place a bead of sealant around the outside metal shell of the beacon's 15-pin connector to keep moisture from wicking its way into the mating surface.

When installing the EBC-408AF-series EBT in a location where humidity can be an issue, seal the backside of the D-connector on the mounting bracket.

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**SECTION 1
GENERAL DESCRIPTION**

The EBC-406AP meets the requirements of TSO-C126 in the Automatic Portable (AP) category. The EBC-406AP is installed in the cabin of the aircraft (preferably behind the pilot's seat), within reach of the pilot or copilot. It is connected to an external antenna via a coaxial cable. A survival antenna is provided should it be necessary to exit the aircraft with the ELT. As with all EBC ELTs, the increased survivability needs of cabin mounting have been met. The ELT is constructed of aluminum, the toggle switch is recessed, and the electronics and the activation system are completely encapsulated to seal out moisture and other contaminants that could compromise performance. Our encapsulation method also provides added protection against vibration and shock. The EBC-406 will radiate a distress signal on 406.028 MHz and 121.500 MHz.

There are two recessed areas, one on the top, housing a 3-position toggle switch, LED, and antenna connector. The toggle switch is recessed to provide added protection against inadvertent activation and damage. The other recessed area is on the bottom. It houses a 15-pin female, D-Sub connector that mates with a connector in the mounting bracket. The mounting bracket connector is wired to a buzzer in the mounting bracket, and wired with a G-switch loop back that enables the G-switch when properly mated to the ELT connector. The G-switch is disabled when the ELT is removed from its mount.

The EBC-406AP has an LED and buzzer that flashes/beeps when the ELT is transmitting, and to indicate pass or fail after a self-test is completed.

The following is a list of the basic parts used with the EBC-406AP

<u>Description</u>	<u>Part Number</u>
Transmitter	EBC-406AP
Mounting Bracket for Cabin Mount	BB-12
Coaxial Cable 72"	AC-406
External Whip Antenna	ANT-406W
Survival Tape Antenna	ANT-406T
Battery Pack	GS-46

The following accessories can be used with (AP) installation.

<u>Description</u>
External High-Speed Rod Antenna – ANT-406R
External High-Speed Blade Antenna – ANT-406B

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SECTION 2 REGISTERING YOUR ELT

It is required that every 406 ELT be registered by the aircraft owner after installation, re-registered every two years, and re-registered if there are any changes to information provided to NOAA in a previous registration, such as telephone numbers, aircraft registration number, change of owner, ...etc.

Every 406 ELT is programmed at the factory with a unique identification code used by the Rescue Coordination Center to determine if an emergency has actually occurred. This identifier is called the 15-Hex ID. It is located on the front label of the ELT. This unique identifier is stored in a database maintained by NOAA. It can then be accessed to contact the owner in the event of an ELT activation. Registration is free, and can even be done via the Internet on the NOAA website at: www.sarsat.noaa.gov, or at www.beaconregistration.noaa.gov.

A registration form is provided at the end of this manual. Please make certain to read the "Important Notice" attached. The form can be mailed or faxed to NOAA. The mailing address and fax number are located in the upper right corner of the registration form.

Make sure that the 15-Hex ID on the front label of the ELT is properly entered on the form. Also, enter all required information. If you register online, a confirmation letter with your completed registration form will be sent immediately via email or fax. If you registered by mail, the confirmation letter should arrive within two weeks. Once you receive your registration confirmation, review it carefully. You should also receive within two weeks a NOAA Proof of Registration Decal by mail. If you do not, please call NOAA toll-free at: 1-888-212-7283. This decal should be affixed to the beacon so that it is visible.

Failure to register or re-register as required every two years or to notify NOAA of any changes to the status of your 406 MHz beacon could result in penalties and/or fines being issued under federal law.

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SECTION 3 DESCRIPTION OF ELT TOGGLE SWITCH POSITIONS

The EBC-406AP must be installed in the cabin of the aircraft, within reach of the pilot or co-pilot. This allows for quick removal of the ELT from the aircraft.

ON position:

This position (closest to the antenna connector) manually activates the ELT. The ELT will begin radiating a distress signal on 121.500 MHz, and within 50 seconds, will radiate an emergency coded signal on 406.028 MHz.

ARM position:

This position (center position) is the normal operating position for the ELT. When properly installed in its mount, the ELT is armed and ready to activate if an accident is sensed. When removed from its mount, the G-switch is disabled, and any mishandling will not result in activation.

TEST-RESET position:

This position (closest to the LED) is used to self-test, and to deactivate the ELT.

To **deactivate** the ELT, momentarily hold the switch in this position (closest to LED), hold for about one second and quickly release. The ELT will perform a self-test, and then deactivate. See **Section 7** for self-test results.

To **self-test** the ELT, momentarily move the handle from the center position to the "TEST-RESET" position; hold for about one second and quickly release. The ELT will perform a self-test, and then deactivate. Refer to **Section 7** for self-test results.

DISABLING THE AUTOMATIC ACTIVATION FEATURE

The ELT's G-switch is enabled **ONLY** when the ELT is properly installed in its mount, and properly attached to a mating connector that has a jumper from pin 1 to pin 11. Without this jumper, the ELT will not automatically activate in the event of a crash. When removed from its mount for any reason, the G-switch is disabled to prevent inadvertent activation. Please note that the ELT can still be manually activated via its toggle switch.

It is recommended that the homer signal be monitored on a radio tuned to 121.500 MHz.

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**SECTION 4
ELT INSTALLATION**

RTCA Document DO-183 paragraph 3.1.8 describes the mounting requirements which must be followed when choosing a location on which to mount an ELT. It reads as follows:

THE ELT SHALL BE MOUNTED TO PRIMARY AIRCRAFT LOAD CARRYING STRUCTURES SUCH AS TRUSSES, BULKHEADS, LONGERONS, SPARS, OR FLOOR BEAMS (NOT AIRCRAFT SKIN). THE MOUNTS SHALL HAVE A MINIMUM STATIC LOCAL DEFLECTION NO GREATER THAN 2.5mm (0.1 INCH) WHEN A FORCE OF 450 NEWTONS (100 lbs) IS APPLIED TO THE MOUNT IN THE MOST FLEXIBLE DIRECTION. DEFLECTION MEASUREMENTS SHALL BE MADE WITH REFERENCE TO ANOTHER PART OF THE AIRFRAME NOT LESS THAN 0.3 METER (1 FOOT) NOR MORE THAN 1.0 METER (3 FEET) FROM THE MOUNTING LOCATION.

Before any work is performed, it is wise make a survey of the available space, pathways, and airframe area needed to mount the ELT, coaxial cable, and antenna. These items can be installed in any order, except that improper installation of any of these components can result in poor performance or non-operation.

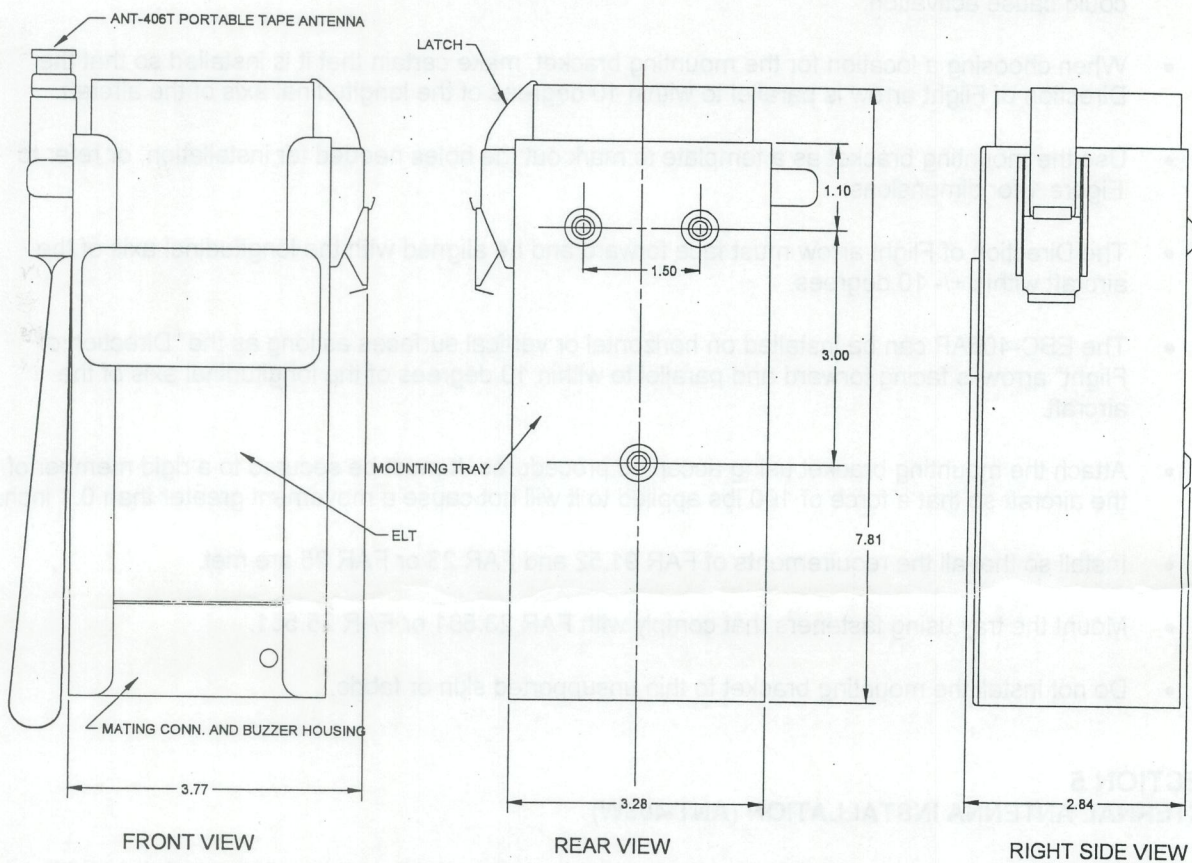


FIGURE 1: EBC-406 ELT OUTLINE WITH HOLE PATTERN

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The EBC-406AP ELT system is composed of a transmitter, mounting bracket, 6-foot coaxial cable, external antenna, and survival antenna. Take into account the following:

- Mount the ELT and external antenna as close to each other as possible and practical.
- The external antenna, ELT and 6 foot coaxial cable should be mounted between the same two bulkheads, and should not cross any production break.
- If the antenna is mounted on a non-metallic surface, a supplementary ground plane must be used.
- Mount the ELT in the cabin within reach of the pilot or co-pilot, preferably behind the pilot's seat on the frame of the aircraft. The transmitter controls must be accessible for manual activation and deactivation. It is not necessary to directly view the LED on the ELT since the buzzer in the mounting bracket can be heard if the ELT is ever activated.
- Leave a minimum of 3 inches of clearance (measured from the side of the mounting bracket and any obstruction) on the latch side of the mounting bracket to allow for latch operation.
- The location chosen to install the ELT must provide rigidity and must not be subject to vibration that could cause activation.
- When choosing a location for the mounting bracket, make certain that it is installed so that the Direction of Flight arrow is parallel to within 10 degrees of the longitudinal axis of the aircraft.
- Use the mounting bracket as a template to mark out the holes needed for installation, or refer to Figure 1 for dimensions.
- The Direction of Flight arrow must face forward and be aligned with the longitudinal axis of the aircraft within +/- 10 degrees.
- The EBC-406AP can be installed on horizontal or vertical surfaces as long as the "Direction of Flight" arrow is facing forward and parallel to within 10 degrees of the longitudinal axis of the aircraft.
- Attach the mounting bracket using accepted procedures. It must be secured to a rigid member of the aircraft so that a force of 100 lbs applied to it will not cause a movement greater than 0.1 inch.
- Install so that all the requirements of FAR 91.52 and FAR 23 or FAR 25 are met.
- Mount the tray using fasteners that comply with FAR 23.561 or FAR 25.561.
- Do not install the mounting bracket to thin unsupported skin or fabric.

SECTION 5 EXTERNAL ANTENNA INSTALLATION (ANT-406W)

Install the antenna in a manner consistent with acceptable workmanship, engineering practices, and in accordance with the following instructions:

- Mount in the upper portion of the fuselage, aft of the pilot, and a minimum of 3 feet from any VHF communications antennas. It should not foul other antennas in flight. The antenna should be mounted as close as possible to the transmitter.

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- A .515-inch diameter hole is required. A doubler plate should be fabricated if needed. Secure the antenna to the aircraft with the washer and nut provided, and torque to 30-inch/pound max.
- If the antenna is being installed on a non-metallic surface, a supplementary ground plane must be installed. Install the antenna using supplied hardware.
- To ensure the system has been properly installed on the aircraft, the installer should make a thorough visual inspection and conduct an overall operational and functional check of the system on the ground prior to flight

WARNING: Do not use the ANT-406T survival antenna in place of the external antenna. Do not connect any length of coaxial cable or connectors between the ELT and the ANT-406T survival antenna. The survival antenna must be attached directly to the ELT. The survival antenna is secured to the ELT with a lanyard. Do not separate the ANT-406T antenna from the lanyard. If the antenna becomes detached from the lanyard, it must be reattached immediately.

SECTION 6 FINAL INSTALLATION AND TEST

BEFORE PERFORMING THESE TESTS, DISCONNECT THE EXTERNAL ANTENNA COAXIAL CABLE FROM THE ELT!

Before installing the ELT in its mount, verify that the G-switch is operational; it will be necessary to fabricate a jumper:

Method 1 - Obtain a D-sub 15 pin male mating connector, and solder a wire between pin 1 and pin 11 of this mating connector. Install mating connector to ELT connector.

Method 2 - Remove ELT from mount and place a #24 AWG jumper between pins 1 and 4 of the ELT D-sub connector.

Activate the ELT using an applied force in the direction of the arrow. The direction for mounting and force activation is indicated on the ELT. Install jumper, and using a rapid forward motion coupled by a rapid reversing action should activate the EBC-406AP ELT. Verify that the ELT has been activated by the use of an airplane VHF COM receiver tuned to 121.500 MHz. Please note that these are not measured checks, and thus only indicate that the G-switch is working, and that the ELT homer is radiating sufficient power to aid search and rescue. Remove the jumper, and reset the ELT.

IMMEDIATELY RESET THE ELT, AS A LIVE 406 SIGNAL WILL BE TRANSMITTED!

Removing the antenna coaxial cable during the G-switch test assures that no signal will be transmitted to the satellites. This is vital in order that no false alarms be transmitted. Once activated, the signal can be monitored on the aircraft's COM radio; at close distances (a few feet) a strong 121.5 MHz homer signal can be detected by a COM even though an antenna is not attached to the ELT.

Gently install the ELT into the mounting bracket until the ELT is fully seated in its mount. Do not use excessive force. It may be necessary to adjust ELT position (front to back, and left to right) to properly mate connectors. Verify the proper direction for crash activation, and secure in place by closing latch. Install antenna BNC cable. Perform a self-test. It is recommended that these tests receive prior approval of the nearest control tower. FAA and FCC regulations require that a transmitter test be performed only during the first 5 minutes of each hour and last no longer than 3 audio sweeps.

After the EBC-406AP is installed into its mounting bracket, perform a self-test to verify ELT operation. It is recommended that such tests receive prior approval of the nearest control tower. FAA and FCC regulations

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require that transmitter tests be performed only during the first 5 minutes of each hour and last no longer than 3 audio sweeps.

SECTION 7 DESCRIPTION OF SELF-TEST MODE AND ERROR CODES

Set the ELT's toggle switch to the spring loaded, "TEST-RESET" position. Hold for about 1 second and quickly release. The self-test event occurs in the following manner:

The ELT energizes its LED/buzzer for about 1 second
The ELT transmits three locator beacon audio sweeps on 121.500 MHz.
The ELT transmits one 406.028 MHz self-test burst.
During these transmissions, the ELT will perform a number of internal tests on its data and electronics.

If the ELT has passed all tests, the LED/buzzer will flash/beep for one second, and then de-energize.

If the ELT has not passed any or all of its tests, the LED/buzzer will flash/beep for one second, and de-energize for ½ second. Following this, the failure(s) are indicated by one or more error indications of the LED/buzzer.

The cadence of these on-off intervals will cause the LED/buzzer to flash/beep for ¼ of a second interval followed by ¼ second de-energized interval.

In the event that the ELT needs to signal multiple self-test failures, several LED/buzzer on-off sequences will follow, one after the other, and each sequence separated by a LED/buzzer de-energized interval of one second.

A SELF-TEST PASS IS INDICATED BY 1 FLASH/BEEP.

Self-test error codes are as follows:

ERROR CODE	MEANING
2 flashes/beeps.	Missing G-switch loop back
3 flashes/beeps.	Bad 121.500 MHz RF output power
4 flashes/beeps.	Bad 406 MHz RF VSWR
5 flashes/beeps.	Low 406 RF power output
6 flashes/beeps.	Bad EEPROM data
7 flashes/beeps.	Bad RAM

MEANING OF ERROR CODES

"Missing G-switch loop back" can indicate that the ELT is not fully seated in its mount, or the mating connector is not properly attached. It can also indicate a missing jumper from pin 1 to pin 11. This condition renders the G-switch inoperative.

"Bad 121.500 MHz output power" means that the homer signal on 121.500 MHz is not operating.

"Bad 406 MHz VSWR" can indicate a faulty antenna, cable, or connection between the ELT and the external antenna

"Low 406 RF power output" can indicate a low voltage battery, or defective 406 power amplifier.

"Bad EEPROM data" can indicate a hardware or software fault. ELT will only transmit on 121.500 MHz.

"Bad RAM" can indicate a hardware or software fault. ELT will only transmit on 121.500 MHz.

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NOTE: ALL ERROR CODES REQUIRE IMMEDIATE ATTENTION!

DO NOT ACTIVATE THE TRANSMITTER UNTIL YOU THOROUGHLY UNDERSTAND HOW TO DEACTIVATE IT!

SECTION 8 OPERATING INSTRUCTIONS

The EBC-406AP is for aviation emergency use only. In an accident with sufficient G-forces along the longitudinal axis of the aircraft, the ELT is automatically activated. Setting the ELT's toggle switch to the "ON" position manually activates the ELT.

If circumstances dictate, the EBC-406AP ELT can remain within the aircraft. If possible after an accident, inspect the external antenna for damage.

When the ELT is automatically or manually activated, there is a 1 second delay before the 121.500 MHz homer transmitter is activated. This is followed approximately 50 seconds later by the 406 burst.

REMOVING THE EBC-406AP FROM ITS BRACKET

In an emergency, if it becomes necessary to exit the aircraft, use the following procedure to remove ELT from its mount:

1. Remove the antenna BNC connector on the ELT by pushing it in and turning counterclockwise, then pulling it out.
2. Remove the ELT from its mounting bracket by releasing the latch on the bracket. This is done by simultaneously using the thumb to push on the secondary latch, and forefinger to pull up on the main latch. Pull the ELT out by the lanyard, and exit the aircraft.
3. Attach the ANT-406T survival antenna.

Place the ELT on high ground with the antenna in a vertical position. If using at temperatures below -20°C , for the longest operating life, keep the transmitter inside your jacket with the antenna exposed.

SELF-TEST SCHEDULE

Self-Test the ELT a minimum of once every three months. Once a year perform the periodic maintenance test in Section 11.

SECTION 9 PERIODIC MAINTENANCE

THIS INSPECTION PROCEDURE IS BASED ON FAA AC 43.13-1B CHG 1, DATED SEP. 27, 2001.

NOTE: The FCC has mandated that the transmitter test be performed only during the first 5 minutes of each hour and last no longer than 3 audio sweeps of the ELT signal. The test must be performed a minimum of once a year.

1. Remove all interconnections between the ELT and the antenna. Visually inspect and confirm proper seating of all BNC connector pins at the antenna end, and at the ELT end. Special attention

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- should be given to coaxial center conductor pin, which may retract into the conductor housing. Check for corrosion, and any obvious signs of wear.
2. Remove the ELT from its mount and inspect D-Sub connectors for corrosion, and any obvious signs of damage, such as bent or missing pins. Inspect the mounting hardware for stability. All required mounting hardware should be reinstalled and secured.
 3. Inspect the battery pack. No corrosion should be detectable. Verify that the ELT battery connectors are fully mated with no gap between them. Verify that the battery is an approved pack, GS-46, manufactured by Emergency Beacon Corporation. Check the battery pack's expiration date.
 4. To test the G-switch, disconnect the external antenna coaxial cable, and remove ELT from its mount. It is necessary to place a jumper between pin 1 and pin 11 of the ELTs connector. This is accomplished by using a mating 15-pin D-Sub male connector with a jumper between pin 1 and pin 11. Without this jumper, the ELTs auto activation feature is disabled.
 5. Activate the ELT using an applied force in the direction of the arrow. The direction for mounting and force activation is indicated on the ELT. Install jumper, and using a rapid forward motion coupled by a rapid reversing action should activate the EBC-406AP ELT (see note 1 below). Verify that the ELT has been activated by the use of an airplane VHF COM receiver tuned to 121.500 MHz (see note 2).
 6. Immediately reset the ELT, as a live 406 distress signal will be radiated within 50 seconds.
 7. Remove the jumper and reinstall the ELT into its mounting bracket and verify the proper direction for crash activation. Reconnect all cables. They should have some slack at each end and be properly secured to the airplane's structure for support and protection.
 8. Perform a self-test, and verify pass-fail error codes as described in Section 7.
 9. Verify that all switches are properly labeled and positioned.

Notes:

1. This is not a precise check; thus, it only indicates that the G-switches are working.
2. This is not a measured check. It is an indication that the ELT is radiating a sufficient signal to aid search and rescue.

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SECTION 10 EQUIPMENT LIMITATIONS

The conditions and tests required for TSO approval of this article are minimum performance standards. It is the responsibility of those desiring to install this article on a specific type or class of aircraft to determine that the aircraft installation conditions are within the TSO standards. The article may be installed only if further evaluation by the applicant documents an acceptable installation and it is approved by the Administrator.

This equipment must be installed according to the recommendations outlined in this manual. Only Emergency Beacon Corporation TSO approved parts are to be used. Substitution of other components will void the warranty. Any deviation may result in failure of the equipment to operate properly.

SECTION 11 BATTERY REPLACEMENT

FAR 91.207(c) requires that the battery in the ELT be replaced in accordance with the replacement date marked on the ELT or when the transmitter has been in use for more than one cumulative hour. The battery replace label with the replacement date is found on the exterior of the ELT and on the replacement battery. This battery pack must be replaced every 5 years or after one hour of cumulative use. The battery should not be stored in a location where the ambient temperature is above 80°C, or below -40°C.

WARNING: The EBC-406AP must be used only with battery pack, P/N GS-46. The ELT will not meet the requirements of TSO-C126 if used with another type of battery. GS-46 battery packs are available from Emergency Beacon Corporation and its dealers.

BATTERY INSTALLATION PROCEDURE:

1. Verify that the ELT is off, and remove from its mount.
2. Unscrew the 4 back cover screws and remove cover.
3. Observe the manner in which the battery is situated within the ELT. The new battery must be installed in the same physical orientation as the current battery.
4. Remove the plastic U strip spacer.
5. Grasp black connectors, and pull apart. Do not pull on wires or they may be damaged.
6. Verify that all of the contacts on the battery connector, the BNC connector, and D-Sub connector are free of corrosion. Clean as required.
7. Install new battery with label facing up. Tightly mate battery connectors.
8. Install plastic U strip spacer.
9. Remove the "replace by" label, and place on the side of the ELT.
10. Reinstall cover, install into mounting bracket, and reconnect coax cable.
11. Perform self-test as per Section 7.

The Part Number for a replacement battery pack is GS-46.

CAUTIONS:

This battery pack is comprised of lithium manganese dioxide cells. Do not disassemble the battery pack. Do not short circuit. Lithium is flammable. Do not dispose of the battery pack in or near fire or flame.

The conditions and tests required for this TSO approval of this battery are minimum performance standards. It is the responsibility of those desiring to install this battery in a specific class of aircraft to determine that the aircraft installation conditions are within the TSO standards. The battery may be installed only if further evaluation by the applicant documents an acceptable installation and is approved by the administrator. Lithium battery safety concerns include the possibility of fire, venting violently, and venting toxic gasses.

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Battery Specifications:

System:.....Non-rechargeable Lithium Manganese Dioxide
 Nominal Open Circuit Voltage.....9.8 VDC, Red lead positive
 Total Lithium Content10.2 grams
 Nominal SizeHeight = 2.53" Width = 1.42" Length = 4.14"
 Nominal Weight..... Approximately 1.2lbs.
 Certification TSO-C142

GS-46 ENVIRONMENTAL QUALIFICATION FORM

APPLICABLE SPECIFICATIONS: RTCA DO-227, RTCA DO-204, RTCA DO-160C
 ENVIROMENTAL CATEGORY: 227/227/227/227/204/204/XXXXXXXXXXXXXXXXXX

TEST CONDITIONS	Section DO-160C	Paragraph	Category
Survival Low / High Temperature Cycle	-	2.3.3	Per DO-227
Altitude	-	2.3.4	Per DO-227
Decompression	-	2.3.5	Per DO-227
Humidity	-	2.3.6	Per DO-227
Shock	-	2.3.4.1	Per DO-204
Vibration	8.0	2.3.5	Per DO-160C/204
Explosion Proofness	9.0	-	X
Waterproofness	10.0	-	X
Fluids Susceptibility	11.0	-	X
Sand and Dust	12.0	-	X
Fungus Resistance	13.0	-	X
Salt Spray	14.2	-	X
Magnetic Effect	15.0	-	X
Power Input	16.0	-	X
Voltage Spike	17.0	-	X
Audio Freq. Conducted Susceptibility	18.0	-	X
Induced Signal Susceptibility	19.0	-	X
R.F. Susceptibility	20.0	-	X
Emission of R.F. Energy	21.0	-	X
Lightning Induced Transient Susceptibility.	22.0	-	X
Lightning Direct Effects	23.0	-	X
Icing	24.0	-	X

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EBC-406AP ENVIRONMENTAL QUALIFICATION FORM

Nomenclature: 406 / 121.5 MHz Emergency Locator Transmitter.

Part Numbers: EBC-406AP, BB-12, AC-406, GS-46 **TSO Number:** C126

Other Applicable Specifications: RTCA DO-204

Manufacturer: Emergency Beacon Corporation **Address:** 15 River Street, New Rochelle, New York

Revision of DO-160: C and D **Tests started:** 5/20/06. **Tests completed:** 2/25/07.

ENVIRONMENTAL CATEGORIES: D1XBC(204)(204)XRFXXSXXXXZ(204)X(A1C1)XXA

CONDITIONS	SECTION	DESCRIPTION OF TESTS CONDUCTED
TEMPERATURE AND ALTITUDE	4.0	EQUIPMENT TESTED TO CATEGORY D1
OPERATING LOW TEMPERATURE	4.5.1	EQUIPMENT TESTED TO CATEGORY D1
OPERATING HIGH TEMPERATURE	4.5.2 & 4.5.3	EQUIPMENT TESTED TO CATEGORY D1
IN-FLIGHT LOSS OF COOLING	4.5.4	NOT APPLICABLE
ALTITUDE	4.6.1	EQUIPMENT TESTED TO CATEGORY D1
DECOMPRESSION	4.6.2	EQUIPMENT TESTED TO CATEGORY D1
OVERPRESSURE	4.6.3	EQUIPMENT TESTED TO 170 kPa abs.
TEMPERATURE VARIATION	5.0	EQUIPMENT TESTED TO CATEGORY B
HUMIDITY	6.0	EQUIPMENT TESTED TO CATEGORY C
OPERATIONAL SHOCK	7.0	EQUIPMENT TESTED TO CATEGORY (204)
OPERATIONAL CRASH SAFETY	7.0	EQUIPMENT TESTED TO CATEGORY (204)
VIBRATION	8.0	EQUIPMENT TESTED TO CATEGORY (204)
EXPLOSION	9.0	NOT APPLICABLE
WATERPROOFNESS	10.0	EQUIPMENT TESTED TO CATEGORY R
FLUIDS SUSCEPTIBILITY (salt water)	11.0	EQUIPMENT TESTED TO CATEGORY F
SAND AND DUST	12.0	NOT APPLICABLE
FUNGUS	13.0	NOT APPLICABLE
SALT SPRAY	14.0	EQUIPMENT TESTED TO CATEGORY S
MAGNETIC EFFECT	15.0	NOT APPLICABLE
POWER INPUT	16.0	NOT APPLICABLE
VOLTAGE SPIKE	17.0	NOT APPLICABLE
AUDIO FREQUENCY SUSCEPTIBILITY	18.0	NOT APPLICABLE
INDUCED SIGNAL SUSCEPTIBILITY	19.0	EQUIPMENT TESTED TO CATEGORY Z
RADIO FREQUENCY SUSCEPTIBILITY	20.0	EQUIPMENT TESTED TO CATEGORY (204)
RADIO FREQUENCY EMISSION	21.0	NOT APPLICABLE
LIGHTNING INDUCED TRANSIENT SUSCEPTIBILITY	22.0	EQUIPMENT TESTED TO CATEGORY A1C1
LIGHTNING DIRECT EFFECTS	23.0	NOT APPLICABLE
ICING	24.0	NOT APPLICABLE
ELECTROSTATIC DISCHARGE	25.0 (DO-160D)	EQUIPMENT TESTED TO CATEGORY A

OTHER DO-204 ENVIRONMENTAL TESTS PASSED

CONDITIONS	SECTION	DESCRIPTION OF TESTS CONDUCTED
IMPACT PENETRATION	2.3.4.2	55 LBS IMPACT FROM 6 INCHES TEST
CRUSH	2.3.4.3	1000 LBS APPLIED FORCE CRUSH TEST
FLAME	2.3.7.1	15 SECOND FLAME EXPOSURE TEST
POST CRASH IMMERSION	2.3.9.4	1 METER SALT WATER IMMERSION TEST
OTHER ELECTRONIC TESTS	2.3.2 THRU 2.3.2.6	LOW-TEMP. LIFE, HIGH TEMP., TEMP. GRADIENT/ FREQ. STABILITY, VSWR THERMAL SHOCK, SELF TEST
LONG TERM FREQUENCY DRIFT	2.4.2.1.4	IDENTIFIED AS PER RF OSC. MFG. DATA*

* Not tested but identified as meeting requirement from manufacturer's specifications.

EMERGENCY BEACON CORP

SECTION 12 REPAIRS

Should you experience any problems with your ELT, contact the factory for advice. Should repairs become necessary, disconnect the battery and send the ELT to the factory. Emergency Beacon Corporation is the only authorized repair facility. Please include a note describing the problem. Emergency Beacon Corporation will evaluate the unit and contact you with a repair estimate. There is a nominal fee for this inspection.

SHIPPING INSTRUCTIONS:

- 1 – Verify that the ELT is not transmitting, and that the toggle switch is set to the center position.
- 2 – Enclose a note describing the problem. Include your name, address and telephone number.
- 3 – Pack well and insure.

The customer pays shipping costs to and from the factory.

Send the ELT to:

Emergency Beacon Corporation, 15 River Street, New Rochelle, New York, 10801, USA

SECTION 13 SPECIFICATIONS

Operating Frequencies:	406.028 MHz and 121.500 MHz
Modulation 406 MHz:	Biphase L (16KOG1D)
Modulation 121.500 MHz:	Swept tone 1600 Hz to 300 Hz, 2-4 times/second
Output Power on 406 MHz:	5W for 24 hours at -20 °C
Output Power on 121.500 MHz:	50 mW min for 50 hours at -20 °C
Operating Temperature:	-20 °C to +55 °C
Battery Type:	Lithium Manganese Dioxide (GS-46 Battery Pack)
Useful Battery Life:	5 years or 1 hour of cumulative use
Automatic Activation:	Velocity change of 3.5 ft/sec activates ELT
Altitude:	50,000 ft
Decompression:	8,000 ft to 50,000 ft
Over Pressure:	-15,000 ft
Humidity:	95% for 144 hours
Shock Performance:	100 Gs on 6 Axis for 4ms 100 Gs on 6 Axis for 100ms
Vibration:	Withstands 10 Gs
Immersion:	Withstands 24 hours in salt water
Message Protocols:	Aviation User Protocol, Serialized Aviation User Protocol
Activation Alerts:	LED and buzzer
Input Power:	No Aircraft Power Required

PHYSICAL FEATURES:

Size (ELT):	Height = 6.7" Width = 2.9" Depth = 2.5"
Total Weight:	2.5 lbs. (including battery, but not antennas)
Case Material:	Aluminum
Finish:	Yellow Baked Enamel

PLEASE NOTE: ALL WARRANTIES ARE NULL AND VOID IF NON-FACTORY APPROVED BATTERIES ARE EVER USED IN YOUR ELT.

EMERGENCY BEACON CORP

**SECTION 14
EBC-406 TWO YEAR WARRANTY**

FOR YOUR RECORDS:

Type of Equipment: _____

Model No. _____ Serial No. _____

Date Purchased: _____ Dealer: _____

PLEASE NOTE: ALL WARRANTIES ARE NULL AND VOID IF NON-FACTORY APPROVED BATTERIES ARE EVER USED IN YOUR ELT.

The EMERGENCY BEACON CORPORATION instrument you purchased is conservatively designed and was carefully inspected before shipment. Properly operated in accordance with the instructions furnished, it will provide you with trouble-free service. Should repairs become necessary, write or call EMERGENCY BEACON CORPORATION describing symptoms of faulty operation. Instructions will be sent to you for obtaining service, if factory judges necessary, authorization for shipment will be given to you. Do not ship without first obtaining this authorization. Pack well and insure when shipping. Repairs will be made without charge for materials and labor within two years from date of warranty registration. Transportation charges both ways are to be borne by the customer. Beyond this warranty period fair charges will be made for service by skilled personnel using factory approved/new parts. This warranty is void if:

- 1- ELT is damaged in transit.
- 2- ELT is abused in any way.
- 3- Repair is attempted by persons not authorized by EBC.
- 4- Unapproved battery is installed.

EMERGENCY BEACON CORPORATION, 15 River Street, New Rochelle, New York USA 10801
Phone: (914)235-9400 Fax (914)576-7075

(CUT HERE AND RETURN TO FACTORY)

TWO YEAR WARRANTY REGISTRATION

Model No: _____ Serial No: _____
 Date Purchased: _____
 How did you hear of this product? _____
 What persuaded you to purchase it? _____
 Dealer: _____ City: _____
 My name: _____
 Address: _____
 City: _____ State: _____ Zip: _____

Return this portion to: EMERGENCY BEACON CORPORATION
15 RIVER ST.
NEW ROCHELLE, NY 10801 USA

PLEASE NOTE: ALL WARRANTIES ARE NULL AND VOID IF NON-FACTORY APPROVED BATTERIES ARE EVER USED IN THE ELT.

EMERGENCY BEACON CORP.

SECTION 14
EBC TWO YEAR WARRANTY

FOR YOUR RECORDS

Type of Equipment _____

Model No _____

Date Purchased _____

Dealer _____

Serial No _____

PLEASE NOTE: ALL WARRANTIES ARE NULL AND VOID IF NON-FACTORY APPROVED BATTERIES ARE EVER USED IN YOUR EBC.

The EMERGENCY BEACON CORPORATION warrants that the EBC Two Year Warranty will be honored in accordance with the instructions furnished and will provide you with double-free service. Should repairs become necessary, you may call EMERGENCY BEACON CORPORATION for assistance. EBC Two Year Warranty will be given to you for the duration of the warranty period. Pack well and insure when shipping. Repairs will be made without charge for materials and labor within two years from date of warranty registration. Transportation charges may be borne by the customer. Beyond the warranty period, charges will be made for service by skilled personnel using factory approved parts. This warranty is void if:

- 1- EBC is damaged in transit.
- 2- EBC is damaged in any way.
- 3- Repair is attempted by someone not authorized by EBC.
- 4- Unapproved battery is installed.

EMERGENCY BEACON CORPORATION, 16 River Street, New Rochelle, New York USA 10801
 Phone (914) 575-0200 Fax (914) 575-7078

(OUT HERE AND RETURN TO FACTORY)

TWO YEAR WARRANTY REGISTRATION

Model No _____

Date Purchased _____

How did you hear of this product? _____

What persuaded you to purchase it? _____

Dealer _____

City _____

Address _____

State _____ Zip _____

Return this section to:

EMERGENCY BEACON CORPORATION
 16 RIVER ST
 NEW ROCHELLE, NY 10801 USA

PLEASE NOTE: ALL WARRANTIES ARE NULL AND VOID IF NON-FACTORY APPROVED BATTERIES ARE EVER USED IN THE EBC.

Important Notice - Please Read Before Completing Registration

Registration is an important facet for all Cospas-Sarsat 406 MHz emergency beacons. Not only is it required by Federal Regulations but the information you furnish is used by Search and Rescue (SAR) agencies in the event of beacon activation. The registration information is an important tool to assist the United States Coast Guard, United States Air Force, and other SAR agencies in locating and quickly responding to you, your vessel, or your aircraft. Failure to register your beacon may delay a rescue response. Accurate, up-to-date registration information will also be used to conserve resources by helping to eliminate false alert deployments, as an inadvertent activation can be resolved with a phone call when the beacon is properly registered.

There is no charge for beacon registration. This is a service provided by the U.S. National Oceanic and Atmospheric Administration (NOAA).

All online registrations will be entered into the National 406 MHz Beacon Registration Database on the same day of entry. Registration forms received via postal mail or fax will be entered within 2 business days of receipt. A confirmation letter with your completed registration information will be sent to you immediately via e-mail or fax (if provided). Confirmation letters sent via postal mail should arrive within two weeks. Once your registration confirmation is received, please review all information. Any changes or updates to your registration information can be done via the internet, fax, e-mail or postal mail. If you do not receive your registration confirmation from NOAA please call 1-888-212-SAVE (7283) or 301-817-4515 for assistance.

Failure to register, re-register (as required every two years), or to notify NOAA of any changes to the status of your 406 MHz beacon could result in penalties and/or fines being issued under Federal Law. ***More importantly, failure to maintain accurate and complete information could result in a delayed response by rescue forces.*** The owner or user of the beacon is required to notify NOAA immediately of any changes to the registration information at any time. By submitting this registration the owner, operator, or legally authorized agent declares under penalty of law that all information in the registration information is true, accurate, and complete. Providing information that is knowingly false or inaccurate may be punishable under Federal Statutes. Solicitation of this information is authorized by Title 47, Part 87 of the U.S. Code of Federal Regulations (CFR) and the U.S. Office of Management & Budget (OMB) Control Number: 0648-0295. Additional registration forms can be found on the NOAA-SARSAT Registration website at: www.beaconregistration.noaa.gov.

Please note, NOAA will complement or update your registration information if your registration is outdated and credible information is provided from other sources. NOAA will also seek information from other databases to update and/or complement the existing information for an expired beacon registration. Although the information provided will become a matter of public record, there is no intent to circulate beyond its intended purpose, i.e., to assist SAR agencies in carrying out their mission. Public reporting burden for the collection of this information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, and completing and reviewing the collection of information. Comments regarding this burden or any other aspect of this collection of information, including suggestions for reducing this burden should be sent to:

SARSAT Beacon Registration
NOAA
NSOF, E/SPO53
1315 East West Highway
Silver Spring, MD 20910

Or call: 1-888-212-SAVE (7283) or 301-817-4515

Finally, false alerts remain a chief concern for SAR agencies. We ask that you carefully refer to the beacon's user manual for instructions on properly operating, installing, testing, performing required maintenance, and/or stowage of your beacon. We find that these are important factors in reducing the number of false alerts. ***Please use the utmost care at all times!***



Save Time! Register your beacon online at: www.beaconregistration.noaa.gov

Mail or Fax to:
SARSAT Beacon Registration
NOAA
NSOF, E/SPO53
1315 East West Highway
Silver Spring, MD 20910
Fax No. 301-817-4565

Official 406 MHz ELT Registration Form

ELT Information

Beacon ID (Unique Identifier Number)

15 digit character ID provided by ELT manufacturer

Checksum

4 digit character ID provided by ELT manufacturer

Please affix beacon manufacturer's label here.

ELT Manufacturer _____
Model No. _____

Purpose of ELT Registration

- New Registration Change of Registration Information
 Renewal of Registration Replacement for a previously registered ELT
 Change of Ownership Please enter the old unique ID number

15 digit character ID provided by ELT manufacturer

Owner/Operator Information

Name _____ (Last, First, Middle Initial) E-mail _____

Mailing Address _____ Telephone _____
() _____ Home Work Cellular Fax Other
Area Code

City _____ State/Province _____ Telephone _____
() _____ Home Work Cellular Fax Other
Area Code

ZIP (Postal) Code _____ Country _____ Telephone _____
() _____ Home Work Cellular Fax Other
Area Code

Aircraft Information

Registration (Tail) Number _____

Usage
 Commercial Non-commercial
 Government Military Government Non-military

Type
 Single-engine Propeller Single-engine Jet Multi-engine Propeller
 Multi-engine Jet Helicopter Other _____

Aircraft Manufacturer _____

Model _____ Color _____

Seating Capacity _____

Survival Equipment

Deployable _____
Describe and List Quantity

Fixed _____
Describe and List Quantity

Principal Airport

City _____ State _____

Additional Data

Radio Equipment (Check all that apply)

- VHF MF HF SSB Other _____

Emergency Contact Information (Please indicate someone other than the owner)

Name of Primary 24-Hour Emergency Contact: _____ Name of Alternate 24-Hour Emergency Contact: _____

Telephone _____ Telephone _____
() _____ Home Work Cellular Fax Other
Area Code

Telephone _____ Telephone _____
() _____ Home Work Cellular Fax Other
Area Code

Telephone _____ Telephone _____
() _____ Home Work Cellular Fax Other
Area Code

Telephone _____ Telephone _____
() _____ Home Work Cellular Fax Other
Area Code

Signature _____ Date _____