

**SECTION 9****Supplement AVE15****Aircraft Emergency Locator Transmitter (ELT) ARTEX ME406**

When an Emergency Locator Transmitter (ELT) ARTEX ME406 is installed in the AQUILA AT01, this Supplement is applicable and must be inserted in the Supplements Section (Section 9) of the Pilot's Operating Handbook. Information in this supplement either adds to, supersedes, or deletes information of the basic AQUILA AT01 Pilot's Operating Handbook.



Approved by: \_\_\_\_\_

Date: 7/03/06

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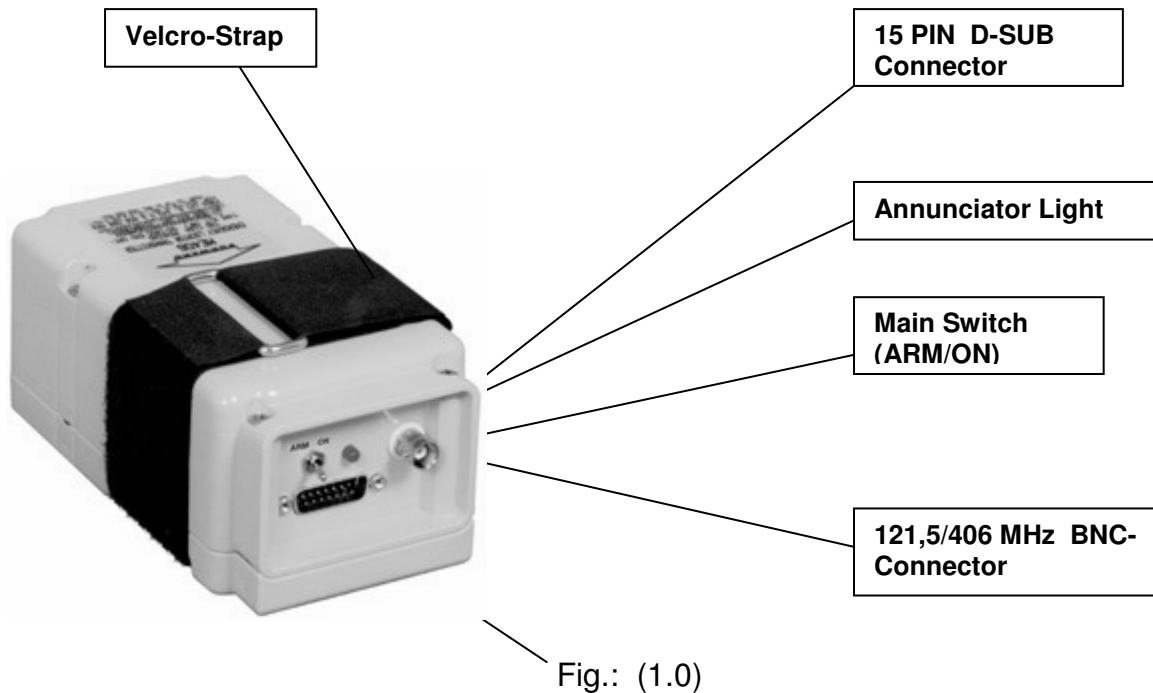
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## 1. ELT Front View



## 2. Description

The Emergency Locator Transmitter ARTEX ME406 (ELT) is an emergency transmitter that, if activated, transmits a signal on civilian distress frequency of 121,5 MHz to enable rescue teams to locate a crashed aircraft faster.

Additionally a 406 MHz message is transmitted during the first 24h after activation to COSPAS-SARSAT satellites in polar orbit. The message then is downloaded to one of the 27 ground stations. The transmission carries data which enable the identification of the aircraft in distress and facilitate SAR-Operation. The aircraft is located with a precision of 2-3 NM at any point of the earth.

The ELT is located on the baggage compartment floorboard on the right side behind the copilot's seat. The ELT antenna (type ROD/WHIP) is mounted behind the baggage compartment bulkhead on the outside skin of the aircraft. The ELT in the AQUILA AT01 aircraft is operated by a remote control panel (RPC).

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## 2.1 Controls and display

The following controls are to be found on the ELT front panel (see fig 1.0):

- BNC connector for the antenna (121,5 and 406 MHz)
- 2 position switch ARM/ON
- Red annunciator light (LED)
- DIN 12 connector for Remote Control Panel.

The red light (LED) gives an indication on the working mode of the beacon:

- After the self-test, a series of short flashes indicate the self-test failed, one singular flash indicates that the self-test is OK.

A buzzer gives aural information on the working mode of the beacon corresponding with the LED signal.

## 2.2 Transmitter

The ARTEX ME406 transmitter is an integrated design with the main advantage that it uses only one single antenna connector for the transmission on the frequencies 121,5 and 406 MHz.

Once activated, the transmitter operates continuously on 121,5 .

During the 24 first hours of operation, a signal is transmitted on 406 MHz every 50 seconds to the COSPAS-SARSAT satellites with an output power of 5W.

## 2.3 Power Supply

The ELT is supplied with power independently of aircraft electrical system.

The energy is provided by a battery pack from ARTEX composed of LiSO<sub>2</sub> cells.

The autonomy of the battery pack for the 121,5 MHz transmission is close to 50 hours at -20°C to +50°C with new batteries .

The transmitter battery expiry date is fixed as 5 years after manufacturing.

The battery pack must be replaced after 5 years shelf or service life or for any of the following reasons:

- (a) After the transmitter has been used in an emergency situation (including any inadvertent activation of unknown duration).

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- (b) After the transmitter has been operated for more than one cumulative hour (e.g. time accumulated in several tests and an inadvertent activation of known duration).
- (c) On or before battery expiration date

Use only ARTEX approved battery packs with expiration date.

<b>WARNING</b>
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Do not attempt to recharge battery pack !

### 3. Programming and Registration

<b>NOTE</b>
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The ELT must be registered at the local registration authority prior to installation on board of the aircraft.

A change of ownership should also be declared and registered with the local registration authority and with the distributor.

For the declaration and registration of 406 MHz ELT's usually form sheets are available at the local registration authority. A programming datasheet which contains all the necessary data for the COSPAS-SARSAT protocol has to be completed and returned to the distributor for the programming of the unit.

### 4. Activation

#### 4.1 Familiarization for the operation in case of emergency

It is recommended that the following steps to be taken to ensure the best possible operation in emergency:

- (a) Become thoroughly familiar with the instructions of this supplement.
- (b) Keep them on hand in the aircraft all the times.
- (c) Visually inspect the unit at regular intervals for cleanliness and secureness. Check antenna mounting and cable connections for tightness.

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#### 4.2 Operating modes of ARTEX ME106 ELT

The ELT is located on the baggage compartment floorboard on the right side behind the copilot's seat. A remote switch is installed on the instrument panel to operate the ELT.

The following operation modes can be preselected and activated manually:

MANUAL SYSTEM		ARTEX ME406 ELT System with remote control panel
Mode	RCP Switch (on instrument panel)	Function
ARM	„ARM“ (Normal Flight setting)	ELT automatically activated if „g-sensor“ senses predetermined deceleration level.
ON	„ON“	Overrides „g-sensor“ and turns ELT „ON“, so it can be tested for proper operation on the ground.

In order to be activated by the crash sensor, the ELT must be in ARM mode during flight.

After a forced landing, if aircraft receiver is operable, listen on 121,5 MHz for ARTEX ELT transmissions. Ensure that the installed antenna is clear of obstructions.

Discontinue the signal of the ELT by turning the unit ON and back to ARM only when the rescue team appears.

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## 5. Functional Testing

The ELT is fitted with a self-test that enables to perform the “Operational Tests” required by Civil Aviation Authorities.

It is recommended by the manufacturer to test the ELT periodically (2 months) and within the fixed aircraft checks:

- (a) After initial installation
- (b) After system maintenance, such as battery pack replacement
- (c) Thereafter annual or more frequent inspection intervals are recommended.

### 5.2 Self-Test Procedure

<b>NOTE</b>
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Do not perform Self-Test without the antenna connected !  
Activation during Self-test must not be longer than **5 sec** !

Tune a receiver (usually the aircraft radio) to 121,5 MHz.

<b>SELF-TEST</b>		<b>ARTEX ME406 with remote control panel (RPC)</b>
No.:	Unit/Switch	Function/Operation.
1	Remote Panel Switch	Turn to ON (for about 1 sec) then back to the ARM position.
2	VHF-Radio	Voices three audio sweeps
3	Panel LED and Buzzer	At Turn-off (back to ARM state) LED and buzzer should present 1 pulse. If less or more are displayed the test failed.

If self-test fails, contact the manufacturer/distributor as soon as possible

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Remark:

The number of flashes gives an indication of the faulty parameter detected during the test.

<b>Number of flashes</b>	<b>Failure mode</b>
3	Bad load detect, detects open or short condition on the antenna output or cable
4	Low power detected
5	ELT has not been programmed
6	G-switch loop between pins 5 and 12 at the D-sub connector is not installed
7	Battery fault or more than 1 hour accumulated operation time.

All displayed failure modes can be fixed either by the installer (replacement) or by the manufacturer (replacement or repair)

A detailed System-Description can be found in the Operation and Installation Manual for the ME406 ELT (ARTEX 570-1600 latest Rev.).

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