

SUPPLEMENT S3
TO THE AIRPLANE FLIGHT MANUAL DA 40 D
406 MHz EMERGENCY LOCATOR TRANSMITTER
C406-1
ARTEX


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This Supplement has been approved for the Joint Aviation Authorities (JAA) by the Austrian Civil Aviation Authority Austro Control (ACG) as Primary Certification Authority (PCA) in accordance with the JAA Certification Procedures of the Joint Aviation Authorities (JAA JC/VP).

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1. GENERAL

This Supplement supplies the information necessary for the efficient operation of the airplane when the ELT (Emergency Locator Transmitter) ARTEX C406-1 is installed. The information contained within this Supplement is to be used in conjunction with the complete AFM.

This Supplement is a permanent part of this AFM and must remain in this AFM at all times when the ELT ARTEX C406-1 is installed.

2. LIMITATIONS

No change.

3. EMERGENCY PROCEDURES

Before performing a forced landing, especially in remote and mountainous areas, the ELT transmitter should be activated manually by switching the panel mounted switch to the 'ON'-position. The red LED on the panel mounted switch should flash.

Immediately after a forced landing where emergency assistance is required, the ELT should be utilized as follows:

CAUTION

The panel mounted switch could be inoperative if damaged during a forced landing. In this case the ELT can be switched ON or OFF with the main switch which is located on the ELT unit. The following points must then be executed directly on the ELT-unit.

1. ENSURE ELT ACTIVATION:
 - Switch the panel mounted switch to the 'ON'-position, even if the LED flashes.
 - If the airplane's radio is operable and can be safely used (no threat of fire or explosion), turn ON and select 121.5 MHz. If the ELT can be heard transmitting, it is working properly.
2. PRIOR TO SIGHTING RESCUE AIRCRAFT:
 - Conserve airplane battery. Do not activate radio transceiver.
3. AFTER SIGHTING RESCUE AIRCRAFT:
 - Switch the panel mounted switch to the 'ARM'-position to prevent radio interference. Attempt contact with rescue aircraft with the radio transceiver set to a frequency of 121.5 MHz. If no contact is established, switch the panel mounted switch to the 'ON'-position immediately.
4. FOLLOWING RESCUE
 - Switch the panel mounted switch to the 'ARM'-position, terminating emergency transmissions.

The ELT may be activated by hard landings or in heavy turbulence. The ELT should then be reset by toggling the panel mounted switch from the 'ARM'-position to the 'ON'-position and then back to the 'ARM'-position, or if the panel mounted switch is already in the 'ON'-position, it must be placed into the 'ARM'-position. Ensure that the ELT does not transmit.

4A. NORMAL OPERATING PROCEDURES

No change.

4B. ABNORMAL OPERATING PROCEDURES

No change.

5. PERFORMANCE

No change.

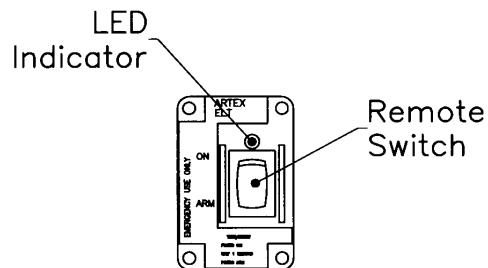
6. MASS AND BALANCE

Upon removal or installation of the ELT the change of empty mass and corresponding center of gravity of the airplane must be recorded according to Chapter 6 of the Airplane Flight Manual.

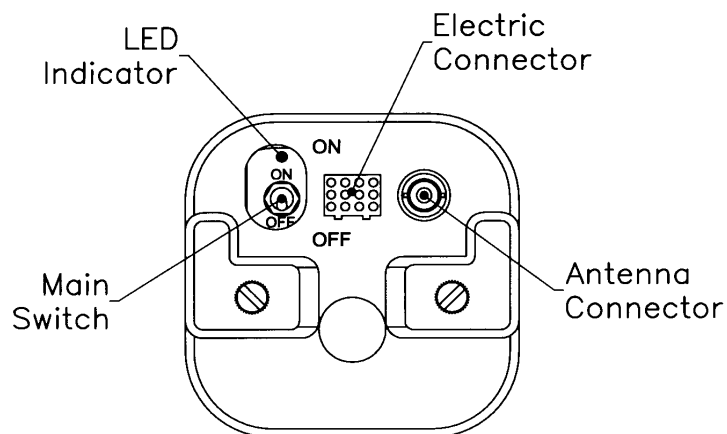
7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS

GENERAL

The ARTEX C406-1 ELT is an automatically activated Emergency Locator Transmitter. It may also be manually activated via the 'Main'-switch on the unit, or via the panel mounted switch, which is installed on the right side of the instrument panel of the DA 40 D.



PANEL MOUNTED SWITCH



ELT UNIT (FRONT VIEW)

When the ELT is switched on, the ELT broadcasts a standard swept tone simultaneously on the international distress frequencies 121.5 MHz and 243.0 MHz. Additionally, the 406.025 MHz transmitter turns on every 50 seconds for 520 milliseconds. During that time an encoded digital message is sent to a satellite. The information contained in that message is:

- Serial number of the transmitter or Airplane I.D.
- Country Code
- I.D. Code

One advantage of the 406.025 MHz transmitter is that it will produce a much more accurate position, typically 1 to 2 kilometers as compared to 15 to 20 kilometers for 121.5/243.0 MHz transmitters. The ELT also transmits a digital message which allows the search and rescue authorities to contact the owner/operator of the airplane through a database. The information contained in the database, that may be useful in the event of a crash, is:

- Type of Airplane
- Address of Owner
- Telephone Number of Owner
- Airplane Registration Number
- Alternate Emergency Contact

Once the ELT is activated and the 406.025 MHz signal is detected from the satellite and a position is calculated, the 121.5/243.0 MHz transmissions are used to home in on the crash site. Because airplane communication radios are not capable of receiving 406.025 MHz transmissions, the only method of monitoring the ELT is the flashing cockpit light or the flashing light on the ELT unit, the buzzer or the 121.5/243.0 MHz transmissions which may be monitored on the airplane's communication transceivers.

DESCRIPTION

The system consists of a panel mounted switch, installed on the instrument panel, the Emergency Locator Transmitter-Unit (ELT-Unit), installed behind the baggage compartment frame, a buzzer, installed next to the ELT unit and an antenna which is installed behind the ring frame.

An acceleration indicator ('g'-switch) activates the ELT upon sensing a sudden change of velocity, along the airplane's longitudinal axis. As long as the ELT is locked into its mounting tray, it will activate in a crash. Neither the cockpit switch nor the ELT unit switch can be positioned to prevent automatic activation once the unit is mounted correctly.

When the ELT is activated, the presence of the emergency swept tone and a flashing front panel light indicate a normal function of the unit. The front panel light must immediately begin to continuously flash upon ELT activation.

The ELT can also be manually activated, for example for testing or after an emergency landing. It can be activated either by positioning the panel mounted switch to the 'ON'-position or by positioning the main switch of the ELT unit to the 'ON'-position.

FLIGHT OPERATION

The main switch of the ELT unit must be in the 'OFF'-position and the panel mounted switch must be in the 'ARM'-position during flight. The ELT is in standby-mode, that means, the ELT can now be activated by the 'g'-Switch. The function test (only during the first five minutes of each hour) gives the pilot the possibility to verify that the ELT is in the 'ARMED'-mode.

The ELT may be activated by hard landings or in heavy turbulence. The ELT should then be reset by toggling the panel mounted switch from the 'ARM'-position to the 'ON'-position and then back to the 'ARM'-position, or if the panel mounted switch is already in the 'ON'-position, it must be placed into the 'ARM'-position. Ensure that the ELT does not transmit. It should be remembered that the ELT cannot be reset if either the panel mounted switch or the unit switch is in the 'ON'-position.

FUNCTION TEST

The following function test is recommended to be performed once a month to verify that the ELT is operating properly. Regulations require that transmitter tests only be done during the first 5 minutes of each hour and must not last for more than 3 audio sweeps (approx. 1 second).

Note that the batteries must be replaced when the transmitter has been in use for more than 1 cumulative hour (including tests).

Performing the Test:

- Monitor 121.50 MHz using the airplane's COM receiver. Turn the squelch off.
- Switch the panel mounted switch to 'ON', wait for 3 sweeps on the COM receiver, which takes about 1 second. Verify that the LED flashes. Then turn the switch back to the 'ARM'-position. If the LED doesn't stop flashing or the audio sweep tone can still be heard, the main switch on the ELT unit should be set to the 'OFF'-position.

8. AIRPLANE HANDLING, CARE AND MAINTENANCE

No change.