



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 19-117

Issued: 05 July 2019

Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.

All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

Design Approval Holder's Name: ACR ELECTRONICS, Inc.
Type/Model designation(s): C406 and G406 emergency locator transmitters

Effective Date: [TBD - standard: 14 days after Final AD issue date]

ETSO Authorisation(s): EASA.IM.21O.147, REV. B, EASA.IM.21O.10039656,
EASA.IM.21O.10040703 and EASA.IM.21O.146 Rev. B.

Foreign AD: None

Supersedure: None

ATA 25 – Equipment / Furnishings – Emergency Locator Transmitter – Inspection / Modification / Replacement

Manufacturer(s):

ACR Electronics, Inc. (ACR), formerly Artex Aircraft Supplies, Inc. and Chelton Avionics, Inc. (doing business as Wulfsberg Electronics)

Applicability:

Emergency locator transmitters (ELT) G406-4, C406-1, C406-1HM, C406-2, C406-2HM, C406-N and C406-NHM identified by Part Number (P/N) and serial number (s/n) in Appendix 1 of this AD, installed or known to have been installed on a Part 27 or Part 29 (FAR, JAR, CS) helicopter; except those for which it has been determined that they have been modified in-shop, installing a new hermetically-sealed longitudinal G-switch P/N A1-12-0135, which includes those marked with a label (see Figure 1 in Appendix 1 of this AD) stating that SB1000 has been implemented.

These ELT are known to be installed on, but not limited to, Part 23 (FAR, JAR, CS) aeroplanes and Part 27 and Part 29 (FAR, JAR, CS) helicopters.



Definitions:

For the purpose of this AD, the following definitions apply:

Affected part: An ELT as identified in the Applicability section of this AD.

Serviceable part: An ELT that is not an affected part.

The SB: ACR Service Bulletin (SB) SB1000.

The SIL: ACR Service Information Letter (SIL) SIL4001.

TIS: Time in service (TIS) is the calendar time accumulated by an ELT while installed on an aircraft, since first installation of that ELT on an aircraft. When TIS is unknown, the date of manufacture of the ELT determines TIS.

Reason:

Following reports of ACR ELT C406N-HM failure, investigation and testing were conducted, the results of which showed that the main longitudinal G-switch was inoperative. Upon further investigations of the ELT design, it was revealed that the performance of the acceleration sensor could deteriorate after having been submitted to high levels of shock and vibration for 5 years or more. It was also shown that the same condition could develop on other ACR ELT designs.

This condition, if not detected and corrected, could result in ELT not transmitting alert and localization signals in case of an accident, which could delay deployment of rescue crews, possibly preventing timely medical assistance to injured crew members or passengers.

To address this potential unsafe condition, ACR Electronics published the SB, identifying those ELT fitted with the original G-switch, to reduce the interval for verifying its performance and to arrange for modification.

For the reasons described above, this AD requires repetitive testing of the affected parts, a one-time inspection (records check) to verify the configuration of each affected part and the TIS, and, depending on findings, reduced interval testing, or replacement with a serviceable part.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Inspection(s) / Testing:

- (1) Before exceeding 12 months TIS, or within 30 days after the effective date of this AD, whichever occurs later, and, thereafter, at intervals not to exceed 12 months, concurrently accomplish the actions specified in paragraphs (1.1) and (1.2) of this AD.
 - (1.1) Remove and inspect each affected part for battery corrosion, and test the longitudinal one-axis G-switch for correct activation.
 - (1.2) Inspect the installation of each affected part for proper installation, operation of the control, and accomplish a check for sufficient signal radiated from its antenna.



These actions can be accomplished in accordance with the instructions as contained in the applicable ACR Installation Manual. Section 7.1 of the SIL provides additional information regarding the G-switch testing. Precautions for accomplishing these actions can be found in Appendix 1 of EASA [SIB 2019-09](#).

Corrective Action(s):

- (2) If, during any inspection/test as required by paragraph (1) of this AD, discrepancies are detected, before next flight, accomplish the corrective actions in accordance with the instructions of section 7 of the SB.

Repetitive Test Interval Reduction:

- (3) Upon exceeding 5 years TIS by an affected part, or within 30 days after the effective date of this AD, whichever occurs later, reduce the interval of the G-switch testing, as required by paragraph (1.1) of this AD, to the applicable value as specified in section 8 of the SB.

Modification:

- (4) Upon exceeding 10 years TIS by an affected part, or within 30 days after the effective date of this AD, whichever occurs later, remove the affected part from service in accordance with the instructions of section 7 of the SB for the purpose of in-shop modification.

Terminating Action:

- (5) In-shop modification of an affected part into a serviceable part in accordance with the instructions of the SB constitutes terminating action for the repetitive inspections and testing as required by this AD for that part.

Parts Installation:

- (6) From the effective date of this AD, it is allowed to install on any aircraft an affected part that has accumulated less than 1 year TIS, provided that, following installation, the affected part is inspected and tested, as required by this AD.
- (7) From the effective date of this AD, it is allowed to install on any aircraft an affected part that has accumulated 1 year TIS or more, provided that, before installation, it has passed a test in accordance with the instructions of section 7.1 of the SIL and that, following installation, the affected part is inspected and tested, as required by this AD
- (8) From the effective date of this AD, do not install on any aircraft an affected part that has accumulated 10 year TIS, or more, installed on a helicopter.

Ref. Publications:

ACR Electronics, Inc. SB1000 original issue (indicated as Revision #: A) dated 14 January 2019.

ACR Electronics, Inc. SIL4001 Revision: #C dated 6 June 2019.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.



Remarks:

1. This Proposed AD will be closed for consultation on 02 August 2019.
2. Enquiries regarding this PAD should be referred to the EASA Programming and Continued Airworthiness Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, can be reported to the [EU aviation safety reporting system](#).
4. For any question concerning the technical content of the requirements in this PAD, please contact: ACR Electronics, Inc., 5757 Ravenswood Road, Fort Lauderdale, Florida 33312, United States of America, website: <https://www.acrartex.com/support/contact-us/contact>, Telephone +1 (954) 981-3333.



Appendix 1

Table 2 – Applicability (see Note A1)

ELT Model	P/N	s/n (up to, inclusive)
G406-4	453-5012	210-08575
C406-1	453-5002	210-09438
C406-1HM	453-5003	all
C406-2	453-5000	210-09501
C406-2HM	453-5001	210-09936
C406-N	453-5060	252-01689
C406-NHM	453-5061	252-02321

Note A1: This AD applies, regardless of whether there are additional digits, and regardless of Revision status.

Figure 1

