SERVICE INFORMATION
NO. SI 42-231

NOTE: SI's are used only:
1) To distribute information from DAI to our customers.
2) To distribute applicable information/documents from our suppliers to our customers with additional information.
Typically there is no revision service for SI's. Each new information or change of that will be sent along with a new SI.

I. TECHNICAL DETAILS

1.1 Airplanes affected:

DA 42 , DA 42 M

1.2 Subject:

EASA Airworthiness Directive No. 2019-0235
ATA-Code: 25-00

1.3 Reason:

EASA issued Airworthiness Directive No. 2019-0235 mandating the inspection, modification or replacement of the Emergency Locator Transmitter (ELT) C406.

1.4 Information:

For detailed technical information refer to EASA Airworthiness Directive No. 2018-0235, which is applicable without any further additions or restrictions.

II. OTHERS

EASA Airworthiness Directive No. 2018-0235 is attached to this Service Information.

In case of doubt contact Diamond Aircraft Industries GmbH.

Airworthiness Directive

AD No.: 2019-0235

[Correction: 24 September 2019]

Issued: 20 September 2019

Note: This Airworthiness Directive (AD) 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.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

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

Effective Date:	04 October 2019
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

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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.

These ELT are known to be installed on, but not limited to, Part 23 and Part 25 (FAR, JAR, CS) aeroplanes and 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, that is installed on a helicopter, or is installed on an aeroplane but may have previously been installed on a 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.

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 one or more helicopters. When unknown, TIS can be determined by taking the time since the date of manufacture of the ELT and subtracting the time while installed on aeroplane and/or in storage, as applicable.

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.

This AD is republished to correct typographical errors in Appendix 1.

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

Required as indicated, unless accomplished previously:

Inspection(s) / Testing:

(1) Before exceeding 12 months TIS, or within 90 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 the affected part and test the longitudinal one-axis G-switch for correct activation.

(1.2) Inspect 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, as referenced in table 1 of the SB. 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 2019-09R1.

Corrective Action(s):

(2) If, during any inspection/test as required by paragraph (1) of this AD, discrepancies are detected, as identified in the SIL, before next flight, accomplish applicable corrective action(s), or remove the affected part from service in accordance with the instructions of section 7.1 of the SIL for the purpose of in-shop evaluation and, as necessary, correction.

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.

(4) Upon exceeding 10 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 30 days.

Modification:

(5) Upon exceeding 10 years TIS by an affected part, or within 12 months 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:

(6) In-shop correction of an affected part or modification 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:

(7) 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.

(8) 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

(9) From the effective date of this AD, do not install on any aircraft an affected part that has accumulated 10 year TIS or more.

Ref. Publications:

ACR Electronics, Inc. SB1000 original issue (indicated as Revision #: A) dated 14 January 2019, or Revision #: B dated 23 August 2019.

ACR Electronics, Inc. SIL4001 Revision #: C dated 06 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. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. This AD was posted on 05 July 2019 as PAD 19-117 for consultation until 02 August 2019. The Comment Response Document can be found in the EASA Safety Publications Tool, in the compressed (zipped) file attached to the record for this AD.

3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the EU aviation safety reporting system.

5. For any question concerning the technical content of the requirements in this AD, 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 1 – Applicability (see Note A1)

ELT Model	**P/N**	**s/n** (up to, inclusive)
G406-4	453-5012	0001 to 16384 112-00001 to 112-16384 170-00001 to 170-16384 210-00001 to 210-08575
C406-1	453-5002	0001 to 16384 112-00001 to 112-16384 170-00001 to 170-16384 210-00001 to 210-09438
C406-1HM	453-5003	0001 to 16384 112-00001 to 112-16384 170-00001 to 170-16384 210-00001 to 210-10430
C406-2	453-5000	0001 to 16384 112-00001 to 112-16384 170-00001 to 170-16384 210-00001 to 210-09501
C406-2HM	453-5001	0001 to 16384 112-00001 to 112-16384 170-00001 to 170-16384 210-00001 to 210-09936
C406-N	453-5060	0001 to 16384 135-00001 to 135-16384 252-00001 to 252-01689
C406-NHM	453-5061	0001 to 16384 135-00001 to 135-16384 252-00001 to 252-02321

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

Figure 1