



Airworthiness Directive

AD No.: 2016-0081

Issued: 25 April 2016

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

PILATUS AIRCRAFT Ltd

Type/Model designation(s):

PC-12 aeroplanes

Effective Date: 02 May 2016

TCDS Number(s): EASA.A.089

Foreign AD: Not applicable

Supersedure: None

ATA 71 – Power Plant – Engine Mounting Frame / Swaged Tube Ends – Inspection

Manufacturer(s):

Pilatus Aircraft Ltd.

Applicability:

PC-12, PC-12/45, PC-12/47 and PC-12/47E aeroplanes, all manufacturers serial numbers (MSN).

Reason:

The PC-12 Engine Mounting Frame Assembly (hereafter referred to as "EMF" in this AD), Part Number (P/N) 571.20.12.036, is a welded structure including three special tubes, P/N 571.20.12.073, P/N 571.20.12.074 and P/N 571.20.12.107, the ends of which are subject to a special swaging process during manufacturing. Longitudinal material separation on the internal surface of the special tubes was detected on few EMFs on new production aeroplanes. Investigations identified the root cause to be an incorrect accomplishment of the swaging process.

This condition, if not detected and corrected, could lead to growth of the material separation and subsequent partial or complete failure of the structural joint, possibly resulting in in-flight detachment of the engine and consequent reduced control, or loss of control, of the aeroplane.

To address this potential unsafe condition, Pilatus issued Service Bulletin (SB) No. 71-009, now at Revision 2 (hereafter referred to as "the SB" in this AD), to provide inspection instructions for the affected EMF to detect indications of material separation.



For the reason described above, this AD requires identification and inspection of the affected EMF and, depending on findings, their replacement with serviceable EMF.

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

Required as indicated, unless accomplished previously:

Within the compliance time identified in Table 1 of this AD, accomplish the actions as required by paragraphs (1) and (2) of this AD.

Table 1 – Compliance time

A or B, whichever occurs later	
A	Before the EMF exceeds 11 000 flight hours (FH) or 13 500 flight cycles (FC), whichever occurs first since first installation of the EMF on an aeroplane
B	Within 1 000 FH, or 1 000 FC, or 6 months, whichever occurs first after the effective date of this AD

- (1) Inspect the aeroplane in accordance with the instructions of paragraph 3.A. of the SB, to determine whether an affected EMF, having a serial number (s/n) as listed in Table 2 of this AD, is installed. A review of aeroplane maintenance records is acceptable to make the determination as required by this paragraph, provided those records can be relied upon for that purpose.

Table 2 – EMF P/N 571.20.12.036, affected s/n

0001 to 1200 inclusive	1202 to 1272 inclusive	1275 to 1323 inclusive
1325 to 1328 inclusive	1334 to 1338 inclusive	1340 and 1342
1344 to 1346 inclusive	1348 and 1349	1358, 1361 and 1365

- (2) If, during the inspection as required by paragraph (1) of this AD, an affected EMF is found installed, perform an ultrasonic inspection (USI) of the swaged engine mounting tube ends of that EMF in accordance with the instructions of paragraph 3.B.(1) of the SB.
- (3) If, during the USI, as required by paragraph (2) of this AD, an indication with an echo of 40% FSH (as defined in the SB) or more is detected on an EMF, before next flight after the USI as required by paragraph (2) of this AD, and, thereafter, at intervals not to exceed 600 FH or 12 months, whichever occurs first, accomplish visual inspection of the welding and eddy current inspections of the tubes at the indication identified during the USI, in accordance with the instructions of paragraphs 3.B.(2) and 3.B.(3), respectively, of the SB.
- (4) If, during any visual inspection, as required by paragraph (3) of this AD, any crack is suspected or identified, and/or if, during any eddy current inspection, as required by paragraph (3) of this AD, an indication with a signal of 20% FSH (as defined in the SB) or more is detected on an EMF, before next flight, replace that EMF (see Note 1 of this AD) with a serviceable one (see Note 2 of this AD).



Note 1: Replacement of the EMF can be accomplished in accordance with the instructions of the applicable Aircraft Maintenance Manual (AMM) task 12-A-71-00-05-00A-920A-A (for PC-12, PC-12/45 and PC-12/47) or AMM task 12-B-71-00-05-00A-920A-A (for PC-12/47E).

Note 2: For the purpose of this AD, a serviceable EMF has a s/n not listed in Table 2 of this AD, or it has a s/n listed in Table 2 of this AD and passed an USI in accordance with the instructions of paragraph 3.B.(1) of the SB.

- (5) Unless already accomplished as required by paragraph (4) of this AD, within 1 800 FH or 36 months, whichever occurs first after the initial inspection of an affected EMF as required by paragraph (3) of this AD, replace that EMF (see Note 1 of this AD) with a serviceable part (see Note 2 of this AD).
- (6) From the effective date of this AD, it is allowed to install an EMF P/N 571.20.12.036 on an aeroplane, provided it is a serviceable part (see Note 2 of this AD).
- (7) An aeroplane with MSN 1556 or higher is not affected by the inspection requirements of this AD, provided it is determined that no EMF has been replaced on that aeroplane since its date of manufacture. A maintenance records check is acceptable to make this determination, provided that these records are accurate and can be relied upon for that purpose.

Ref. Publications:

Pilatus Aircraft Ltd. SB No. 71-009 Revision 2, dated 18 March 2016.

The use of later approved revisions of this document 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 12 April 2016 as PAD 16-036R1 for consultation until 22 April 2016. No comments were received during the consultation period.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. For any question concerning the technical content of the requirements in this AD, please contact: Pilatus Aircraft Ltd, Customer Support PC-12, CH-6371 Stans, Switzerland
Telephone: +41 41 619 33 33, Fax: +41 41 619 73 11,
E-mail: SupportPC12@pilatus-aircraft.com, Website: www.pilatus-aircraft.com.

