

Service Bulletin No: 71-009

Ref No: 345

Modification No: EC-15-0632

ATA Chapter: 71

**POWER PLANT - ENGINE MOUNTING FRAME
ULTRASONIC INSPECTION OF SWAGED TUBE ENDS****1. Planning Information****A. Effectivity**

All PC-12 engine mounting frame assembly P/N 571.20.12.036 with serial numbers 0001 thru 1200, 1202 thru 1272, 1275 thru 1323, 1325 thru 1328, 1334 thru 1338, 1340, 1342, 1344 thru 1346, 1348, 1349, 1358, 1361 or 1365 installed on PC-12, PC-12/45, PC-12/47 and PC-12/47E and/or held as spares.

The engine mounting frame assembly P/N 571.20.12.036 with the above listed serial numbers were installed on new production PC-12, PC-12/45, PC-12/47 and PC-12/47E with aircraft MSN 101 thru 888 and MSN 1001 thru 1388, 1390 thru 1510, 1512 thru 1514, 1516 thru 1519, 1522 thru 1524, 1526, 1528 thru 1532, 1535, 1539, 1541, 1542, 1552 and 1555 or were delivered as spares.

This Service Bulletin has been incorporated on MSN 1556 onwards and engine mounting frame assemblies P/N 571.20.12.036 with serial numbers 1366 onwards.

MSN 1556 or higher which have replaced the engine mounting frame assembly between aircraft delivery and the effective date of this Service Bulletin may also be affected by using spares.

B. Concurrent Requirements

None.

C. Reason**(1) Problem**

Production induced longitudinal material separation may be present on the internal surface of some swaged engine mounting frame tube ends and may potentially result in cracks.

(2) Cause

The process of swaging the engine mounting tube ends can potentially cause longitudinal material separation on the internal tube surface. Such production induced material separation was detected on a small number of engine mounting frame assemblies installed on new production aircraft. Pilatus is not aware of any fleet findings concerning cracks on engine mounting frame assemblies.

(3) Solution

- (a) At 11,000 flying hours or 13500 landings engine mounting frame service time, whichever comes first:
- Do a one-time ultrasonic inspection of the swaged engine mounting tube ends for the affected engine mounting frame assembly serial numbers installed on aircraft.
 - In case of indications detected during the ultrasonic inspection, perform a visual inspection for cracks in the welding at the indication location.
 - In case of indications detected during the ultrasonic inspection, perform an eddy current inspection at the indication location.
 - In case of cracks detected during the visual inspection of the welding or indications detected during the eddy current inspection, replace the engine mounting frame assembly before next flight.
 - In case of indications detected during the ultrasonic inspection, but neither cracks detected by visual inspection nor indications detected by eddy current inspection, apply (3)(b) until a replacement engine mounting frame assembly is available.

NOTE: Engine mounting frame assemblies with service time above 10,000 flying hours or 12,500 landings shall be inspected within the compliance time of 1000 flying hours, 1000 landings or 6 months, whichever comes first after the release date of Revision 2 of this Service Bulletin.

NOTE: Engine mounting frame assemblies held as spares shall be inspected before installation on an aircraft or within the compliance time of 6 months, whichever comes first after the release date of Revision 2 of this Service Bulletin.

- (b) In case of indications detected during the ultrasonic inspection, but neither cracks detected by visual inspection nor indications detected by eddy current inspection, every 600 flying hours or 12 calendar months, whichever comes first, but not more than two repetitions after the initial inspection:
- Repeat the visual inspection for cracks in the welding at the indication location.
 - Repeat the eddy current inspection at the indication location.
 - In case of cracks detected during the visual inspection of the welding or indications detected during the eddy current inspection, replace the engine mounting frame assembly before next flight.

D. Description

This Service Bulletin gives the data and instructions necessary to do a one-time ultrasonic inspection of the swaged engine mounting tube ends, and in case of indications detected, one-time and repetitive visual and eddy current inspection until a replacement engine mounting frame assembly is available.

Revision 1 to this Service Bulletin updates the effectivity of the affected serial numbers. No further work is required if this Service Bulletin has been incorporated at an earlier revision.

Revision 2 to this Service Bulletin updates the procedure to allow qualified and certified persons to do this task. Figure 3 updated to add shading. Operators who have carried out this SB at initial issue or Revision 1 must repeat the inspection procedure.

E. Compliance

Mandatory. The inspection threshold is 11,000 flying hours or 13,500 landings engine mounting frame assembly service time, whichever comes first.

Engine mounting frame assemblies with service time above 10,000 flying hours or 12,500 landings shall be inspected within the compliance time of 1000 flying hours, 1000 landings or 6 months, whichever comes first after the release date of Revision 2 of this Service Bulletin.

Engine mounting frame assemblies held as spares shall be inspected before installation on an aircraft or within the compliance time of 6 months, whichever comes first after the release date of Revision 2 of this Service Bulletin.

The repeat inspection interval for the visual and eddy current inspections of the engine mounting frame assemblies with ultrasonic indications, but neither cracks detected by visual inspection nor eddy current indications is every 600 flying hours or 12 calendar months, whichever comes first, until the engine mounting frame assemblies with indications are replaced, but not more than two repetitions after the initial inspection.

F. Approval

The technical content of this Service Bulletin is approved under the authority of DOA No. EASA. 21J. 357.

PILATUS advises Operators/Owners to check with their designated Airworthiness Authority for any changes, local regulations or sanctions that may affect the embodiment of this Service Bulletin.

G. Copyright and Legal Statement

© Pilatus Aircraft Ltd. This document contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be copied, reproduced or translated to other languages without the prior written consent of Pilatus Aircraft Ltd.

In connection with the use of this document, Pilatus does not provide any express or implied warranties and expressly disclaims any warranty of merchantability or fitness for a particular purpose. This document contains trade secrets, confidential and/or proprietary information of Pilatus and technical data subject to export control laws and regulations, including the U.S. Export Administration Regulations (EAR). Disclosure or distribution of this document contrary to the EAR, and other laws and regulations, is strictly forbidden. The above restrictions may apply to data on all pages of this document.

H. Manpower

Task	Initial inspection	Repetitive inspection
Preparation	0.5	0.5
Ultrasonic inspection	1.0	-
Visual inspection	0.5	0.5
Eddy current inspection	0.5	0.5
Replacement	-	-
Close up	0.5	0.5
TOTAL MAN-HOURS	3.0	2.0

NOTE: Man-hours do not include the drying time for paints.

NOTE: Man-hours do not include the replacement time for potential engine mounting frame replacement.

I. Weight and Balance**(1) Weight Change**

Not changed.

(2) Moment Change

Not changed.

J. Electrical Load Data

Not changed.

K. Software

Not changed.

L. References

NOTE: Throughout this Service Bulletin AMM/SRM references are given without the model prefix.

For PC-12, PC-12/45 and PC-12/47 aircraft, prefix references with 12-A.

For PC-12/47E aircraft, prefix references with 12-B.

Aircraft Maintenance Manual (AMM)

20-31-00-00A-071A-A

20-50-00-00A-901A-A

24-00-00-00A-901A-A

71-10-00-00A-920A-A

71-00-05-00A-920A-A

Structural Repair Manual

51-00-00-00A-353A-A

54-20-00-00A-250A-A

54-20-00-00A-661A-A

M. Publications Affected

None.

N. Interchangeability of Parts

Not Applicable.

2. Material Information**A. Material - Price and Availability**

Operators that require additional information and/or Service Bulletin materiel, should contact their Authorized Pilatus Service Center, or to:

PILATUS AIRCRAFT LTD
CUSTOMER SUPPORT MANAGER
CH-6371 STANS
SWITZERLAND

General Aviation:
Tel: + 41 41 619 3333
Fax: + 41 41 619 7311
eMail: SupportPC12@pilatus-aircraft.com

PILATUS BUSINESS AIRCRAFT LTD
PRODUCT SUPPORT DEPARTMENT
11755 AIRPORT WAY
BROOMFIELD, CO 80021
UNITED STATES OF AMERICA

Tel: +1 303 465 9099
Fax: +1 303 465 6040
eMail: SupportPC12@PilBal.com

PILATUS AUSTRALIA PTY LTD
17 JAMES SCHOFIELD DRIVE
ADELAIDE AIRPORT SA 5950
AUSTRALIA

Tel: +61 8 8238 1600
Fax: +61 8 8234 4499
Free Call: +61 1800 PILATUS (745 2887)
eMail: SupportPC12@pilatus.com.au

Operators are requested to advise Pilatus Aircraft Ltd, of the Manufacturer's Serial Number (MSN) and the flying hours of aircraft which are affected by this Service Bulletin.

B. Warranty

Credit will be issued for labour for the initial inspection for all affected aircraft on approval of a warranty claim, provided:

- The work is accomplished within +/- 500 flying hours or landings of the inspection threshold (refer to Para 1.E)
- A properly completed inspection report (including nil findings) is provided to Pilatus
- The work is accomplished by an authorised Service Center.

Pilatus customer service needs to be contacted in case:

- An engine mounting frame needs to be replaced
- A repetitive visual and eddy current inspection is required.

Operators who have carried out this Service Bulletin at initial issue or Revision 1 are entitled to file a new warranty claim for the labor required to carry out Revision 2.

C. Material Necessary for Each Aircraft**(1) Material to be Procured**

None.