[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-7048; Directorate Identifier 2016-CE-014-AD]

RIN 2120-AA64

Airworthiness Directives; PILATUS AIRCRAFT LTD. Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for PILATUS AIRCRAFT LTD. Models PC-12, PC-12/45, PC-12/47, and PC-12/47E airplanes installed with an affected engine mounting frame assembly. This proposed AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as longitudinal material separation on the internal surface of the engine mounting frame assembly tubes. We are issuing this proposed AD to require actions to address the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590.

- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Pilatus Aircraft Ltd., Customer Support PC-12, CH-6371 Stans, Switzerland; phone: +41 41 619 33 33; fax: +41 41 619 73 11; email: SupportPC12@pilatus-aircraft.com; Internet: www.pilatus-aircraft.com. You may review this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2016-7048; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; fax: (816) 329-4090; email: doug.rudolph@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-7048; Directorate Identifier 2016-CE-014-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory,

economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD No. 2016-0081, dated April 25, 2016 (referred to after this as "the MCAI"), to correct an unsafe condition for PILATUS AIRCRAFT LTD. Models PC-12, PC-12/45, PC-12/47, and PC-12/47E airplanes and was based on mandatory continuing airworthiness information originated by an aviation authority of another country. The MCAI states:

> 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 the findings, their replacement with serviceable EMF.

You may examine the MCAI on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2016-7048.

Related Service Information under 1 CFR part 51

PILATUS AIRCRAFT LTD. has issued PILATUS PC-12 Service Bulletin No: 71-009, Reference No: 345, Modification No: EC-15-0632, Revision 2, dated March 18, 2016; Pilatus Powerplant Mounting Frame, Removal/Installation, Date module/Technical publication 12-A-71-00-05-00A-920A-A, dated February 26, 2010, found in Pilatus Model type-PC-12, PC-12/45, PC-12/47 MSN-101-888 Aircraft Maintenance Manual (AMM), Document No. 02049, 12-A-AM-00-00-00-I; and Pilatus Powerplant Mounting Frame, Removal/Installation, Date module/Technical publication 12-B-71-00-05-00A-920A-A, dated October 4, 2010, found in Pilatus Model type- PC-12/47E MSN-1001-UP Aircraft Maintenance Manual (AMM), Document No. 02300, 12-B-AM-00-00-00-I. The service information describes procedures for determining if an affected engine mounting frame assembly (EMF) is installed, inspecting the EMF, and replacing the EMF with a serviceable EMF. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this NPRM.

FAA's Determination and Requirements of the Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with this State of Design Authority, they have notified us of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all information and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

Costs of Compliance

We estimate that this proposed AD will affect 888 products of U.S. registry. We also estimate that it would take about 3 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is $85 per work-hour.

Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be $226,440, or $255 per product.

In addition, we estimate that any necessary follow-on actions would cost the following amounts. We have no way of determining the number of products that may need these actions.

The visual and eddy current inspections would take about 3 work-hours for a cost of $255 per product.

The replacement of the EMF would take about 90 work-hours and require parts costing $33,336, for a cost of $40,986 per product.

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new AD:

PILATUS AIRCRAFT LTD: Docket No. FAA-2016-7048; Directorate Identifier 2016-CE-014-AD.

(a) **Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) **Affected ADs**

None.

(c) **Applicability**

This AD applies to PILATUS AIRCRAFT LTD. Models PC-12, PC-12/45, PC-12/47, and PC-12/47E airplanes, all serial numbers, that are:

(1) Installed with an affected serial number engine mounting frame assembly (EMF), part number (P/N) 571.20.12.036, listed in figure 1 of paragraph (c)(1) of this AD; and

Figure 1 to paragraph (c)(1) of this AD: EMF P/N 571.20.12.036, affected serial numbers

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

(2) Certificated in any category.

(d) **Subject**

Air Transport Association of America (ATA) Code 71: Power Plant.

(e) **Reason**

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as longitudinal material separation on the internal surface of the engine mounting frame assembly tubes (EMF). We are issuing this AD to detect and correct material separation on the internal surface of the engine mounting frame assembly tubes, which could lead to partial or complete failure of the structural joint and possibly result in in-flight detachment of the engine with consequent loss of control.

(f) **Actions and Compliance**

Do the actions in paragraphs (f)(1) through (7) of this AD. If paragraphs (f)(1) through (6) of this AD have already been done before the effective date of this AD, then only paragraph (f)(7) of this AD applies.

(1) Within the compliance time identified in figure 2 of paragraph (f)(1) of this AD, do an ultrasonic inspection of the swaged engine mounting tube ends of the affected EMF following the instructions of paragraph 3.B.(1) of PILATUS AIRCRAFT LTD PILATUS PC-12 Service Bulletin No: 71-009, Reference No: 345, Modification No: EC-15-0632, Revision 2, dated March 18, 2016.

Figure 2 to paragraph (f)(1) of this AD: Initial compliance time

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

(2) If an indication with an echo of less than 40 percent full screen height is detected on an EMF during the ultrasonic inspection required in paragraph (f)(1) of this AD, except for paragraph (f)(7), no further actions are required for this AD. Document compliance with this AD in the maintenance records.

(3) If an indication with an echo of 40 percent full screen height or more is detected on an EMF during the ultrasonic inspection required in paragraph (f)(1) of this AD, do the actions in paragraphs (f)(3)(i) through (iii) of this AD, as applicable.

(i) Before further flight and repetitively thereafter at intervals not to exceed 600 hours TIS or 12 months, whichever occurs first, do a visual inspection of the welding and do an eddy current inspection of the tubes at the indication point detected during the ultrasonic inspection. Use the instructions of paragraphs 3.B.(2) and 3.B.(3) of PILATUS AIRCRAFT LTD PILATUS PC-12 Service Bulletin No: 71-009, Reference No: 345, Modification No: EC-15-0632, Revision 2, dated March 18, 2016.

(ii) If any cracks are found during any of the visual inspections or if an indication with a signal of 20 percent or more is detected during any of the eddy current inspections required in paragraph (f)(3)(i) of this AD, before further flight, replace the EMF with a serviceable EMF following the instructions in the service information listed in paragraph (f)(5) of this AD, including all subparagraphs as applicable.

(iii) Unless already done as required by paragraph (f)(3)(ii) of this AD, within 1,800 hours TIS or 36 months after the initial visual and eddy current inspections of the affected EMF required by paragraph (f)(3)(i) of this AD, whichever occurs first, replace the EMF with a serviceable EMF following the instructions in the service information listed in paragraph (f)(5) of this AD, including all subparagraphs as applicable.

(4) For the purpose of this AD, a serviceable EMF is defined as any EMF that is not listed in figure 1 of paragraph (c)(1) of this AD or an affected EMF that is listed in figure 1 of paragraph (c)(1) of this AD but has had the ultrasonic inspection required in paragraph (f)(1) of this AD and had an indication with an echo of less than 40 percent full screen height.

(5) For replacement of the EMF, follow the instructions listed in paragraphs (f)(5)(i) and (ii), as applicable.

(i) For Models PC-12, PC-12/45, and PC-12/47, manufacturer serial numbers (MSN) 101 - 888: Pilatus Powerplant Mounting Frame, Removal/Installation, Date module/Technical publication 12-A-71-00-05-00A-920A-A, dated February 26, 2010, found in Pilatus Model type-PC-12, PC-12/45, PC-12/47 MSN-101-888 Aircraft Maintenance Manual (AMM), Document No. 02049, 12-A-AM-00-00-00-I.

(ii) For Model PC-12/47E, MSN 1001 and up: Pilatus Powerplant Mounting Frame, Removal/Installation, Date module/Technical publication 12-B-71-00-05-00A-920A-A, dated October 4, 2010, found in Pilatus Model type- PC-12/47E MSN-1001-UP Aircraft Maintenance Manual (AMM), Document No. 02300, 12-B-AM-00-00-00-I.

(6) If an EMF has an indication with an echo of 40 percent or more during the ultrasonic inspection required in paragraph (f)(1) of this AD, you may replace the EMF with a serviceable EMF in lieu of the visual or eddy current inspections required in paragraph (f)(3)(i) of this AD. For replacement of the EMF, follow the instructions in the service information listed in paragraph (f)(5) of this AD, including all subparagraphs as applicable.

(7) As of the effective date of this AD, do not install an EMF P/N 571.20.12.036 unless it has been determined to be a serviceable EMF as specified in paragraph (f)(4) of this AD.

(8) Airplanes with an MSN of 1556 or higher are not affected by this AD provided that the EMF has not been replaced since its manufacture. A review of the maintenance records, Airworthiness Approval Tag (FAA Form 8130-3), or other positive form of parts identification such as a shipping ticket, invoice, or direct ship authority letter, can be used to determine the serial number of the EMF.

(g) **Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) **Alternative Methods of Compliance (AMOCs):** The Manager, Standards Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; fax: (816) 329-4090; email: doug.rudolph@faa.gov. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) **Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(h) **Related Information**

(1) Refer to MCAI European Aviation Safety Agency (EASA) AD No. 2016-0081, dated April 25, 2016, for related information pertaining to this AD.

(2) You may examine the MCAI on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2016-7048. For service information related to this AD, contact Pilatus Aircraft Ltd., Customer Support PC-12, CH-6371 Stans, Switzerland; phone: +41 41 619 33 33; fax: +41 41 619 73 11; email: SupportPC12@pilatus-aircraft.com; Internet: www.pilatus-aircraft.com.

(3) You may review this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Issued in Kansas City, Missouri, on June 3, 2016.

Melvin Johnson,
Acting Manager, Small Airplane Directorate,
Aircraft Certification Service.

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