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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-0622; Directorate Identifier 2009-CE-034-AD; Amendment  
[39-16570; AD 2009-18-03 R1]**

**RIN 2120-AA64**

**Airworthiness Directives; Pilatus Aircraft Ltd. Models PC-6, PC-6-H1, PC-6-H2, PC-6/350,  
PC-6/350-H1, PC-6/350-H2, PC-6/A, PC-6/A-H1, PC-6/A-H2, PC-6/B-H2, PC-6/B1-H2, PC-  
6/B2-H2, PC-6/B2-H4, PC-6/C-H2, and PC-6/C1-H2 Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are revising an existing airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) issued 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:

Findings of corrosion, wear and cracks in the upper wing strut fittings on some PC-6 aircraft have been reported in the past. It is possible that the spherical bearing of the wing strut fittings installed in the underwing can be loose in the fitting or cannot rotate because of corrosion. In this condition, the joint cannot function as designed and fatigue cracks may then develop. Undetected cracks, wear and/or corrosion in this area could cause failure of the upper attachment fitting, leading to failure of the wing structure and subsequent loss of control of the aircraft.

To address this problem, FOCA published AD TM-L Nr. 80.627-6/Index 72-2 and HB-2006-400 and EASA published AD 2007-0114 to require specific inspections and to obtain a fleet status. Since the issuance of AD 2007-0114, the reported data proved that it was necessary to establish and require repetitive inspections.

EASA published Emergency AD 2007-0241-E to extend the applicability and to require repetitive eddy current and visual inspections of the upper wing strut fitting for evidence of cracks, wear and/or corrosion and examination of the spherical bearing and replacement of cracked fittings. Collected data received in response to Emergency AD 2007-0241-E resulted in the issuance of EASA AD 2007-0241R1 that permitted

extending the intervals for the repetitive eddy current and visual inspections from 100 Flight Hours (FH) to 300 FH and from 150 Flight Cycles (FC) to 450 FC, respectively. In addition, oversize bolts were introduced by Pilatus PC-6 Service Bulletin (SB) 57-005 R1 and the fitting replacement procedure was adjusted accordingly.

Based on fatigue test results, EASA AD 2007-0241R2 was issued to extend the repetitive inspection interval to 1100 FH or 12 calendar months, whichever occurs first, and to delete the related flight cycle intervals and the requirement for the "Mild Corrosion Severity Zone". In addition, some editorial changes have been made for reasons of standardization and readability.

Revision 3 of this AD referred to the latest revision of the PC-6 Aircraft Maintenance Manual (AMM) Chapter 5 limitations which have included the same repetitive inspection intervals and procedures already mandated in the revision 2 of AD 2007-0241. Besides the inspections, in the latest revision of the PC-6 AMM, the replacement procedures for the fittings were included.

Additionally, EASA AD 2007-0241R3 introduced the possibility to replace the wing strut fitting with a new designed wing strut fitting. With this optional part replacement, in the repetitive inspection procedure the 1100 FH interval is deleted so that only calendar defined intervals of inspections remained applicable.

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective February 16, 2011.

As of October 1, 2009 (74 FR 43636, August 27, 2009), the Director of the Federal Register approved the incorporation by reference of Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, REV No. 2, dated May 19, 2008; and Chapter 57-00-02 of Pilatus Aircraft Ltd. Pilatus PC-6 Aircraft Maintenance Manual, dated November 30, 2008 (referenced as revision 9 in EASA AD No.: 2007-0241R3) listed in this AD.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

For service information identified in this AD, contact PILATUS AIRCRAFT LTD., Customer Service Manager, CH-6371 STANS, Switzerland; telephone: +41 (0) 41 619 65 01; fax: +41 (0) 41 619 65 76; Internet: <http://www.pilatus-aircraft.com>. You may review copies of the 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.

**FOR FURTHER INFORMATION CONTACT:** Doug Rudolph, Aerospace Engineer, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; fax: (816) 329-4090.

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on

October 7, 2010 (75 FR 62005), and proposed to revise AD 2009-18-03, Amendment 39-15999 (74 FR 43636, August 27, 2009).

Since we issued AD 2009-18-03, Pilatus has updated their maintenance programs with new requirements and limitations. Another AD action, AD 2011-01-14, requires the incorporation of the updated maintenance requirements into the airworthiness limitations section of the instructions for continued airworthiness. Those updated maintenance requirements include the repetitive inspections for the wing strut fittings and the spherical bearings currently included in AD 2009-18-03.

The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states that:

Findings of corrosion, wear and cracks in the upper wing strut fittings on some PC-6 aircraft have been reported in the past. It is possible that the spherical bearing of the wing strut fittings installed in the underwing can be loose in the fitting or cannot rotate because of corrosion. In this condition, the joint cannot function as designed and fatigue cracks may then develop. Undetected cracks, wear and/or corrosion in this area could cause failure of the upper attachment fitting, leading to failure of the wing structure and subsequent loss of control of the aircraft.

To address this problem, FOCA published AD TM-L Nr. 80.627-6/Index 72-2 and HB-2006-400 and EASA published AD 2007-0114 to require specific inspections and to obtain a fleet status. Since the issuance of AD 2007-0114, the reported data proved that it was necessary to establish and require repetitive inspections.

EASA published Emergency AD 2007-0241-E to extend the applicability and to require repetitive eddy current and visual inspections of the upper wing strut fitting for evidence of cracks, wear and/or corrosion and examination of the spherical bearing and replacement of cracked fittings. Collected data received in response to Emergency AD 2007-0241-E resulted in the issuance of EASA AD 2007-0241R1 that permitted extending the intervals for the repetitive eddy current and visual inspections from 100 Flight Hours (FH) to 300 FH and from 150 Flight Cycles (FC) to 450 FC, respectively. In addition, oversize bolts were introduced by Pilatus PC-6 Service Bulletin (SB) 57-005 R1 and the fitting replacement procedure was adjusted accordingly.

Based on fatigue test results, EASA AD 2007-0241R2 was issued to extend the repetitive inspection interval to 1100 FH or 12 calendar months, whichever occurs first, and to delete the related flight cycle intervals and the requirement for the "Mild Corrosion Severity Zone". In addition, some editorial changes have been made for reasons of standardization and readability.

Revision 3 of this AD referred to the latest revision of the PC-6 Aircraft Maintenance Manual (AMM) Chapter 5 limitations which have included the same repetitive inspection intervals and procedures already mandated in the revision 2 of AD 2007-0241. Besides the inspections, in the latest revision of the PC-6 AMM, the replacement procedures for the fittings were included.

Additionally, EASA AD 2007-0241R3 introduced the possibility to replace the wing strut fitting with a new designed wing strut fitting. With this optional part replacement, in the repetitive inspection procedure the 1100 FH interval is deleted so that only calendar defined intervals of inspections remained applicable.

The aim of this new revision is to only mandate the initial inspection requirement and consequently to limit its applicability to aeroplanes which are not already in compliance with EASA AD 2007-0241R3. All aeroplanes which are in compliance with EASA AD 2007-0241R3 have to follow the repetitive inspection requirements as described in Pilatus PC-6 AMM Chapter 04-00-00, Document Number 01975, Revision 12 and the Airworthiness Limitations (ALS) Document Number 02334 Revision 1 mandated by EASA AD 2010-0176. Therefore the repetitive inspection requirements corresponding paragraphs have been deleted in this new EASA AD revision. The paragraph numbers of EASA AD 2007-0241R numbering has been maintained for referencing needs.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

## **Request for Clarification on Applicability**

Pilatus Aircraft commented that there is no consistency between FAA Directorate Identifier 2010-CE-047-AD and FAA Directorate Identifier 2009-CE-034-AD regarding the applicability of airplanes in regards to the manufacturer serial numbers (MSN) on the Fairchild PC-6 airplanes.

The FAA agrees that the applicability of airplanes needs corrected. We will change the applicability to clarify that some specific MSNs can also be identified as Fairchild Republic Company PC-6 airplanes, Fairchild Industries PC-6 airplanes, Fairchild Heli Porter PC-6 airplanes, or Fairchild-Hiller Corporation PC-6 airplanes.

## **Conclusion**

We reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

## **Differences Between This AD and the MCAI or Service Information**

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow FAA policies. Any such differences are highlighted in a NOTE within the AD.

## **Costs of Compliance**

We estimate that this AD will affect 50 products of U.S. registry. We also estimate that it will take about 7 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour.

Based on these figures, we estimate the cost of this AD on U.S. operators to be \$29,750, or \$595 per product.

In addition, we estimate that any necessary follow-on actions will take about 30 work-hours and require parts costing \$5,000, for a cost of \$7,550 per product. We have no way of determining the number of products that may need these actions.

### **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 AD will not have federalism implications under Executive Order 13132. This AD will 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 AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD Docket.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 the NPRM, 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.

### **List of Subjects in 14 CFR Part 39**

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

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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 removing Amendment 39-15999 (74 FR 43636, August 27, 2009) and adding the following new AD:



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**2009-18-03 R1 Pilatus Aircraft Limited:** Amendment 39-16570; Docket No. FAA-2009-0622; Directorate Identifier 2009-CE-034-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective February 16, 2011.

**Affected ADs**

- (b) This AD revises AD 2009-18-03, Amendment 39-15999.

**Applicability**

(c) This AD applies to Pilatus Aircraft Ltd. Models PC-6, PC-6-H1, PC-6-H2, PC-6/350, PC-6/350-H1, PC-6/350-H2, PC-6/A, PC-6/A-H1, PC-6/A-H2, PC-6/B-H2, PC-6/B1-H2, PC-6/B2-H2, PC-6/B2-H4, PC-6/C-H2, and PC-6/C1-H2 airplanes, all manufacturer serial number (MSN) 101 through 999, and MSN 2001 through 2092, certificated in any category.

Note 1: For MSN 2001-2092, these airplanes are also identified as Fairchild Republic Company PC-6 airplanes, Fairchild Industries PC-6 airplanes, Fairchild Heli Porter PC-6 airplanes, or Fairchild-Hiller Corporation PC-6 airplanes.

**Subject**

- (d) Air Transport Association of America (ATA) Code 57: Wings.

**Reason**

- (e) The mandatory continuing airworthiness information (MCAI) states:

Findings of corrosion, wear and cracks in the upper wing strut fittings on some PC-6 aircraft have been reported in the past. It is possible that the spherical bearing of the wing strut fittings installed in the underwing can be loose in the fitting or cannot rotate because of corrosion. In this condition, the joint cannot function as designed and fatigue cracks may then develop. Undetected cracks, wear and/or corrosion in this area could cause failure of the upper attachment fitting, leading to failure of the wing structure and subsequent loss of control of the aircraft.

To address this problem, FOCA published AD TM-L Nr. 80.627-6/Index 72-2 and HB-2006-400 and EASA published AD 2007-0114 to require specific inspections and to obtain a fleet status. Since the issuance of AD 2007-0114, the reported data proved that it was necessary to establish and require repetitive inspections.

EASA published Emergency AD 2007-0241-E to extend the applicability and to require repetitive eddy current and visual inspections of the upper wing strut fitting for evidence of cracks, wear and/or corrosion and examination of the spherical bearing and replacement of cracked fittings. Collected data received in response to Emergency AD 2007-0241-E resulted in the issuance of EASA AD 2007-0241R1 that permitted extending the intervals for the repetitive eddy current and visual inspections from 100 Flight Hours (FH) to 300 FH and from 150 Flight Cycles (FC) to 450 FC, respectively. In addition, oversize bolts were introduced by Pilatus PC-6 Service Bulletin (SB) 57-005 R1 and the fitting replacement procedure was adjusted accordingly.

Based on fatigue test results, EASA AD 2007-0241R2 was issued to extend the repetitive inspection interval to 1100 FH or 12 calendar months, whichever occurs first, and to delete the related flight cycle intervals and the requirement for the "Mild Corrosion Severity Zone". In addition, some editorial changes have been made for reasons of standardization and readability.

Revision 3 of this AD referred to the latest revision of the PC-6 Aircraft Maintenance Manual (AMM) Chapter 5 limitations which have included the same repetitive inspection intervals and procedures already mandated in the revision 2 of AD 2007-0241. Besides the inspections, in the latest revision of the PC-6 AMM, the replacement procedures for the fittings were included.

Additionally, EASA AD 2007-0241R3 introduced the possibility to replace the wing strut fitting with a new designed wing strut fitting. With this optional part replacement, in the repetitive inspection procedure the 1100 FH interval is deleted so that only calendar defined intervals of inspections remained applicable.

The aim of this new revision is to only mandate the initial inspection requirement and consequently to limit its applicability to aeroplanes which are not already in compliance with EASA AD 2007-0241R3. All aeroplanes which are in compliance with EASA AD 2007-0241R3 have to follow the repetitive inspection requirements as described in Pilatus PC-6 AMM Chapter 04-00-00, Document Number 01975, Revision 12 and the Airworthiness Limitations (ALS) Document Number 02334 Revision 1 mandated by EASA AD 2010-0176. Therefore the repetitive inspection requirements corresponding paragraphs have been deleted in this new EASA AD revision. The paragraph numbers of EASA AD 2007-0241R numbering has been maintained for referencing needs.

This AD requires actions that are intended to address the unsafe condition described in the MCAI.

### **Actions and Compliance**

(f) Unless already done, do the following actions:

(1) For affected airplanes that have not had both wing strut fittings replaced within the last 100 hours time-in-service (TIS) before September 26, 2007 (the effective date of AD 2007-19-14), or have not been inspected using an eddy current inspection method following Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-004, dated April 16, 2007, within the last 100 hours TIS before September 26, 2007 (the effective date of AD 2007-19-14): Before further flight after either September 26, 2007 (the effective date of AD 2007-19-14), or October 1, 2009 (the effective date of AD 2009-18-03), visually inspect the upper wing strut fittings and examine the spherical bearings

following the Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, REV No. 2, dated May 19, 2008.

(2) For all affected airplanes: Within 25 hours TIS after September 26, 2007 (the effective date of AD 2007-19-14), or within 30 days after September 26, 2007 (the effective date of AD 2007-19-14), whichever occurs first, visually and using eddy current methods, inspect the upper wing strut fittings and examine the spherical bearings following Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, REV No. 2, dated May 19, 2008.

(3) You may also take "unless already done" credit for any inspection specified in paragraphs (f)(1) or (f)(2) of this AD if done before October 1, 2009 (the effective date retained from AD 2009-18-03) following Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, dated August 30, 2007; or Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, REV No. 1, dated November 19, 2007.

(4) For all affected airplanes: If during any inspection required by paragraphs (f)(1) or (f)(2) of this AD you find cracks in the upper wing strut fitting or the spherical bearing is not in conformity, before further flight, replace the cracked upper wing strut fitting and/or the nonconforming spherical bearing following Chapter 57-00-02 of Pilatus Aircraft Ltd. Pilatus PC-6 Aircraft Maintenance Manual, dated November 30, 2008.

Note 1: AD 2011-01-14 requires the incorporation of the updated maintenance requirements into the airworthiness limitations section of the instructions for continued airworthiness. Those updated maintenance requirements include the repetitive inspections for the wing strut fittings and the spherical bearings. This revised AD removes those repetitive inspections.

#### **FAA AD Differences**

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

#### **Other FAA AD Provisions**

(g) 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. 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.

(3) Reporting Requirements: For any reporting requirement in this AD, a federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave., SW., Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

## **Related Information**

(h) Refer to MCAI EASA AD No.: 2007-0241R4, dated August 31, 2010; Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, REV No. 2, dated May 19, 2008; Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, REV No. 1, dated November 19, 2007; Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, dated August 30, 2007; Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-004, dated April 16, 2007; and Chapter 57-00-02 of Pilatus Aircraft Ltd. Pilatus PC-6 Aircraft Maintenance Manual, dated November 30, 2008, for related information.

## **Material Incorporated by Reference**

(h) You must use Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, REV No. 2, dated May 19, 2008; and Chapter 57-00-02 of Pilatus Aircraft Ltd. Pilatus PC-6 Aircraft Maintenance Manual, dated November 30, 2008 (referenced as revision 9 in EASA AD No.: 2007-0241R3), to do the actions required by this AD, unless the AD specifies otherwise.

(1) On October 1, 2009 (74 FR 43636, August 27, 2009), the Director of the Federal Register previously approved the incorporation by reference of Pilatus Aircraft Ltd. Pilatus PC-6 Service Bulletin No. 57-005, REV No. 2, dated May 19, 2008; and Chapter 57-00-02 of Pilatus Aircraft Ltd. Pilatus PC-6 Aircraft Maintenance Manual, dated November 30, 2008 (referenced as revision 9 in EASA AD No.: 2007-0241R3).

(2) For service information identified in this AD, contact PILATUS AIRCRAFT LTD., Customer Service Manager, CH-6371 STANS, Switzerland; telephone: +41 (0) 41 619 65 01; fax: +41 (0) 41 619 65 76; Internet: <http://www.pilatus-aircraft.com>.

(3) You may review copies of the 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.

(4) You may also review copies of the service information incorporated by reference for this AD at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Kansas City, Missouri, on December 28, 2010.

Earl Lawrence,  
Manager, Small Airplane Directorate,  
Aircraft Certification Service.