

# 2010-05-02

## PILATUS AIRCRAFT LTD.

Amendment 39-16211

Docket No. FAA-2009-1158; Directorate Identifier 2009-CE-063-AD

### PREAMBLE

#### Effective Date

(a) This airworthiness directive (AD) becomes effective April 1, 2010.

#### Affected ADs

(b) This AD supersedes AD 2009-08-10, Amendment 39-15883.

#### Applicability

(c) This AD applies to Model PC-12/47E airplanes, all manufacturer serial numbers (MSN), certificated in any category.

#### Subject

(d) Air Transport Association of America (ATA) Code 34: Navigation.

#### Reason

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

Field reports have indicated that the possibility exists that both Primary Flight Displays (PFDs) could indicate a roll attitude offset of up to 10 degrees in the same direction if an accelerated turn onto the active runway is performed immediately followed by take-off. In addition, annunciated heading splits have been reported. This condition has been reported to correct itself after several minutes.

Additionally, if the aeroplane is operating in geographical latitudes with low horizontal magnetic field strength, incorrect heading may be displayed if the ADAHRS switches from GPS track to magnetometer heading while the aeroplane is on the ground.

This situation, if not corrected, could result in an undesired bank angle, heading splits and/or incorrect heading, which would constitute an unsafe condition.

As a short-term interim measure, AD 2009-0028-E has been released in February 2009 to limit at 30° the bank angle during climb. Afterwards, as a result of the ongoing investigation, the problem has been temporarily addressed with some limitations in the take-off procedure. These limitations have been mandated by AD 2009-0080-E which superseded AD 2009-0028-E.

In order to terminate the operational limitations, an updated ADAHRS version with improved

software was developed.

For the reasons described above, this AD supersedes AD 2009-0080-E and mandates as a terminating action either an update of the ADAHRS software or the replacement of the ADAHRS unit.

From MSN 1181 and subsequent an improved ADAHRS unit was implemented during production.

### **Actions and Compliance**

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

(1) For MSN 545 and MSN 1001 through MSN 1180, before further flight after April 20, 2009 (the effective date of AD 2009-08-10), incorporate Pilatus Aircraft Ltd. Temporary Revision No. 11 to PC-12/47E Pilot's Operating Handbook (POH), Report No. 02277, dated March 18, 2009, into the Pilatus PC-12/47E POH. The owner/operator holding at least a private pilot certificate as authorized by **section 43.7** of the Federal Aviation Regulations 14 CFR 43.7 may do this action. Make an entry in the aircraft records showing compliance with this portion of the AD following 14 CFR **43.9**.

(2) For MSN 545 and MSN 1001 through MSN 1180, within 180 days after April 1, 2010 (the effective date of this AD):

(i) Update the air data, attitude, and heading reference system (ADAHRS) software following the accomplishment instructions of Honeywell International Inc. Service Bulletin KSG 7200-34-09, Revision 0, dated September 24, 2009; or

(ii) Replace ADAHRS unit KSG 7200 Honeywell Part Number (P/N) 065-00188-5102, Software Version MOD 02/02 (Pilatus P/N 985.99.12.192) with a new ADAHRS unit with Honeywell P/N 065-00188-5103 (Pilatus P/N 985.99.12.205) following the accomplishment instructions of Pilatus Aircraft Ltd. Pilatus PC-12 Service Bulletin No. 34-022, dated October 5, 2009.

(3) For MSN 545 and 1001 through 1180, before further flight after the actions required by paragraph (f)(2) of this AD, remove Pilatus Aircraft Ltd. Temporary Revision No. 11 to PC-12/47E Pilot's Operating Handbook, Report No. 02277, dated March 18, 2009.

(4) Do not install an ADAHRS unit with Honeywell P/N 065-00188-5102 (Pilatus P/N 985.99.12.192) on any affected Model PC-12/47E airplane, as follows:

(i) For MSN 545 and 1001 through 1180 airplanes, as of 180 days after April 1, 2010 (the effective date of this AD); and

(ii) For all other MSNs, as of April 1, 2010 (the effective date of this AD).

### **FAA AD Differences**

#### **NOTE**

**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, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

#### **Related Information**

(h) Refer to MCAI European Aviation Safety Agency (EASA) AD No. 2009-0249, dated November 20, 2009, Pilatus Aircraft Ltd. Temporary Revision No. 11 to PC-12/47E Pilot's Operating Handbook, Report No. 02277, dated March 18, 2009; Honeywell International Inc. Service Bulletin KSG 7200-34-09, Revision 0, dated September 24, 2009; and Pilatus Aircraft Ltd. Pilatus PC-12 Service Bulletin No: 34-022, dated October 5, 2009, for related information.

#### **Material Incorporated by Reference**

(i) You must use Pilatus Aircraft Ltd. Temporary Revision No. 11 to PC-12/47E Pilot's Operating Handbook, Report No. 02277, dated March 18, 2009; Honeywell International Inc. Service Bulletin KSG 7200-34-09, Revision 0, dated September 24, 2009; and Pilatus Aircraft Ltd. Pilatus PC-12 Service Bulletin No: 34-022, dated October 5, 2009, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of Honeywell International Inc. Service Bulletin KSG 7200-34-09, Revision 0, dated September 24, 2009; and Pilatus Aircraft Ltd. Pilatus PC-12 Service Bulletin No: 34-022, dated October 5, 2009, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) On April 20, 2009 (74 FR 17384, April 15, 2009), the Director of the Federal Register previously approved the incorporation by reference of Pilatus Aircraft Ltd. Temporary Revision No. 11 to PC-12/47E Pilot's Operating Handbook, Report No. 02277, dated March 18, 2009.

(3) For service information identified in this AD:

(i) Pilatus service information: contact Pilatus Aircraft Ltd., Customer Service Manager,

CH-6371 STANS, Switzerland; telephone: +41 (0)41 619 62 08; fax: +41 (0)41 619 73 11; Internet:

<http://www.pilatus-aircraft.com>, or e-mail: [SupportPC12@pilatus-aircraft.com](mailto:SupportPC12@pilatus-aircraft.com). You may get Pilatus Aircraft Ltd. Temporary Revision No. 11 to PC-12/47E Pilot's Operating Handbook, Report No. 02277, dated March 18, 2009, from the Web site of the Swiss Federal Office of Civil Aviation (FOCA):

<http://www.bazl.admin.ch/fachleute/lufttechnik/entwicklung/00677/index.html?lang=en>.

(ii) Honeywell service information: contact Honeywell International Inc., 23500 West 105th Street, Olathe, Kansas 66061-8425, U.S.A., CAGE: 22373; telephone: (800) 601-3099 (toll free U.S.A./Canada); telephone: (602) 365-3099 (international direct); telephone: 00-800-601-30999 (EMEA Toll Free); telephone: 420-234-625-500 (EMEA Direct); Internet: <http://www.bendixking.com>; e-mail: [Karen.Attebery@honeywell.com](mailto:Karen.Attebery@honeywell.com); telephone: (913) 712-2301; fax: (913) 712-2301.

(4) You may review copies of the service information incorporated by reference for this AD at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the Central Region, call (816) 329-3768.

(5) 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).

**FOR FURTHER INFORMATION CONTACT:** Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, ACE-112, Kansas City, Missouri 64106; telephone: (816) 329-4059; fax: (816) 329-4090.

Issued in Kansas City, Missouri, on February 16, 2010.

**Kim Smith**, *Manager, Small Airplane Directorate, Aircraft Certification Service.*

[Federal Register: February 25, 2010 (Volume 75, Number 37)]  
[Rules and Regulations]  
[Page 8473-8476]  
From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2009-1158; Directorate Identifier 2009-CE-063-AD; Amendment 39-16211; AD 2010-05-02]**

**RIN 2120-AA64**

**Airworthiness Directives; PILATUS AIRCRAFT LTD. Model PC-12/47E Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding 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:

Field reports have indicated that the possibility exists that both Primary Flight Displays (PFDs) could indicate a roll attitude offset of up to 10 degrees in the same direction if an accelerated turn onto the active runway is performed immediately followed by take-off. In addition, annunciated heading splits have been reported. This condition has been reported to correct itself after several minutes.

Additionally, if the aeroplane is operating in geographical latitudes with low horizontal magnetic field strength, incorrect heading may be displayed if the ADAHRS switches from GPS track to magnetometer heading while the aeroplane is on the ground.

This situation, if not corrected, could result in an undesired bank angle, heading splits and/or incorrect heading, which would constitute an unsafe condition.

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

**DATES:** This AD becomes effective April 1, 2010.

On April 1, 2010, the Director of the Federal Register approved the incorporation by reference of Honeywell International Inc. Service Bulletin KSG 7200-34-09, Revision 0, dated September 24,

2009; and Pilatus Aircraft Ltd. Pilatus PC-12 Service Bulletin No.: 34-022, dated October 5, 2009, listed in this AD.

As of April 20, 2009 (74 FR 17384, April 15, 2009), the Director of the Federal Register approved the incorporation by reference of Pilatus Aircraft Ltd. Temporary Revision No. 11 to PC-12/47E Pilot's Operating Handbook, Report No. 02277, dated March 18, 2009, 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 FURTHER INFORMATION CONTACT:** Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, ACE-112, 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 December 10, 2009 (74 FR 65493), and proposed to supersede AD 2009-08-10, Amendment 39-15883 (74 FR 17384, April 15, 2009). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states that:

Field reports have indicated that the possibility exists that both Primary Flight Displays (PFDs) could indicate a roll attitude offset of up to 10 degrees in the same direction if an accelerated turn onto the active runway is performed immediately followed by take-off. In addition, annunciated heading splits have been reported. This condition has been reported to correct itself after several minutes.

Additionally, if the aeroplane is operating in geographical latitudes with low horizontal magnetic field strength, incorrect heading may be displayed if the ADAHRS switches from GPS track to magnetometer heading while the aeroplane is on the ground.

This situation, if not corrected, could result in an undesired bank angle, heading splits and/or incorrect heading, which would constitute an unsafe condition.

As a short-term interim measure, AD 2009-0028-E has been released in February 2009 to limit at 30° the bank angle during climb. Afterwards, as a result of the ongoing investigation, the problem has been temporarily addressed with some limitations in the take-off procedure. These limitations have been mandated by AD 2009-0080-E which superseded AD 2009-0028-E.

In order to terminate the operational limitations, an updated ADAHRS version with improved software was developed.

For the reasons described above, this AD supersedes AD 2009-0080-E and mandates as a terminating action either an update of the ADAHRS software or the replacement of the ADAHRS unit.

From MSN 1181 and subsequent an improved ADAHRS unit was implemented during production.

You may obtain further information by examining the MCAI in the AD docket.

## **Comments**

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

### **Comment Issue No. 1: Limit the Applicability to Manufacturer Serial Numbers (MSN) 545, and 1001 Through 1180**

Mr. Scott Lania, Alpha Flying, Inc., requests limiting the applicability to MSN 545, and 1001 through 1180, which have the affected air data, attitude, and heading reference system (ADARS) unit installed. Paragraph (f)(4) of the proposed AD addresses the issue of installing one of the affected ADARS units on other Pilatus Model PC-12/47E airplanes.

Mr. Lania requests this change in the applicability since Pilatus is installing a new version of the ADARS at production on MSN 1181 and subsequent.

The FAA partially agrees with the commenter. We agree that Pilatus is installing a new version of the ADARS in production. However, we disagree with changing the applicability of this AD. To prevent future installation of the defective ADARS unit on airplanes, the applicability must be for all airplanes, thus preventing the introduction of the unsafe condition on these airplanes. Paragraph (f)(4), which prohibits installation of the affected ADARS on other Pilatus Model PC-12/47E airplanes, would not apply unless the applicability was for all airplanes.

We are not changing the final rule AD action based on this comment.

### **Comment Issue No. 2: Use "Serviceable" or "Modified" in Describing the ADARS Unit**

Mr. Lania also requests that the word "new" in paragraph (f)(2)(ii) of the Actions and Compliance section of the proposed AD be replaced with the word "serviceable" or "modified."

Mr. Lania states that when accomplishing the Pilatus service bulletin to comply with this AD, the ADARS unit is not being replaced with a new unit; instead, it is being modified with upgraded software and the data plate of the ADARS unit is being changed to the new part number (P/N). Mr. Lania concludes that in the accomplishment of this AD on all the affected airplanes, relatively few, if any, of the ADARS units will be replaced with new units.

We disagree with the commenter. The word "new" refers to a new Honeywell unit from the manufacturer, so the word "serviceable" is not an appropriate substitution here. We believe the commenter's intent is to use modified components instead of getting a new ADARS unit. The use of modified components is addressed in paragraph (f)(2)(i) of the proposed AD. In paragraph (f)(2)(i) of the proposed AD, the operator may accomplish the Honeywell service bulletin, which changes the P/N after the unit gets new software uploaded.

We are not changing the final rule AD action based on this comment.

## **Conclusion**

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD as proposed.

## **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 6 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$0 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here.

Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$25,500 or \$510 per product.

## **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 39-15883 (74 FR 17384, April 15, 2009) and adding the following new AD: