



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0194; Directorate Identifier 2017-CE-006-AD; Amendment 39-18915; AD 2017-11-16]**

**RIN 2120-AA64**

**Airworthiness Directives; PILATUS AIRCRAFT LTD. Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for PILATUS AIRCRAFT LTD. Model PC-12/47E airplanes. 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 an error within the flight management system caused by installing Primus APEX software Build 10 or 10.9, which could cause deviation from the correctly calculated barometric vertical navigation nominal glide path. We are issuing this AD to require actions to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0194; or in person at Document 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 Support PC-12, CH-6371 Stans, Switzerland; phone: +41 41 619 33 33; fax: +41 41 619 73 11; email: [SupportPC12@pilatus-aircraft.com](mailto:SupportPC12@pilatus-aircraft.com); Internet: [www.pilatus-aircraft.com](http://www.pilatus-aircraft.com). You may view 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. It is also available on the Internet at <http://www.regulations.gov> by searching for Docket No. FAA-2017-0194.

**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](mailto:doug.rudolph@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to PILATUS AIRCRAFT LTD. Model PC-12/47E airplanes. The NPRM was published in the *Federal Register* on March 21, 2017 (82 FR 14488). The NPRM proposed to correct an unsafe condition for the specified products and was based on mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country. The MCAI states:

An occurrence was reported of a split between the vertical guidance data and the flight director steering commands during a Vertical Glide Path (VGP) approach. Subsequent investigation identified an error within the Flight Management System (FMS) that was introduced into Primus APEX software (S/W) Build 10 and S/W Build 10.9.

This condition, if not corrected, could lead to loss of control of the aeroplane.

To address this potential unsafe condition, Pilatus issued Temporary Revision (TR) No. 38 to the PC-12/47E Pilot's Operating Handbook, (POH) Report No: 02277 (hereafter referred to as "POH TR 38" in this AD), limiting VGP Approach mode sourced on baro Vertical Navigation (VNAV) to visual meteorological conditions (VMC) only, and providing procedures applicable in case of VGP deviation occurring during baro VNAV approaches.

For the reason described above, this [EASA] AD requires amendment of the applicable Aircraft Flight Manual (AFM).

The MCAI can be found in the AD docket on the Internet at

<https://www.regulations.gov/document?D=FAA-2017-0194-0002>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comment received on the proposal and the FAA's response to the comment.

### **Request to Clarify the Unsafe Condition**

Johan Kruger of PILATUS AIRCRAFT LTD. stated that in the Discussion section and the Reason section (paragraph (e)) of the proposed AD, it is stated that the unsafe condition may result in loss of control due to following incorrect data from the flight management system. The commenter stated that the loss of control statement may be misleading.

The commenter further stated that the autopilot fails to follow the correctly indicated nominal vertical flight path. If the pilot does not observe the indicated vertical deviation, which is the pilot's primary duty during instrument meteorological conditions (IMC) final approach, it could result in the pilot losing situational awareness. In a worst

case scenario, the airplane would descent towards terrain and ultimately, if no attention is given to terrain awareness and warning system (TAWS) call outs, collide with the terrain - potential controlled flight into terrain (CFIT).

The commenter requested that the last sentence of paragraph (e) be changed to read: "We are issuing this AD to prevent the pilot from following incorrect data from the flight management system, which could result in the loss of situational awareness."

We agree with the commenter and have changed the AD based on this comment.

### **Conclusion**

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting the AD with the change described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

### **Related Service Information under 1 CFR part 51**

We reviewed PILATUS AIRCRAFT LTD. Temporary Revision No. 38 to PC-12/47E Pilot's Operating Handbook, Airplane Flight Manual 02277, Section 2— Limitations, Report No: 02277, dated February 8, 2017. The service information describes procedures for limiting the use of the autopilot and flight director to day visual meteorological conditions (VMC) during barometric vertical navigation (baro VNAV) during a vertical glide path approach (VGP). 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 AD.

### **Costs of Compliance**

We estimate that this AD will affect 350 products of U.S. registry. We also estimate that it will take about 1 work-hour 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 \$85 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 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.

### **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-2017-0194; 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 adding the following new AD:

2017-11-16 **PILATUS AIRCRAFT LTD.:** Amendment 39-18915; Docket No. FAA-2017-0194; Directorate Identifier 2017-CE-006-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

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

(1) have Primus APEX Software Build 10 with Honeywell part number (P/N) EB60000487-0110 or Primus APEX Software Build 10.9 with Honeywell P/N EB60000487-0112 installed; and

(2) are certificated in any category.

**(d) Subject**

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

**(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 an error within the flight management system caused by installing Primus APEX software Build 10 or 10.9, which could cause deviation from the correctly calculated barometric vertical navigation nominal guide path. We are issuing this AD to prevent the pilot from following incorrect data from the flight management system, which could result in the loss of situational awareness.

**(f) Actions and Compliance**

Unless already done, within 30 days after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), insert Temporary Revision No. 38 to PC-12/47E Pilot's Operating Handbook, Airplane Flight Manual 02277, Section 2—Limitations, Report No: 02277, dated February 8, 2017.

Note 1 to paragraph (f) of this AD: For airplanes affected by this AD, the Pilot's Operating Handbook and the Airplane Flight Manual are the same document with the Report No.: 02277.

**(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](mailto: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**

Refer to MCAI European Aviation Safety Agency (EASA) AD No. 2017-0024, dated February 13, 2017, for related information. The MCAI can be found in the AD docket on the Internet at <https://www.regulations.gov/document?D=FAA-2017-0194-0002>.

**(i) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Temporary Revision No. 38 to PC-12/47E Pilot's Operating Handbook, Airplane Flight Manual 02277, Section 2—Limitations, Report No: 02277, dated February 8, 2017.

(ii) Reserved.

(3) For PILATUS AIRCRAFT LTD. service information identified in 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](mailto:SupportPC12@pilatus-aircraft.com); Internet: [www.pilatus-aircraft.com](http://www.pilatus-aircraft.com).

(4) You may view this 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. In addition, you can access this service information on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0194.

(5) You may view this service information that is incorporated by reference 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/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on May 26, 2017.

Pat Mullen,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.  
[FR Doc. 2017-11411 Filed: 6/7/2017 8:45 am; Publication Date: 6/8/2017]