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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2013-0527; Directorate Identifier 2013-CE-014-AD; Amendment 39-17577; AD 2013-18-04]**

**RIN 2120-AA64**

#### **Airworthiness Directives; PIAGGIO AERO INDUSTRIES S.p.A Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all PIAGGIO AERO INDUSTRIES S.p.A Model P-180 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 cracks at the joint between the hinge pin sub-assembly and the lock pin of the main landing gear lever hinge fitting. We are issuing this AD to require actions to address the unsafe condition on these products.

**DATES:** This AD is effective October 18, 2013.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of October 18, 2013.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> 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 Piaggio Aero Industries S.p.A—Airworthiness Office, Via Luigi Cibrario, 4-16154 Genova-Italy; phone: +39 010 6481353; fax: +39 010 6481881; email: [airworthiness@piaggioaero.it](mailto:airworthiness@piaggioaero.it); Internet: <http://www.piaggioaero.com/#/en/aftersales/service-support>; and Messier-Dowty Limited, Cheltenham Road, Gloucester, GL2 9QH, England; phone: +44(0)1452 712424; fax: +44(0)1452 713821; email: [americatassc@safranmbd.com](mailto:americatassc@safranmbd.com); Internet: [www.safranmbd.com](http://www.safranmbd.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:** Mike Kiesov, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4144; fax: (816) 329-4090; email: mike.kiesov@faa.gov.

## **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. The NPRM was published in the Federal Register on June 19, 2013 (78 FR 36691). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

During scheduled maintenance, cracks have been detected at the joint between the hinge pin sub-assembly and the lock pin of the main landing gear (MLG) lever hinge fitting (LHF) of a Piaggio P.180 aeroplane.

The results of the subsequent investigation revealed that the cracks were initiated by an unforeseen friction in the MLG wheel lever sub-assembly.

This condition, if not detected and corrected, could lead to a structural failure of the MLG, possibly resulting in loss of control of the aeroplane during take-off or landing runs.

To address this potential unsafe condition, Piaggio Aero Industries (PAI) issued Service Bulletin (SB) 80-0345 to provide instructions for early identification of cracks in the MLG LHF and, in case of identification of the crack, replacement of the MLG.

For the reasons described above, this AD required inspections of the MLG LHF and, depending on findings, replacement of the MLG.

This AD is considered to be an interim action, and based on gathered experience, further AD action may follow.

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. The following presents the comments received on the proposal and the FAA's response to each comment.

### **Request To Change Compliance Time From Hours Time-in-Service (TIS) to Landings**

Carlo Cardu of PIAGGIO AERO INDUSTRIES S.p.A requested the compliance time be changed from hours TIS to landing, as recommended in the related service bulletin, to take into account actual landing gear usage.

We partially agreed with the commenter to include landings as a measure for the compliance of this AD because the unsafe condition addressed in this AD is a function of cycles on the landing gear. We disagreed with only using landings because this class of airplane does not require landings to be recorded. If an operator does document landings, this is an acceptable measure. However, if an operator does not record landings, TIS is also an acceptable measure for compliance.

We have changed the final rule AD action based on this comment.

## **Request To Change the Requirement To Replace the Main Landing Gear (MLG) Lever Hinge Fitting (LHF)**

Carlo Cardu of PIAGGIO AERO INDUSTRIES S.p.A requested we change the corrective action from replacing the MLG LHF with a serviceable part to replacing the MLG with a serviceable part based on the description of a serviceable part in the related service bulletin.

The commenter also requested we change the language from MLG LHF to MLG when referring to the inspections required after replacement of the MLG.

We agreed with the commenter. Based on the description of a serviceable part in the service bulletin, the operator has options to meet the intent of a serviceable part that do not increase the burden on the owners/operators of the affected airplanes. We have changed the final rule AD action based on this comment.

## **Request To Clarify Inspection Requirements for Newly Installed MLG**

Carlo Cardu of PIAGGIO AERO INDUSTRIES S.p.A requested changing all repetitive inspection language for newly installed MLG. The commenter suggested changing this AD to specify that a newly installed MLG is subject to specific inspection requirements.

We agreed with the commenter and have changed the final rule AD action based on this comment.

## **Request To Expand Criteria for Determining a "Serviceable" MLG**

Carlo Cardu of PIAGGIO AERO INDUSTRIES S.p.A requested additional language be added to clarify the definition of a "serviceable" MLG.

We agreed with the commenter and have changed the final rule AD action based on this comment.

## **Conclusion**

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

- Are consistent with the intent that was proposed in the NPRM (78 FR 36691, June 19, 2013) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (78 FR 36691, June 19, 2013).

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

## **Interim Action**

We consider this AD interim action. We are requiring inspection(s) of the left and right MLG LHF with a report to the manufacturer of the results if cracks are found. We will work with the type certificate holder to evaluate the report results to determine repetitive inspection intervals and subsequent terminating action. Based on this evaluation, we may initiate further rulemaking action to address the unsafe condition identified in this AD.

## **Costs of Compliance**

We estimate that this AD will affect 109 products of U.S. registry. We also estimate that it will take about 11 total work-hours, which is 2 work-hours for the initial visual inspection; 2 work-hours for the detailed visual inspection; and 7 work-hours for the fluorescent penetrant inspection, 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 \$101,915, or \$935 per product.

In addition, we estimate that any necessary follow-on actions will take about 7 work-hours and require parts costing \$21,540 to replace a left-hand LHF, for a cost of \$22,153, and \$20,662 to replace a right-hand LHF, for a cost of \$21,257.

According to the manufacturer, some of the costs of this 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 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>; 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:



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**2013-18-04 PIAGGIO AERO INDUSTRIES S.p.A:** Amendment 39-17577; Docket No. FAA-2012-0962; Directorate Identifier 2012-CE-033-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective October 18, 2013.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to PIAGGIO AERO INDUSTRIES S.p.A Model P-180 airplanes, all serial numbers, certificated in any category.

**(d) Subject**

Air Transport Association of America (ATA) Code 32: Landing Gear.

**(e) Reason**

This AD was prompted by 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 cracks at the joint between the hinge pin sub-assembly and the lock pin of the main landing gear (MLG) lever hinge fitting (LHF). We are issuing this AD to prevent structural failure of the MLG LHF, which could result in loss of control during take-off or landing runs.

**(f) Actions and Compliance**

Unless already done, do the following actions in paragraphs (f)(1) through (f)(8), including all subparagraphs, of this AD:

(1) Within the next 200 landings after October 18, 2013 (the effective date of this AD), or within the next 3 months after October 18, 2013 (the effective date of this AD), whichever occurs first, and before further flight after each MLG replacement, visually inspect each MLG LHF for cracks and verify freedom of rotation of the MLG wheel lever subassemblies. Do the inspection following Part 1 of the Accomplishment Instructions in PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012; and Paragraph A of the Accomplishment Instructions in Appendix A of PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012, which includes Messier-Dowty Service Bulletin No. P180-32-32, dated September 10, 2012. The compliance times for the entire AD are presented in landings; however, it is not mandatory to track landings for this class of airplane. If an operator does not track landings, 1 hour time-in-service (TIS) corresponds to 1 landing for compliance with this AD.

(2) If, during the inspection required in paragraph (f)(1) of this AD, freedom of rotation of the MLG wheel lever subassembly is not assured, before further flight, mark the LHF on the affected MLG as "inspect as per SB-80-0345" with an indelible pen, and replace the MLG with a serviceable part as defined in paragraph (f)(7) of this AD. Do the replacement following Part 1 of the Accomplishment Instructions in PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012. The newly installed MLG is subject to the inspection requirement specified in paragraph (f)(1) of this AD and all repetitive inspection requirements specified in paragraphs (f)(3) and (f)(4) of this AD.

(3) Within the compliance times specified in paragraphs (f)(3)(i), (f)(3)(ii), and (f)(3)(iii) of this AD, and repetitively thereafter at intervals not to exceed 200 landings, do a detailed visual inspection of each MLG LHF for cracks. Do the inspection following Part 2 of the Accomplishment Instructions in PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012; and Paragraph B of the Accomplishment Instructions in Appendix A of PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012, which includes Messier-Dowty Service Bulletin No. P180-32-32, dated September 10, 2012.

(i) As of October 18, 2013 (the effective date of this AD), if the MLG LHF has accumulated 2,300 landings or less since new, inspect before exceeding 2,500 landings since new.

(ii) As of October 18, 2013 (the effective date of this AD), if the MLG LHF has accumulated more than 2,300 landings since new, but less than 2,500 landings since new, inspect within the next 200 landings after October 18, 2013 (the effective date of this AD).

(iii) As of October 18, 2013 (the effective date of this AD), if the MLG LHF has accumulated 2,500 landings or more since new, inspect within the next 200 landings after October 18, 2013 (the effective date of this AD), or within the next 3 months after October 18, 2013 (the effective date of this AD), whichever occurs first.

(4) Within the compliance times specified in paragraphs (f)(3)(i), (f)(3)(ii), and (f)(3)(iii) of this AD and repetitively thereafter at intervals not to exceed 750 landings, do a fluorescent penetrant inspection on each MLG LHF for cracks. Do the inspection following Part 3 of the Accomplishment Instructions in PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012; and Paragraph C in Appendix A of PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012, which includes Messier-Dowty Service Bulletin No. P180-32-32, dated September 10, 2012.

(5) If, during any inspection required by paragraphs (f)(1), (f)(3), (f)(4), (f)(7), and (f)(8) of this AD, including all subparagraphs, any crack is found, before further flight, replace the MLG with a serviceable part as defined in paragraph (f)(7) of this AD. Do the replacement following the Accomplishment Instructions in PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012. The newly installed MLG is subject to the inspection requirement specified in paragraph (f)(1) of this AD and all repetitive inspection requirements specified in paragraphs (f)(3) and (f)(4) of this AD.

(6) Within 30 days after each MLG replacement, submit an inspection result report to PIAGGIO AERO INDUSTRIES S.p.A at the address specified in paragraph (h) of this AD using the Confirmation Slip attached to PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012.

(7) For the purpose of this AD, a "serviceable" MLG is defined as an airworthy MLG that has had the freedom of rotation verified before installation and that has been inspected following paragraphs (f)(3), (f)(4), and (f)(8) (paragraph (f)(8) only applies if the LHF on the MLG has been marked "inspect as per SB-80-0345" as specified in paragraph (f)(2) of this AD) of this AD, including all subparagraphs, and is found free of cracks. If status of detailed visual inspections intervals, fluorescent penetrant inspections intervals, or landings since new cannot be determined from the Authorized Release Certificate of the MLG to be installed, before next flight after installation, inspect the MLG LHF as specified in paragraphs (f)(1), (f)(3), and (f)(4) of this AD. For the purpose of this AD, a serviceable MLG replacement is defined in paragraphs (f)(7)(i), (f)(7)(ii), and (f)(7)(iii) of this

AD. All newly installed MLG LHF is subject to the inspections required in paragraphs (f)(1), (f)(3), and (f)(4) of this AD.

(i) Remove the unserviceable MLG and replace it with a different serviceable MLG.

(ii) Rework the unserviceable MLG following Part 2 and Part 3 of the Accomplishment Instructions in PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012, until it passes the check for freedom of rotation and no cracks are found.

(iii) Replace the cracked LHF in the unserviceable MLG with a new LHF and, after LHF replacement, check the MLG for freedom of rotation.

(8) As of October 18, 2013 (the effective date of this AD), any MLG with LHF marked "inspect as per SB 80-0345" that was removed as specified in paragraph (f)(2) of this AD may be reinstalled provided that before installation, freedom of rotation has been restored. Before further flight after installation, the MLG LHF must be inspected as specified in paragraphs (f)(1), (f)(3), and (f)(4) of this AD. Continue thereafter with the repetitive inspections at the intervals specified in paragraphs (f)(3) and (f)(4) of this AD.

### **(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: Mike Kiesov, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4144; fax: (816) 329-4090; email: mike.kiesov@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. 2013-0084, dated April 5, 2013, which can be found in the AD docket on the Internet at <http://www.regulations.gov>; Messier-Dowty PCS-2700 Paint Stripping document, dated January 2011; Messier-Dowty PCS-2622 Cold Degreasing (Solvent) document, Issue 2, dated May 12, 2008; and Messier-Dowty Ltd 201034005 and 201034006 Component Maintenance Manual, page 2, dated May 1, 2004, and page 1020, dated March 17, 2006, which can be found on the Internet at: <http://www.safranmbd.com>, for related information.

### **(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) PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, dated September 20, 2012.

(ii) PIAGGIO AERO INDUSTRIES S.p.A. Mandatory Service Bulletin No. 80-0345, Appendix A, dated September 20, 2012, which includes Messier-Dowty Service Bulletin No. P180-32-32, dated September 10, 2012.

(3) For PIAGGIO AERO INDUSTRIES S.p.A. service information identified in this AD, contact Piaggio Aero Industries S.p.A—  
Airworthiness Office, Via Luigi Cibrario, 4-16154 Genova-Italy; phone: +39 010 6481353; fax: +39 010 6481881; email: [airworthiness@piaggioaero.it](mailto:airworthiness@piaggioaero.it); Internet: <http://www.piaggioaero.com/#/en/aftersales/service-support>; and Messier-Dowty Limited, Cheltenham Road, Gloucester, GL2 9QH, England; phone: +44(0)1452 712424; fax: +44(0)1452 713821; email: [americatasc@safranmbd.com](mailto:americatasc@safranmbd.com); Internet: [www.safranmbd.com](http://www.safranmbd.com).

(4) You may view this service information at 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.

(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 August 29, 2013.  
Earl Lawrence,  
Manager, Small Airplane Directorate,  
Aircraft Certification Service.