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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2016-0461; Directorate Identifier 2014-NM-159-AD; Amendment 39-18937; AD 2017-13-07]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Airbus 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 Airbus Model A319, A320, and A321 series airplanes. This AD was prompted by a report that a main landing gear (MLG) door could not be closed due to rupture of the actuator fitting. This AD requires repetitive inspections for cracking of the MLG door actuator fitting and its components, and corrective actions if necessary. This AD also requires eventual replacement of all affected MLG door actuator fittings with new monoblock fittings, which would terminate the repetitive inspections. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 9, 2017.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 9, 2017.

**ADDRESSES:** For service information identified in this final rule, contact Airbus, Airworthiness Office—EIAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <http://www.airbus.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-0461.

#### **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-2016-0461; 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 AD,

the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is 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:** Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1405; fax 425-227-1149.

**SUPPLEMENTARY INFORMATION:**  
**Discussion**

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Airbus Model A319, A320, and A321 series airplanes. The SNPRM published in the Federal Register on April 7, 2017 (82 FR 16948) ("the SNPRM"). We preceded the SNPRM with a notice of proposed rulemaking (NPRM) that published in the Federal Register on January 28, 2016 (81 FR 4901) ("the NPRM"). The NPRM proposed to require repetitive inspections for cracking of the MLG door actuator fitting and its components, and corrective actions if necessary. The NPRM also proposed to require eventual replacement of all affected MLG door actuator fittings with new monoblock fittings, which would terminate the repetitive inspections. The NPRM was prompted by a report that an MLG door could not be closed due to rupture of the actuator fitting. The SNPRM proposed to revise the NPRM by reducing the compliance time for replacing the MLG actuator fitting and removing an inspection requirement for certain airplanes. We are issuing this AD to prevent rupture of the door actuator fittings, which could result in detachment of an MLG door and subsequent exterior damage and consequent reduced structural integrity of the airplane.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2016-0182, dated September 13, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for all Airbus Model A319, A320, and A321 series airplanes. The MCAI states:

On one A320 aeroplane, it was reported that one of the main landing gear (MLG) doors could not be closed. Investigations revealed the rupture of the actuator fitting at the actuator attachment area on the door side. The MLG door is attached to the aeroplane by 2 (two) hinge fittings.

This condition, if not corrected, could, under certain circumstances, lead to detachment of a MLG door from the aeroplane, possibly resulting in damage to the aeroplane, and/or injury to persons on the ground.

Prompted by these findings, [Direction Générale de l'Aviation Civile] France issued \* \* \* [an AD] \* \* \*, to require a MLG door actuator fitting inspection for cracks and to check the grain direction on a batch of aeroplanes. Subsequently, DGAC France issued \* \* \* [an AD], retaining the requirements of DGAC France AD \* \* \*, which was superseded, to require an inspection of the lower part of the MLG door actuator fitting.

After that [DGAC] AD was issued, additional investigations revealed that damage could also appear on the nerve area [of the forward monoblock fitting], in the upper part of the MLG door actuator fitting in the area of the hinge.

Consequently, DGAC France issued F-2003-434, dated December 10, 2003 [<http://ad.easa.europa.eu/ad/F-2003-454>] (EASA approval 2003-1436), retaining the requirements of [a] DGAC France AD \* \* \*, which was superseded, to require additional repetitive inspections. That [DGAC] AD also included an optional terminating action, by replacing the MLG door actuator fittings in accordance with the instructions of Airbus Service Bulletin (SB) A320-52-1073.

After DGAC France AD F-2003-434 was issued, in the framework of the extended service goal campaign, it was decided to make replacement of the MLG door actuator fittings a required modification. Consequently, EASA issued AD 2014-0166 \* \* \*, retaining the requirements of DGAC France AD F-2003-434, which was superseded, and requiring replacement of the MLG door actuator fittings with new monoblock fittings, which constitutes terminating action for the repetitive inspections.

After EASA AD 2014-0166 [corresponding to the NPRM] was issued, errors were identified in the compliance time definitions. Replacement of the MLG door actuator fittings was required "before exceeding 48,000 flight cycles (FC) or 96,000 flight hours (FH), whichever occurs later since aeroplane first flight", which should have been "whichever occurs first". Furthermore, since the MLG door is an interchangeable part, the compliance time must be defined as FC/FH accumulated by the MLG door. Furthermore, it was discovered that one of the required inspection[s] is applicable only to a batch of MLG door fittings.

For the reason described above, this [EASA] AD retains the requirements of EASA AD 2014-0166, which is superseded, but requires accomplishment of the terminating action within more stringent compliance times, and reduce[s] the applicability of one of the required inspection[s].

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-0461.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received. United Airlines and commenter Lisa Stamps supported the SNPRM.

## **Clarification of Provisions for Excluded Airplanes**

In paragraph (l)(1) of the proposed AD (in the SNPRM), we inadvertently omitted wording related to the prohibition on installing certain MLG door actuator fittings on modified airplanes, which is identified in step 10 of the EASA AD. We have added that provision to paragraph (l)(1) of this AD.

## **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 change described previously, except for minor editorial changes. We have determined that these minor changes:

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

## **Related Service Information Under 1 CFR Part 51**

Airbus has issued the following service information:

- Airbus Service Bulletin A320-52-1073, Revision 04, dated August 10, 1999.
- Airbus Service Bulletin A320-52-1073, Revision 05, dated September 28, 2006.

This service information describes procedures for replacement of MLG door actuator fittings with new monoblock fittings. These documents are distinct due to editorial revisions.

Airbus has also issued the following service information:

- Airbus Service Bulletin A320-52A1086, Revision 01, dated September 10, 1999. This service information describes procedures for high frequency eddy current (HFEC) inspections for cracking of the MLG door fittings, and low frequency eddy current (LFEC) inspections to determine grain direction of raw material of each actuator fitting.
- Airbus Service Bulletin A320-52-1096, Revision 02, dated July 12, 2006. This service information describes procedures for HFEC inspections of both hinge and nerve areas of the MLG doors for cracking.

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.

## **Costs of Compliance**

We estimate that this AD affects 71 airplanes of U.S. registry.

We also estimate that it takes about 136 work-hours per product to comply with the requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$6,258 per product. Based on these figures, we estimate the cost for the actions required by this AD on U.S. operators to be \$1,265,078, or \$17,818 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 that 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.

## **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 airworthiness directive (AD):



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**2017-13-07 Airbus:** Amendment 39-18937; Docket No. FAA-2016-0461; Directorate Identifier 2014-NM-159-AD.

**(a) Effective Date**

This AD is effective August 9, 2017.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the Airbus airplanes, certificated in any category, identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD, all manufacturer serial numbers.

- (1) Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes.
- (2) Model A320-211, -212, -214, -231, -232, and -233 airplanes.
- (3) Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes.

**(d) Subject**

Air Transport Association (ATA) of America Code 52, Doors.

**(e) Reason**

This AD was prompted by a report that a main landing gear (MLG) door could not be closed due to rupture of the actuator fitting. Later reports indicated that the forward monoblock fitting of the MLG door actuator (referred to as the nerve area) could be damaged after rupture of the actuator fitting. We are issuing this AD to prevent rupture of the door actuator fittings, which could result in detachment of an MLG door and subsequent exterior damage and consequent reduced structural integrity of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Repetitive Inspections of MLG Door Actuator Fittings**

For airplanes equipped with MLG door actuator fittings having part number (P/N) D52880224000 or P/N D52880224001 that were installed before the first flight of the airplane on MLG doors identified in paragraphs (g)(1) and (g)(2) of this AD: Within 500 flight hours since the most recent high frequency eddy current (HFEC) inspection done as specified in Airbus Service Bulletin A320-52A1086, Revision 01, dated September 10, 1999, or within 30 days after the effective date of this AD, whichever occurs later, perform an HFEC inspection for cracking of the MLG door fittings, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-

52A1086, Revision 01, dated September 10, 1999. Repeat the inspection thereafter at intervals not to exceed 500 flight hours, except as provided by paragraphs (i), (j), and (k) of this AD.

(1) Left-hand MLG doors with serial numbers (S/Ns) 1206 through 1237 inclusive, 1239 through 1247 inclusive, and 1249 through 1251 inclusive.

(2) Right-hand MLG doors with S/Ns 1208 through 1239 inclusive, 1241 through 1249 inclusive, and 1251.

#### **(h) Repetitive Inspections of MLG Hinge and Nerve Areas**

For airplanes equipped with MLG door actuator fittings having P/N D52880224000, P/N D52880224001, P/N D52880235000, or P/N D52880235001 that were installed before the first flight of the airplane on MLG doors identified in paragraphs (h)(1) and (h)(2) of this AD: Within 400 flight cycles after the effective date of this AD, or before the accumulation of 9,000 total flight cycles since first flight of the airplane, whichever occurs later, perform an HFEC inspection of both hinge and nerve areas of the MLG doors for cracking, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-52-1096, Revision 02, dated July 12, 2006. Repeat the inspection thereafter at intervals not to exceed 800 flight cycles, except as provided by paragraphs (i)(1), (j), and (k) of this AD.

(1) Left-hand MLG doors with S/Ns 1206 through 1510 inclusive, 1548, 1564, and 2000 through 2065 inclusive.

(2) Right-hand MLG doors with S/Ns 1208 through 1519 inclusive, 1551, and 2000 through 2065 inclusive.

#### **(i) Inspections/Corrective Actions**

(1) If any crack is found during any inspection required by paragraph (g) or (h) of this AD: Before further flight, replace the affected MLG door actuator fittings with new monoblock fittings, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-52-1073, Revision 05, dated September 28, 2006. Accomplishing this replacement terminates the repetitive inspections required by paragraphs (g) and (h) of this AD.

(2) If, during any HFEC inspection required by paragraph (g) of this AD, no crack is found: Before further flight, perform a low frequency eddy current (LFEC) inspection to determine the grain direction of the raw material of each MLG actuator fitting, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-52A1086, Revision 01, dated September 10, 1999.

(i) If the grain direction of the raw material is correct, the repetitive inspections required by paragraph (g) of this AD may be terminated.

(ii) If the grain direction of the raw material is incorrect, repeat the HFEC inspection required by paragraph (g) of this AD at the time specified in paragraph (g) of this AD. Replacement of the MLG door actuator fittings with new monoblock fittings as specified in paragraph (i)(1) of this AD terminates the repetitive inspections required by paragraphs (g) and (i)(2)(ii) of this AD.

#### **(j) MLG Door Actuator Fitting Replacement**

For airplanes equipped with any MLG door actuator fitting having P/N D52880102000, P/N D52880102001, P/N D52880220000, P/N D52880220001, P/N D52880224000, P/N D52880224001, P/N D52880235000, or P/N D52880235001: At the later of the times specified in paragraphs (j)(1) and (j)(2) of this AD, replace the MLG door actuator fittings with new monoblock fittings, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-52-1073, Revision 05, dated September 28, 2006. Accomplishing this replacement terminates the repetitive inspections required by paragraphs (g) and (h) of this AD.

(1) Before the accumulation of 48,000 total flight cycles or 96,000 total flight hours on the MLG door, whichever occurs first.

(2) Within 30 days after the effective date of this AD.

### **(k) Optional Terminating Action**

Replacement of the MLG door actuator fittings with new monoblock fittings, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-52-1073, Revision 04, dated August 10, 1999; or Airbus Service Bulletin A320-52-1073, Revision 05, dated September 28, 2006; terminates the repetitive inspections required by paragraphs (g) and (h) of this AD.

### **(l) Airplanes Excluded From Certain AD Requirements**

(1) For airplanes on which Airbus Modification 24903, or Airbus Modification 25372, or Airbus Modification 36979 has been embodied in production, no action is required by this AD, provided that no MLG door actuator fitting having any part number identified in paragraph (j) of this AD has been reinstalled on the airplane since first flight; except the requirements of paragraph (m) of this AD remain applicable to post-mod 24903, post-mod 25372 and post-mod 36979 airplanes.

(2) Modification of an airplane by installing a version (P/N) of the MLG door actuator fitting approved after the effective date of this AD is acceptable for compliance with the requirements in paragraph (j) of this AD, provided the conditions specified in paragraphs (1)(2)(i) and (1)(2)(ii) are met.

(i) The MLG door actuator fitting (P/N) must be approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or Airbus's EASA Design Organization Approval (DOA).

(ii) The modification must be accomplished in accordance with instructions approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; EASA; or Airbus's EASA DOA.

### **(m) Parts Installation Prohibition**

As of the effective date of this AD, no person may install an MLG door actuator fitting having any part number identified in paragraph (j) of this AD on any airplane.

### **(n) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to the person identified in paragraph (o)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the EASA; or Airbus's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

### **(o) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2016-0182, dated September 13, 2016, for related information. This MCAI may be found in



the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-0461.

(2) For more information about this AD, contact Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1405; fax 425-227-1149.

**(p) 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 this AD specifies otherwise.

(i) Airbus Service Bulletin A320-52-1073, Revision 04, dated August 10, 1999.

(ii) Airbus Service Bulletin A320-52-1073, Revision 05, dated September 28, 2006.

(iii) Airbus Service Bulletin A320-52A1086, Revision 01, dated September 10, 1999.

(iv) Airbus Service Bulletin A320-52-1096, Revision 02, dated July 12, 2006.

(3) For service information identified in this AD, contact Airbus, Airworthiness Office–EIAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <http://www.airbus.com>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(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 Renton, Washington, on June 19, 2017.

John P. Piccola, Jr.,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.