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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2018-0395; Product Identifier 2017-NM-136-AD; Amendment 39-19430; AD 2018-19-29]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Airbus SAS 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 SAS Model A330-200 Freighter, -200, and -300 series airplanes; and Airbus SAS Model A340-200, -300, -500, and -600 series airplanes. This AD was prompted by a report of deficient fatigue performance of high strength steel used in forgings. Components made from the affected high strength steel are installed on the main landing gear (MLG), nose landing gear (NLG), and center landing gear (CLG). This AD requires identifying the part number and serial number of certain components installed on the MLG, NLG, and CLG; replacing affected parts; identifying the airplane's weight variant; and determining the applicable life limit for certain components installed on the MLG, NLG, and CLG. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective November 5, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of November 5, 2018.

**ADDRESSES:** For service information identified in this final rule, contact Airbus SAS, Airworthiness Office—EAL, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com); internet <http://www.airbus.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0395.

## 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 2018-0395; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is in the ADDRESSES section.

**FOR FURTHER INFORMATION CONTACT:** Vladimir Ulyanov, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198-6547; telephone and fax 206-231-3229.

## 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 all Airbus Model A330-200 Freighter series airplanes, Model A330-200 series airplanes, Model A330-300 series airplanes, Model A340-200 series airplanes, Model A340-300 series airplanes, Model A340-500 series airplanes, and Model A340-600 series airplanes. The NPRM published in the Federal Register on May 9, 2018 (83 FR 21196). The NPRM was prompted by a report of deficient fatigue performance of high strength steel used in forgings. Components made from the affected high strength steel are installed on the MLG, NLG, and CLG. The NPRM proposed to require identifying the part number and serial number of certain components installed on the MLG, NLG, and CLG; replacing affected parts; identifying the airplane's weight variant; and determining the applicable life limit for certain components installed on the MLG, NLG, and CLG.

We are issuing this AD to address certain parts made from 300M high strength steel, which if uncorrected, could lead to structural failure of the landing gear, and possible loss of control of the airplane during take-off or landing.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2017-0185, dated September 22, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for all Airbus SAS Model A330-200 Freighter series airplanes, Model A330-200 series airplanes, Model A330-300 series airplanes, Model A340-200 series airplanes, Model A340-300 series airplanes, Model A340-500 series airplanes, and Model A340-600 series airplanes. The MCAI states:

In 2006, Messier-Dowty identified a deficiency in the fatigue performance of 300M high strength steel used in forgings. The root cause for this fatigue deficiency was the processing during preparation of the material. After investigation, it was determined that the following material sources (S) were affected by this fatigue deficiency: Electralloy (S1), RSM (S2A, S2B or S2C), Latrobe (S3) and Aubert et Duval (S4).

Consequently, reduced lives were calculated for certain landing gear main fittings, bogie beams and sliding pistons, determined to be affected by the 300M material properties quality issue. These components are installed on Main, Nose and Centre Landing Gears (MLG, NLG, CLG) of A330 and A340 aeroplanes.

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

To initially address this potential unsafe condition, Airbus published reduced life limits for the affected parts from material sources S1, S2 and S3 in the applicable Airworthiness Limitation Section (ALS) Part 1. Later, it was determined that ALS Part 1 was an inappropriate place for recording the reduced lives and Airbus published Service Bulletin (SB) A330-32-3281, SB A340-32-4310, and SB A340-32-5119, as applicable, to provide identification and replacement instructions for affected parts made of all material sources S1, S2, S3 and S4. This action was also accomplished to simplify Airbus ALS Part 1.

For the reasons described above, this [EASA] AD requires [identification of the part numbers and serial numbers of the main fitting, bogie beam and sliding piston of the MLG, NLG, and CLG, and the airplane's weight variant], and implementation of the reduced life limits for the affected parts and replacement of any parts that are close to, or have exceeded the applicable reduced life limit.

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-2018-0395.

## **Comments**

We gave the public the opportunity to participate in developing this final rule. We received no comments on the NPRM or on the determination of the cost to the public.

## **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. We have determined that these minor changes:

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

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

Airbus SAS has issued the following service information.

- Service Bulletin A330-32-3281, Revision 02, including Appendixes 01 through 06, dated June 16, 2017; and Service Bulletin A340-32-4310, Revision 02, including Appendixes 01 through 06, dated June 16, 2017. This service information includes procedures for inspections to identify the part numbers and serial numbers of the main fittings, bogie beams, and sliding pistons of the MLG; and procedures for determining the airplane's weight variant. This service information also describes the reduced life limits for affected parts. These documents are distinct since they apply to different airplane models.
- Service Bulletin A340-32-5119, Revision 01, including Appendixes 01 through 07, dated January 31, 2017. This service information includes procedures for inspections to identify the part numbers and serial numbers of the main fittings and bogie beams of the MLG, NLG, and CLG; and procedures for determining the airplane's weight variant. This service information also describes the reduced life limits for affected parts.

In addition, Airbus has issued the following service information, which describes life limits for affected parts. These documents are distinct since they apply to different airplane models and different life limited parts.

- A330 Airworthiness Limitations Section (ALS) Part 1, “Safe Life Airworthiness Limitation Items (SL-ALI),” Revision 09, dated September 18, 2017.
- A330 ALS Part 1, “Safe Life Airworthiness Limitation Items (SL-ALI),” Variation 9.2, dated November 28, 2017.
- A340 ALS Part 1, “Safe Life Airworthiness Limitation Items (SL-ALI),” Revision 09, dated September 18, 2017.
- A340 ALS Part 1, “Safe Life Airworthiness Limitation Items (SL-ALI),” Variation 9.2, dated November 28, 2017.

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 103 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

#### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	4 work-hours × \$85 per hour = \$340	\$0	\$340	\$35,020

We have received no definitive data that will enable us to provide cost estimates for the on-condition part replacements specified in this AD.

### 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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

### Regulatory Findings

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):



**FAA**  
**Aviation Safety**

## **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

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**2018-19-29 Airbus SAS:** Amendment 39-19430; Docket No. FAA-2018-0395; Product Identifier 2017-NM-136-AD.

**(a) Effective Date**

This AD is effective November 5, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the Airbus SAS airplanes identified in paragraphs (c)(1) through (c)(7) of this AD, certificated in any category, all manufacturer serial numbers.

- (1) Model A330-201, -202, -203, -223, and -243 airplanes.
- (2) Model A330-223F and -243F airplanes.
- (3) Model A330-301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes.
- (4) Model A340-211, -212, and -213 airplanes.
- (5) Model A340-311, -312, and -313 airplanes.
- (6) Model A340-541 airplanes.
- (7) Model A340-642 airplanes.

**(d) Subject**

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

**(e) Reason**

This AD was prompted by a report of deficient fatigue performance of 300M high strength steel used in forgings. Components made of 300M high strength steel are installed on the main landing gear (MLG), nose landing gear (NLG), and center landing gear (CLG). We are issuing this AD to detect and correct certain parts made from 300M high strength steel, which if uncorrected, could lead to structural failure of the landing gear, and possible loss of control of the airplane during take-off or landing.

**(f) Compliance**

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

**(g) Definitions**

(1) For the purpose of this AD, an affected part is any main fitting, bogie beam, or sliding piston of the MLG, NLG, or CLG installed on the airplane, having a part number and serial number

combination specified in the applicable service information identified in paragraphs (h)(1), (h)(2), and (h)(3) of this AD.

(2) For the purpose of this AD, a serviceable part is any main fitting, bogie beam, or sliding piston of the MLG, NLG, or CLG that has not exceeded the applicable life limit specified in paragraph (g)(2)(i), (g)(2)(ii), or (g)(2)(iii) of this AD, since first installation on an airplane.

(i) The life limit specified in the applicable service information identified in paragraphs (h)(1), (h)(2), and (h)(3) of this AD.

(ii) The life limit specified in Airbus A330 Airworthiness Limitations Section (ALS) Part 1, "Safe Life Airworthiness Limitation Items (SL-ALI)," Revision 09, dated September 18, 2017; and A330 ALS Part 1, "Safe Life Airworthiness Limitation Items (SL-ALI)," Variation 9.2, dated November 28, 2017.

(iii) The life limit specified in Airbus A340 Airworthiness Limitations Section (ALS) Part 1, "Safe Life Airworthiness Limitation Items (SL-ALI)," Revision 09, dated September 18, 2017; and A340 ALS Part 1, "Safe Life Airworthiness Limitation Items (SL-ALI)," Variation 9.2, dated November 28, 2017.

### **(h) Identification of Part Number, Serial Number, Weight Variant, and Reduced Life Limit**

Within 3 months after the effective date of this AD: Identify the part number and serial number of each main fitting, bogie beam, and sliding piston of the MLG, NLG, and CLG installed on the airplane; identify the airplane's weight variant; and determine the applicable reduced life limit; in accordance with the Accomplishment Instructions of the applicable service information identified in paragraph (h)(1), (h)(2), or (h)(3) of this AD. A review of airplane maintenance records is acceptable for identification of the installed main fittings, bogie beams, and sliding pistons of the MLG, NLG, and CLG, provided the part number and serial number of each component can be conclusively identified by that review.

(1) Airbus Service Bulletin A330-32-3281, Revision 02, including Appendixes 01 through 06, dated June 16, 2017.

(2) Airbus Service Bulletin A340-32-4310, Revision 02, including Appendixes 01 through 06, dated June 16, 2017.

(3) Airbus Service Bulletin A340-32-5119, Revision 01, including Appendixes 01 through 07, dated January 31, 2017.

### **(i) Replacement of Affected Parts**

Prior to exceeding the applicable life limit, as specified in the applicable service information identified in paragraph (h)(1), (h)(2), or (h)(3) of this AD, or within 3 months after the effective date of this AD, whichever occurs later: Replace each affected part (as defined in paragraph (g)(1) of this AD) with a serviceable part (as defined in paragraph (g)(2) of this AD).

### **(j) Parts Installation Specification**

As of the effective date of this AD, any affected part (as defined in paragraph (g)(1) of this AD) may be used as a replacement part, provided the affected part is also a serviceable part (as defined in paragraph (g)(2) of this AD), and following installation, the affected part is replaced prior to exceeding the applicable life limit as specified in paragraph (g)(2) of this AD.

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

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, 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 Section, send it to the attention of the person identified in paragraph (1)(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 Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus SAS's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(3) Required for Compliance (RC): If any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are recommended. Those procedures and tests that are not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

#### **(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0185, dated September 22, 2017, 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-2018-0395.

(2) For more information about this AD, contact Vladimir Ulyanov, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198-6547; telephone and fax 206-231-3229.

#### **(m) 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 A330 Airworthiness Limitations Section (ALS) Part 1, "Safe Life Airworthiness Limitation Items (SL-ALI)," Revision 09, dated September 18, 2017.

(ii) Airbus A330 Airworthiness Limitations Section (ALS) Part 1, "Safe Life Airworthiness Limitation Items (SL-ALI)," Variation 9.2, dated November 28, 2017.

(iii) Airbus A340 Airworthiness Limitations Section (ALS) Part 1, "Safe Life Airworthiness Limitation Items (SL-ALI)," Revision 09, dated September 18, 2017.

(iv) Airbus A340 Airworthiness Limitations Section (ALS) Part 1, "Safe Life Airworthiness Limitation Items (SL-ALI)," Variation 9.2, dated November 28, 2017.

(v) Airbus Service Bulletin A330-32-3281, Revision 02, including Appendixes 01 through 06, dated June 16, 2017.

(vi) Airbus Service Bulletin A340-32-4310, Revision 02, including Appendixes 01 through 06, dated June 16, 2017.

(vii) Airbus Service Bulletin A340-32-5119, Revision 01, including Appendixes 01 through 07, dated January 31, 2017.

(3) For service information identified in this AD, contact Airbus SAS, Airworthiness Office—EAL, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36



96; fax +33 5 61 93 45 80; email [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com); internet <http://www.airbus.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(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 Des Moines, Washington, on September 14, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.