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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2015-3635; Directorate Identifier 2015-NM-037-AD; Amendment 39-18553; AD 2016-12-04]**

**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 A318 series airplanes; A319 series airplanes; A320-211, -212, -214, -231, -232, and -233 airplanes; and A321 series airplanes. This AD was prompted by an evaluation by the design approval holder (DAH) indicating that certain structural repair manual (SRM) inspection requirements for the fuselage skin repairs are insufficient to detect cracks. This AD requires an inspection to determine whether any fuselage external skin (doubler) repairs have been accomplished, an inspection for cracking of certain repaired external fuselage skin areas in the fuselage, and repair if necessary. We are issuing this AD to detect and correct fatigue cracking of the fuselage skin, which could result in reduced structural integrity of the airplane.

**DATES:** This AD becomes effective July 20, 2016.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of July 20, 2016.

**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; 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-2015-3635.

## 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-2015-3635; 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 notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Airbus Model A318 series airplanes; A319 series airplanes; A320-211, -212, -214, -231, -232, and -233 airplanes; and A321 series airplanes. The NPRM published in the Federal Register on September 28, 2015 (80 FR 58226) ("the NPRM"). The NPRM was prompted by an evaluation by the DAH indicating that the fuselage skin repairs are subject to WFD. The NPRM proposed to require an inspection to determine whether any fuselage external skin (doubler) repairs have been accomplished, an inspection for cracking of certain repaired external fuselage skin areas in the fuselage, and repair if necessary. We are issuing this AD to detect and correct fatigue cracking of the fuselage skin, which could result in 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 2015-0036R1, dated March 31, 2015 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition on all Airbus Model A318 series airplanes; A319 series airplanes; A320-211, -212, -214, -231, -232, and -233 airplanes, and A321 series airplanes. The MCAI states:

During A320 family Extended Service Goal full scale fatigue tests, it was demonstrated that the inspection thresholds defined in the current Structural Repair Manual (SRM) for the A320 family skin repairs are insufficient to detect possible cracks becoming after repairs. The findings are limited to 1.2 [millimeter] (mm) fuselage skin and cover for all cut-out external repairs. The internal repairs are not affected.

This condition, if not detected and corrected, could affect the structural integrity of the fuselage at the repaired skin area(s).

To address this potential unsafe condition, Airbus issued Alert Operators Transmission (AOT) A53N007-14 to provide inspection instructions.

For the reasons described above, EASA issued AD 2015-0036 [<http://www.casa.gov.au/scripts/nc.dll?WCMS:OLDASSET::svPath=/ADFiles/over/a320/svFileName=2015-0036.pdf>] to require a one-time inspection of the affected areas and, depending on findings, accomplishment of applicable repair instructions.

Since that [EASA] AD was issued, operators have questioned the inspection threshold for A318 aeroplanes (not yet in the Airbus AOT), which is actually identical to that for A319 aeroplanes. In addition, an error has been detected in paragraph (1) [of the EASA AD], since external doublers may have been installed in the affected area by a modification that may not be recorded as repair.

Such doubler installations are also subject to the inspection requirements of this [EASA] AD, which is therefore revised to provide clarifications, correcting paragraph (1) [of the EASA AD] and introducing a Note.

Required actions include an inspection to determine whether any fuselage external skin (doubler) repairs have been accomplished, an external ultrasonic inspection or an internal low/high frequency eddy current inspection for cracking of certain repaired external fuselage skin areas in the fuselage, and repair if necessary. The compliance times vary depending on airplane configuration. The earliest compliance time is within 25,200 flight cycles since last repair, or within 350 flight cycles after the effective date of the AD, whichever occurs later. The latest compliance time is within 45,000 flight cycles since last repair; within 1,500 flight cycles from the effective date of the AD, without exceeding 49,100 flight cycles since last repair; or within 350 flight cycles since the effective date of the AD; whichever occurs latest. 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-2015-3635.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We have considered the comments received. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Support for the NPRM**

Mr. Bryant Kerr stated that the NPRM is an excellent idea, and it is always worth improving safety on airplanes.

### **Request To Revise Applicability**

United Airlines (UAL) requested that we revise the NPRM applicability to apply only to airplanes having repairs that were completed before May 1, 2015, the date of the revised service repair manual (SRM). UAL stated that any new airplane deliveries or external repairs accomplished after the updated SRM thresholds will presumably have the correct thresholds contained in the maintenance/inspection program.

We partially agree with UAL's request. We agree that airplanes with repairs accomplished using the updated SRM will be in compliance with certain sections of this AD, such as the timescale for the inspection, which is a subset of the AD requirements. However, the SRM update will not replace the remaining AD requirements, which must be applicable to all airplanes identified in paragraph (c) of this AD. We have not changed this AD in this regard.

### **Request To Exclude Inspected Airplanes**

Delta Airlines (DAL) stated that since certain repairs and modifications on its airplanes have already had their first inspection prior to the compliance time specified in the NPRM, the NPRM requirements should not apply. DAL also stated that if an operator's maintenance/inspection program is more stringent than the requirements of paragraph (m) of the proposed AD, the operator should be excluded from the NPRM requirements.

We disagree with DAL's request. Accomplishment of the first inspection is only part of the actions required by this AD. Paragraph (m) of this AD requires revision of the post-repair inspection threshold(s) in the operator's maintenance program or inspection program. This AD includes the minimum requirements for mitigating the identified unsafe condition. However, under the provisions of paragraph (n)(1) of this AD, we will consider requests for approval of different methods of compliance if sufficient data are submitted to substantiate that the change would provide an acceptable level of safety. We have not changed this AD in this regard.

### **Request To Revise Compliance Time**

DAL requested a compliance time extension from 350 flight cycles to 6 months. DAL stated that depending on the fleet utilization, an operator of a large, older fleet could be required to accomplish the compliance rework within a few months, thereby creating a significant impact on its available resources. DAL also stated that it is possible that several airplanes will be grounded because it may not have enough resources to comply with the 350-flight-cycle limit.

We do not agree with DAL's request. DAL's rationale for a compliance time extension does not provide an acceptable level of safety. The compliance time of this AD is based on a risk assessment. Some safety issues are more time sensitive than others. We have considered the compliance time established by EASA, and the overall risk to the fleet, including the severity of the identified unsafe condition and the likelihood of the occurrence of the unsafe condition, to determine the compliance time. However, under the provisions of paragraph (n)(1) of this AD, operators may apply for an extension of the compliance time by providing a satisfactory rationale explaining why a compliance time extension provides an acceptable level of safety. We have not changed this final rule in this regard.

### **Request To Clarify Requirements and Approve Certain Repair Information Sources**

DAL requested that we make a distinction that the NPRM requirements apply only to external repair fasteners common to the 1.2-millimeter (mm) skin. DAL also stated that we should approve category B repairs done using the latest revision of the SRM and any repair design approval sheet (RDAS) approved after July 1, 2014. DAL stated that the applicable Airbus SRM repair inspection thresholds have been revised this year to address certain inadequacies.

We do not agree with DAL's requests. Paragraph (g) of this AD already requires an inspection to determine whether any fuselage doubler repairs have been accomplished on affected fuselage sections with a skin thickness of 1.2 mm. DAL did not substantiate how the corrective actions in any RDAS for category "B" repairs approved after July 1, 2014, and the latest revision of the SRMs would adequately address the unsafe condition. However, the commenter may use the provisions of paragraph (n)(2) of this AD for obtaining corrective actions from a manufacturer. We have not changed this AD in this regard.

### **Request To Clarify Inspection Timeframes**

UAL requested clarification on how the NPRM addresses detection of cracking in the timeframe between the inspection threshold specified in the NPRM and Airbus Alert Operators Transmission A53N007-14, dated July 22, 2014, and the repetitive inspections specified in the SRM. UAL stated that the compliance time has a short threshold if the repair records are inconclusive, which is as early as 350 flight cycles from the effective date of the AD; therefore, the initial inspection could be accomplished much earlier than the crack detection period.

We agree to clarify the inspection timeframes. The 350-flight-cycle compliance time is a second option to the compliance time specified in Airbus Alert Operators Transmission A53N007-14, dated July 22, 2014. The compliance time is based on a risk assessment that takes into consideration the fatigue crack length propagation. We have considered the compliance time established by EASA, and

the overall risk to the fleet, including the severity of the identified unsafe condition and the likelihood of the occurrence of the unsafe condition. No change to the AD is necessary in this regard.

### **Request To Correct Non-Destructive Testing Manual (NTM) Task Numbers**

DAL stated that Airbus Alert Operators Transmission A53N007-14, dated July 22, 2014, references incorrect formatting of NTM task numbers. DAL stated the formatting should be "51-10-15-270-801-A01" and "51-10-16-250-801-A01," and not "51-10-15-270-801-A-01" and "51-10-16-250-801-A-01."

We disagree with DAL's statement. NTM task numbers 51-10-15-270-801-A-01 and 51-10-16-250-801-A-01 are correctly referenced in Airbus Alert Operators Transmission A53N007-14, dated July 22, 2014, and in the Airbus A318/319/320/321 Non-Destructive Testing Manual. We have not changed this AD in this regard.

### **Clarification of Unsafe Condition Language**

We revised the description of the precipitating event in the SUMMARY and paragraph (e) of this AD to correspond to the wording used in the MCAI AD.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD 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 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 this AD.

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

Airbus has issued Alert Operators Transmission A53N007-14, dated July 22, 2014. The service information describes procedures for an inspection to detect cracking on repaired 1.2-millimeter fuselage skin areas on fuselage sections 11, 12, 13, 14, 16, and 17 at external doubler repairs. 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 940 airplanes of U.S. registry.

We also estimate that it will take about 2 work-hours 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 \$159,800, or \$170 per product.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions 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.

### **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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**2016-12-04 Airbus:** Amendment 39-18553. Docket No. FAA-2015-3635; Directorate Identifier 2015-NM-037-AD.

**(a) Effective Date**

This AD becomes effective July 20, 2016.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the Airbus airplanes specified in paragraphs (c)(1) through (c)(4) of this AD, certificated in any category, all manufacturer serial numbers.

- (1) Airbus Model A318-111, -112, -121, and -122 airplanes.
- (2) Airbus Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes.
- (3) Airbus Model A320-211, -212, -214, -231, -232, and -233 airplanes.
- (4) Airbus Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes.

**(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Reason**

This AD was prompted by an evaluation by the design approval holder (DAH) indicating that certain structural repair manual (SRM) inspection requirements for the fuselage skin repairs are insufficient to detect cracks. We are issuing this AD to detect and correct fatigue cracking of the fuselage skin, which could result in reduced structural integrity of the airplane.

**(f) Compliance**

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

**(g) Inspection To Determine Repair Areas**

At the applicable time specified in paragraph (g)(1) or (g)(2) of this AD: Do an inspection to determine whether any fuselage external skin (doubler) repairs have been accomplished on fuselage sections 11, 12, 13, 14, 16, and 17 with a skin thickness of 1.2 millimeters. A review of airplane maintenance records is acceptable in lieu of this inspection if the identification of applicable repairs can be conclusively determined from that review.

(1) For Model A319, A320, and A321 series airplanes: Except as specified in paragraphs (h)(1) and (h)(2) of this AD, at the applicable time specified in paragraphs 4.1.1.b. and 4.1.1.c. of the

"Accomplishment Timescale" of Airbus Alert Operators Transmission (AOT) A53N007-14, dated July 22, 2014, or within 350 flight cycles after the effective date of this AD, whichever occurs later.

(2) For Model A318 series airplanes: Except as specified in paragraphs (h)(1) and (h)(2) of this AD, at the Model A319 airplane time specified in paragraphs 4.1.1.b. and 4.1.1.c. of the "Accomplishment Timescale" of Airbus AOT A53N007-14, dated July 22, 2014, or within 350 flight cycles after the effective date of this AD, whichever occurs later.

#### **(h) Exceptions to Service Information**

(1) Where paragraphs 4.1.1.b. and 4.1.1.c. of the "Accomplishment Timescale" of Airbus AOT A53N007-14, dated July 22, 2014, specify "FC," this AD specifies "flight cycles."

(2) Where paragraphs 4.1.1.b. and 4.1.1.c. of the "Accomplishment Timescale" of Airbus AOT A53N007-14, dated July 22, 2014, specify "from AOT issuance," this AD specifies "as of the effective date of this AD."

#### **(i) Inspection for Cracking**

If, during the inspection required by paragraph (g) of this AD, it is determined that any fuselage external skin (doubler) repair has been accomplished on fuselage section 11, 12, 13, 14, 16, or 17: At the applicable time specified paragraph (g)(1) or (g)(2) of this AD, do an external ultrasonic inspection or an internal low frequency eddy current (LFEC) inspection for cracking of all of the repaired 1.2-millimeter (mm) fuselage skin areas, in accordance with the instructions specified in paragraph 4.2.2, "Inspection Requirements," of Airbus AOT A53N007-14, dated July 22, 2014, except as provided by paragraph (j) of this AD.

#### **(j) Optional Inspection for Cracking**

As an optional method of compliance to the ultrasonic inspection or LFEC inspection required by paragraph (i) of this AD: Do a high frequency eddy current (HFEC) inspection for cracking in the cut-out surrounding the fastener area, at and in front (approximately 10-15 millimeters) of the fastener row, after doubler removal and before any new extended doubler installation, using a method 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).

#### **(k) Optional Repetitive Inspections**

In lieu of doing the inspection required by paragraph (i) of this AD: Within the applicable compliance time specified in paragraph 4.1.1, "Accomplishment Timescale," of Airbus AOT A53N007-14, dated July 22, 2014, after accomplishing the inspections required by paragraph (g) of this AD, do a detailed inspection or HFEC inspection and repeat the inspection thereafter within the applicable compliance times specified in paragraph 4.1.1, "Accomplishment Timescale," of Airbus AOT A53N007-14, dated July 22, 2014. The inspections must be done in accordance with the instructions of paragraph 4.2.2, "Inspection Requirements," of Airbus AOT A53N007-14, dated July 22, 2014. For Model A318 series airplanes, use the applicable compliance times and instructions specified in Airbus AOT A53N007-14, dated July 22, 2014, that are specified for Model A319 series airplanes.

#### **(l) Repair**

If any crack is found during any inspection required by paragraph (i), (j), or (k) of this AD: Before further flight, repair the cracking, in accordance with the instructions of paragraph 4.2.3,

"Findings," of Airbus AOT A53N007-14, dated July 22, 2014, except where Airbus AOT A53N007-14, dated July 22, 2014, specifies to contact Airbus for a repair design approval sheet or for further instructions, this AD requires repair using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the EASA; or Airbus's EASA DOA.

**(m) FAA-Approved Maintenance or Inspection Program Revision**

Concurrently with the accomplishment of any repair required by paragraph (l) of this AD, revise the post-repair inspection threshold(s) in the applicable FAA-approved maintenance program or inspection program, as applicable, in accordance with the instructions specified in paragraph 4.1.1, "Accomplishment Timescale," of Airbus AOT A53N007-14, dated July 22, 2014; except for Model A318 series airplanes use the instructions specified for Model A319 series airplanes.

**(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 ATTN: 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. 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 2015-0036R1, dated March 31, 2015, 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-2015-3635.

**(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 Alert Operators Transmission A53N007-14, dated July 22, 2014.

(ii) Reserved.

(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 May 31, 2016.  
Michael Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.