



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9305; Directorate Identifier 2016-NM-073-AD; Amendment 39-18804; AD 2017-04-09]

RIN 2120-AA64

Airworthiness Directives; Airbus Airplanes

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

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2012-22-12 for all Airbus Model A330-243, -243F, -341, -342, and -343 airplanes. AD 2012-22-12 required inspecting piccolo tubes and mount links, the aft side of the forward bulkhead, and outer boundary angles (OBAs); and doing corrective actions if necessary. This new AD retains certain requirements of AD 2012-22-12, and adds inspections of certain areas of the forward bulkhead, and related investigative and corrective actions if necessary. This AD was prompted by reports of cracking of air intake cowls, worn and detached attachment links, fractured thermal anti-ice (TAI) piccolo tubes, and loose or missing attachment rivets of the inner boundary angles (IBAs) and OBAs of the forward bulkhead. We are issuing this AD to address the unsafe condition on these products.

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

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

ADDRESSES: For Airbus service information identified in this final rule, contact Airbus SAS – Airworthiness Office – EAL, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email airworthiness.A330-A340@airbus.com; Internet <http://www.airbus.com>.

For Rolls-Royce service information identified in this final rule, contact Rolls-Royce Plc, Technical Publications, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; telephone 44 (0) 1332 245882; fax 44 (0) 1332 249936; Internet <http://www.Rolls-Royce.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-2016-9305.

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-2016-9305; 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 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: Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1138; fax 425-227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2012-22-12, Amendment 39-17248 (77 FR 67263, November 9, 2012) (“AD 2012-22-12”). AD 2012-22-12 applied to all Airbus Model A330-243, -243F, -341, -342, and -343 airplanes. The NPRM published in the Federal Register on November 7, 2016 (81 FR 78085). The NPRM was prompted by reports of cracking of air intake cowls on Rolls-Royce Trent engines, worn and detached attachment links, fractured TAI piccolo tubes, and loose or missing attachment rivets of the IBAs and the OBAs of the forward bulkhead. The NPRM proposed to retain certain requirements of AD 2012-22-12, and add repetitive inspections for pulled, loose, and missing attachment rivets of the IBAs and OBAs of the forward bulkhead, and related investigative and corrective actions if necessary. We are issuing this AD to detect and correct degraded structural integrity of the engine nose cowl, which in the case of forward bulkhead damage in conjunction with a broken piccolo tube, could lead to damage to the engine and operation in icing conditions with reduced TAI performance.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive, 2016-0086R1, dated May 13, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all Airbus Model 330-243, -243F, -341, -342, and -343 airplanes. The MCAI states:

During shop visit, cracks were found in several primary structural parts of Rolls Royce (RR) Trent 700 engine air intake cowls, specifically in the forward bulkhead web, web stiffeners and outer boundary angles (OBA). In addition, several attachment links were found severely worn, and some became detached. In two cases, the thermal anti-ice (TAI) piccolo tube was found fractured. Investigation results show that the cracks are most likely due to acoustic excitation and vibration.

A broken piccolo tube, if not detected and corrected, in conjunction with forward air intake cowl bulkhead damage, could lead to in-flight detachment of the outer barrel, possibly resulting in damage to the engine or reduced control of the aeroplane.

To address this potential unsafe condition, Airbus issued Service Bulletin (SB) A330-71-3025, making reference to RR SB RB.211-71-AG416, to provide inspection instructions, and, depending on findings, accomplishment of applicable corrective action(s).

Consequently, EASA issued AD 2011-0062 [which corresponds to FAA AD 2012-22-12] to require repetitive special detailed inspections (SDI) [borescope] of the piccolo tube and affected mount links, the aft side of forward bulkhead, inner boundary angles (IBA) and OBA of the RR Trent 700 air intake cowl assemblies, and, depending on findings, accomplishment of applicable corrective action(s).

Since EASA AD 2011-0062 was issued, some occurrences were reported of finding attachment rivets of the IBA and OBA either pulled, loose, or missing during inspection. It was determined that the affected IBA and OBA rivets may

not have been previously inspected if operators accomplished the required inspection in accordance with the instructions of RR SB RB.211-71-AG416 at original issue.

To address this potentially missed inspection, Airbus published SB A330-71-3033, providing instructions for a one-time detailed inspection of the IBA and OBA attachment rivets, to be accomplished if the previous inspection was accomplished using the instructions of RR SB RB.211-71-AG416 at original issue. Airbus also published SB A330-71-3025 Revision 2, adding an inspection of the IBA and OBA attachment rivets, to be used if the previous inspection was accomplished using RR SB RB.211-71-AG416 at issue 1 or later. Airbus also published SB A330-71-3032 to introduce a modification (mod) that would eliminate the need for repetitive inspections.

For the reasons described above, this [EASA] AD partially retains the requirements of EASA AD 2011-0062, which is superseded, and requires an additional [special] detailed inspection [borescope] of IBA and OBA forward bulkhead attachment rivets. This [EASA] AD also introduces an optional terminating action (Airbus mod 204615, embodied in production, which can be embodied in service with Airbus SB A330-71-3032) for the repetitive inspections required by this [EASA] AD.

This [EASA] AD is revised to improve clarity, including Airbus and RR SB references and inserting Notes to identify the Part Numbers (P/N) of the affected engine air intake nose cowl assemblies.

Related investigative actions include inspecting for cracked or fractured piccolo tubes and for broken piccolo tube links. Corrective actions include replacing the engine air intake cowl assembly and repair of pulled, loose, or missing rivets.

The compliance times for the related investigative and corrective actions range from before further flight to within 100 flight cycles, depending on the findings of the inspections.

The repetitive inspection interval for the IBAs, OBAs, and forward bulkhead varies depending on inspection findings, and ranges between 200 and 5,000 flight cycles. The repetitive inspection interval for the piccolo tubes and links is 2,500 flight cycles.

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-2016-9305.

Comments

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

Conclusion

We reviewed the available data 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.

Related Service Information under 1 CFR part 51

Airbus has issued Service Bulletin A330-71-3025, Revision 02, dated December 9, 2015. This service information describes procedures for inspections of the piccolo tube and mount links, the aft side of the forward bulkhead, the IBAs, OBAs, and the forward bulkhead on the engine air intake cowl assemblies; and related investigative and corrective actions.

Airbus also has issued Service Bulletin A330-71-3032, dated December 10, 2014. This service information describes procedures for a modification that improves the air intake primary structure and adds a new piccolo tube supporting structure on the engine air intake cowl assemblies.

In addition, Airbus has issued Service Bulletin A330-71-3033, dated December 14, 2015. This service information describes procedures for an inspection for pulled, loose, and missing attachment rivets of the IBAs and OBAs of the forward bulkhead, and corrective actions.

Rolls-Royce has issued Service Bulletin RB.211-71-H205, dated July 7, 2014. This service information describes procedures for modifying the nose cowl assembly acoustic panels.

Rolls-Royce also has issued Service Bulletin RB.211-71-H847, dated December 2, 2014. This service information describes procedures for modifying the air intake nose cowl assembly, forward bulkhead assembly, TAI spray ring, and the TAI spray ring supporting hardware.

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 47 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 |
|--------------------------|---|-------------------|------------------------------------|----------------------------------|
| Inspections (new action) | 12 work-hours X \$85 per hour = \$1,020 per inspection cycle | \$0 | \$1,020 per inspection cycle | \$47,940 per inspection cycle |

Estimated costs for optional actions

| Action | Labor cost | Parts cost | Cost per product |
|---------------|---|-------------------|-------------------------|
| Modification | Up to 142 work-hours X \$85 per hour = \$12,070 | [1] | Up to \$12,070 |

[1] We have received no definitive data that will enable us to provide material cost estimates for the optional actions specified in this AD.

We estimate the following costs to do any necessary repairs that will be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs:

On-condition costs

| Action | Labor cost | Parts cost | Cost per product |
|---------------|--|-------------------|-------------------------|
| Repairs | 16 work-hours X \$85 per hour = \$1,360 | [2] | \$1,360 |

[2] We have received no definitive data that will enable us to provide material 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 removing Airworthiness Directive (AD) 2012-22-12, Amendment 39-17248 (77 FR 67263, November 9, 2012), and adding the following new AD:

2017-04-09 Airbus: Amendment 39-18804; Docket No. FAA-2016-9305; Directorate Identifier 2016-NM-073-AD.

(a) Effective Date

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

(b) Affected ADs

This AD replaces AD 2012-22-12, Amendment 39-17248 (77 FR 67263, November 9, 2012) (“AD 2012-22-12”).

(c) Applicability

This AD applies to Airbus Model A330-243, -243F, -341, -342, and -343 airplanes, certificated in any category, all serial numbers.

(d) Subject

Air Transport Association (ATA) of America Code 71, Powerplant.

(e) Reason

This AD was prompted by reports of cracking of air intake cowls on Rolls-Royce Trent engines, worn and detached attachment links, and fractured thermal anti-ice (TAI) piccolo tubes, and loose, or missing attachment rivets of the inner boundary angles (IBAs) and the outer boundary angles (OBAs) of the forward bulkhead. We are issuing this AD to detect and correct degraded structural integrity of the engine nose cowl, which in the case of forward bulkhead damage in conjunction with a broken piccolo tube, could lead to damage to the engine and operation in icing conditions with reduced TAI performance.

(f) Compliance

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

(g) Affected Engine Air Intake Nose Cowl Assemblies

The engine air intake nose cowl assemblies affected by this AD have part numbers (P/N) SJ30020, P/N SJ30361, P/N SJ30687, P/N SJ30810, and P/N SJ30811, as specified in Rolls-Royce Service Bulletin RB.211-71-H205, dated July 7, 2014.

(1) The engine air intake nose cowl assemblies having P/N SJ30020, P/N SJ30361, and P/N SJ30687 can be modified (reworked and re-identified as

P/N SJ30810 (for P/N SJ30020 and P/N SJ30361) and P/N SJ30811 (for P/N SJ30687)), as specified in Rolls-Royce Service Bulletin RB.211-71-H205, dated July 7, 2014.

(2) The engine air intake nose cowl assemblies having P/N SJ30810 and P/N SJ30811 can be modified (reworked and re-identified as P/N SJ30820 and P/N SJ30821, respectively), as specified in Rolls-Royce Service Bulletin RB.211-71-H847, dated December 2, 2014.

(h) Inspections, Related Investigative Actions, and Corrective Actions

For airplanes in pre-Airbus Modification 204615 and pre-Airbus Service Bulletin A330-71-3032 configuration: At the applicable times specified in paragraph (h)(1) or (h)(2) of this AD, do a special detailed inspection of the piccolo tube and affected mount links, the aft side of the forward bulkhead, and the IBAs and OBAs of the affected engine air intake cowl assemblies specified in paragraph (g) of this AD; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Airbus Service Bulletin A330-71-3025, Revision 02, dated December 9, 2015, except as required by paragraph (i) of this AD. Do all applicable related investigative and corrective actions at the applicable time specified in paragraph 1.E., “Compliance,” of Airbus Service Bulletin A330-71-3025, Revision 02, dated December 9, 2015. Repeat the inspections of the piccolo tube and affected mount links, the aft side of the forward bulkhead, and the IBAs and OBAs of the engine air intake cowl assemblies thereafter at the applicable intervals specified in paragraph 1.E., “Compliance,” of Airbus Service Bulletin A330-71-3025, Revision 02, dated

December 9, 2015. Accomplishment of corrective actions does not constitute terminating action for the repetitive inspections required by this paragraph.

(1) For any engine air intake cowl assembly that has accumulated fewer than 5,000 flight cycles since its first installation on an airplane as of the effective date of this AD: Inspect within 24 months after the engine air intake cowl assembly has accumulated 5,000 total flight cycles.

(2) For any engine air intake cowl assembly that has accumulated 5,000 or more flight cycles since its first installation on an airplane as of the effective date of this AD: Inspect within 24 months after the effective date of this AD.

(i) Service Information Exception

Where Airbus Service Bulletin A330-71-3025, Revision 02, dated December 9, 2015, specifies to contact Bombardier Aerospace-Shorts for instructions, before further flight, repair 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).

(j) Optional Terminating Action

Modification of an airplane in accordance with the Accomplishment Instructions of Airbus Service Bulletin A330-71-3032, dated December 10, 2014, constitutes terminating action for the repetitive inspections required by paragraph (h) of this AD for the modified airplane only.

(k) Parts Installation Limitation

As of the effective date of this AD, any pre-Airbus Modification 204615 part may be installed on any airplane provided that, at the earlier of the applicable times specified in paragraphs (h)(1) and (h)(2) of this AD following installation, the actions required by paragraph (h) of this AD have been accomplished on the pre-Airbus Modification 204615 part.

(l) Credit for Previous Actions

This paragraph provides credit for actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Airbus Service Bulletin A330-71-3025, dated January 10, 2011, which was incorporated by reference in AD 2012-22-12; or Airbus Service Bulletin A330-71-3025, Revision 01, dated October 24, 2012, which is not incorporated by reference in this AD; provided that, within 1,050 flight cycles after the effective date of this AD, a special detailed inspection for pulled, loose, and missing attachment rivets of the IBAs and OBAs of the forward bulkhead is accomplished; and all applicable corrective actions are done; in accordance with the Accomplishment Instructions of Airbus Service Bulletin A330-71-3033, dated December 14, 2015. Do all applicable corrective actions before further flight. Accomplishment of corrective actions does not constitute terminating action for the repetitive inspections required by paragraph (h) of this AD.

(m) 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: Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1138; fax 425-227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov.

(i) 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.

(ii) AMOCs approved previously for AD 2012-22-12 are not approved as AMOCs with this AD.

(2) Contacting the Manufacturer: As of the effective date of this AD, 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.

(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.

(n) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2016-0086R1, dated May 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-2016-9305.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (o)(3) and (o)(5) of this AD.

(o) 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 A330-71-3025, Revision 02, dated December 9, 2015.

(ii) Airbus Service Bulletin A330-71-3032, dated December 10, 2014.

(iii) Airbus Service Bulletin A330-71-3033, dated December 14, 2015.

(iv) Rolls-Royce Service Bulletin RB.211-71-H205, dated July 7, 2014.

(v) Rolls-Royce Service Bulletin RB.211-71-H847, dated December 2, 2014.

(3) For Airbus service information identified in this AD, contact Airbus SAS – Airworthiness Office – EAL, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email airworthiness.A330-A340@airbus.com; Internet <http://www.airbus.com>.

(4) For Rolls-Royce service information identified in this AD, contact Rolls-Royce Plc, Technical Publications, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; telephone 44 (0) 1332 245882; fax 44 (0) 1332 249936; Internet <http://www.Rolls-Royce.com>.

(5) 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.

(6) 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 February 3, 2017.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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