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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0498; Product Identifier 2018-NM-013-AD; Amendment 39-19465; AD 2018-21-07]

RIN 2120-AA64

Airworthiness Directives; Airbus SAS Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Airbus SAS Model A330-200 Freighter, -200, and -300 series airplanes. This AD was prompted by reports of Angle of Attack (AOA) blockages not detected by upgraded flight control primary computer (FCPC) software standards. This AD requires upgrading certain FCPCs, which terminates a certain airplane flight manual revision for certain airplanes. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective November 19, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of November 19, 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; 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-2018-0498.

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-2018-0498; 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 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 Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; 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 certain Airbus SAS Model A330-200 Freighter, -200, and -300 series airplanes. The NPRM published in the Federal Register on June 4, 2018 (83 FR 25595). The NPRM was prompted by reports of AOA blockages not detected by upgraded FCPC software standards. The NPRM proposed to require upgrading certain FCPCs, which would terminate a certain airplane flight manual revision for certain airplanes. We are issuing this AD to address Alpha protection activation due to blocked AOA probes, which could result in reduced controllability 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 AD 2017-0246R1, dated April 6, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Airbus SAS Model A330-200 Freighter, -200, and -300 series airplanes. The MCAI states:

In 2015, occurrences were reported of multiple Angle of Attack (AOA) blockages. Investigation results indicated the need for AOA monitoring in order to better detect cases of AOA blockage.

This condition, if not corrected, could, under specific circumstances, lead to undue activation of the Alpha protection, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, Airbus developed new FCPC software standards for enhanced AOA monitoring and, consequently, EASA issued AD 2015-0124 (later revised) [which corresponds to FAA AD 2016-25-30, Amendment 39-18756, (82 FR 1175, January 5, 2017) (“AD 2016-25-30”)] to require these software standard upgrades.

Since EASA AD 2015-0124R3 was issued, it was identified that, for some cases, AOA blockages were not detected by those FCPC software standards. Consequently, new FCPC software standards, as specified in Table 1 of this [EASA] AD, have been developed (Airbus modification (mod) 206412, mod 206413 and mod 206414) to further improve the detection of AOA blockage. Airbus issued Service Bulletin (SB) A330-27-3222 and SB A330-27-3223 to implement these mods on in-service aeroplanes. Consequently, EASA issued AD 2017-0246 to require a software standard upgrade of the three FCPCs, either by modification or replacement.

Since that [EASA] AD was issued, it was determined that the Aircraft Flight Manual (AFM) Emergency Procedure, as previously required by EASA AD 2014-0267-E [which corresponds to FAA AD 2014-25-52, Amendment 39-18066, (80 FR 3161, January 22, 2015) (“AD 2014-25-52”)] can also be removed for other AOA sensors

and FCPC configurations. This [EASA] AD revises paragraph (2) accordingly, also introducing Table 2 for that purpose.

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-2018-0498.

Comments

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

Support for the NPRM

The Air Line Pilots Association, International (ALPA) expressed support for the NPRM.

Request To Change Applicability

Delta Air Lines (Delta) asked that we further restrict the applicability identified in paragraph (c) of the proposed AD by including the effectivity in the referenced service information. Delta stated that operators should be held accountable only for airplanes on which an airworthiness concern exists, and those airplanes correspond to the effectivity of the referenced service information. Delta added that if there are airplanes outside of this effectivity, operators will incur costs to produce and maintain records for those airplanes, regardless of whether or not there is an unsafe condition. Delta asserted that the service information provides a list of production airplanes that will be, or will have been, delivered with the affected software.

We do agree to clarify the applicability. This AD is applicable to airplanes equipped with certain FCPC and not only to specific airplane manufacturer serial numbers (MSNs). For airplanes equipped with certain FCPC, only those that are in a pre-mod configuration as specified in paragraph (g) of this AD are required to do the upgrade specified in paragraph (h) of this AD. Airplanes in a post-mod configuration are not required to do an upgrade; however, they must comply with paragraph (k) of this AD. Paragraph (k) of this AD prohibits the installation of any software or hardware of a standard earlier than one listed in table 1 to paragraphs (h) and (k) of this AD on all airplanes identified in paragraph (c) of this AD. In order for this installation prohibition to be effective, airplanes in a post-mod configuration must be included in the applicability. We are also matching the applicability in the MCAI. Therefore, we have not changed this AD in this regard.

Request To Remove Reference to Group 2 Airplanes

Delta asked that we remove references to Group 2 airplanes from paragraphs (g) and (k) of the proposed AD, "Definition of Groups" and "Parts Installation Prohibition," respectively. Delta stated that Group 1 airplanes are those in pre-mod 206412, 206413, or 206414 configuration, as applicable; Group 2 airplanes are those in post-mod 206412, 206413, or 206414 configuration, as applicable. Delta added that Group 2 airplanes are those that do not require modification, since they are already equipped with the FCPC software; therefore, those airplanes should be excluded from the applicability since the unsafe condition does not exist on those airplanes. Delta noted that a Group 1/Group 2 definition is redundant to the applicability paragraph because that paragraph defines only those airplanes on which the unsafe condition exists. Delta also noted that the proposed language in paragraph (k) of the proposed AD would allow continued installation of existing hardware/software before the AD effective date and prohibit removal of the modification after the effective date of the AD.

We do not agree with the commenter's request. Airplanes in Groups 1 and 2 represent the total of the airplanes identified in paragraph (c) of the AD. Group 1 and Group 2 are defined in paragraph (g)

of this AD to distinguish one from another, for the purpose of identifying the applicable requirements. Removing the definition of Group 2 airplanes from paragraph (g) of this AD would not remove Group 2 airplanes from the applicability. Airplanes in Group 2 may in the future be subject to the unsafe condition identified in this AD if an earlier standard of software or hardware is installed on that airplane. Therefore, so that Group 2 airplanes remain in an airworthy configuration after the effective date of the AD, paragraph (k) of this AD prohibits the installation of any software or hardware of a standard earlier than that listed in table 1 to paragraphs (h) and (k) of this AD. Therefore, we have not changed this AD in this regard.

Request To Reference to Later Revisions of Service Information

Delta asked that we change paragraph (h) of the proposed AD to allow use of subsequent service bulletins. Delta stated that the FCPC software standard has changed approximately every two years. Delta noted that adding the term “or relative later software standard” will allow operators to immediately install the latest software standard without having to request an alternative method of compliance (AMOC).

We disagree with the commenter's request. In general terms, we are required by the Office of the Federal Register (OFR) regulations to either publish the service document contents as part of the actual AD language; or submit the service document to the OFR for approval as “referenced” material, in which case we may only refer to such material in the text of an AD. The AD may refer to the service document only if the OFR approved it for “incorporation by reference.” See 1 CFR part 51.

To allow operators to use later revisions of the referenced document (issued after publication of the AD), either we must revise the AD to reference specific later revisions, or operators must request approval to use later revisions or later software standards as an AMOC for this AD under the provisions of paragraph (l)(1) of this AD. We have not changed this AD in this regard.

Conclusion

We reviewed the relevant data, considered the comments received, 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 A330-27-3222, dated February 16, 2017.
- Service Bulletin A330-27-3223, dated June 6, 2017.

This service information describes procedures for upgrading (by modification or replacement, as applicable) certain FCPCs. These documents are distinct since they apply to different airplanes in different configurations. 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
Modification/replacement	3 work-hours × \$85 per hour = \$255	\$0	\$255	\$26,265

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all known costs in our cost estimate.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

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/
www.gpoaccess.gov/fr/advanced.html

2018-21-07 Airbus SAS: Amendment 39-19465; Docket No. FAA-2018-0498; Product Identifier 2018-NM-013-AD.

(a) Effective Date

This AD is effective November 19, 2018.

(b) Affected ADs

This AD affects AD 2014-25-52, Amendment 39-18066 (80 FR 3161, January 22, 2015) ("AD 2014-25-52"); and AD 2016-25-30, Amendment 39-18756, (82 FR 1175, January 5, 2017) ("AD 2016-25-30").

(c) Applicability

This AD applies to the airplanes, certificated in any category, identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD; all manufacturer serial numbers; equipped with flight control primary computers (FCPCs) having software standard P13/M22 (hardware 2K2), P14/M23 (hardware 2K1), or M23 (hardware 2K0), or earlier standard.

- (1) Airbus Model A330-223F and -243F airplanes.
- (2) Airbus Model A330-201, -202, -203, -223, and -243 airplanes.
- (3) Airbus Model A330-301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes.

Note 1 to paragraph (c) of this AD: The software standards specified in paragraph (c) of this AD correspond, respectively, to part number (P/N) LA2K2B100DG0000, P/N LA2K1A100DF0000, and P/N LA2K01500AF0000. All affected airplanes should be equipped with this software, as required by AD 2016-25-30.

(d) Subject

Air Transport Association (ATA) of America Code 27, Flight Controls.

(e) Reason

This AD was prompted by reports of Angle of Attack (AOA) blockages not detected by upgraded FCPC software standards. We are issuing this AD to prevent Alpha protection activation due to blocked AOA probes, which could result in reduced controllability of the airplane.

(f) Compliance

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

(g) Definitions of Groups

Group 1 airplanes are those in pre-mod 206412, pre-mod 206413, or pre-mod 206414 configuration, as applicable. Group 2 airplanes are those in post-mod (206412, 206413, or 206414, as applicable) configuration.

(h) Upgrade Flight Control Primary Computer Software

For Group 1 airplanes: Within 12 months after the effective date of this AD: Upgrade (by modification or replacement, as applicable) the three FCPCs, as specified in table 1 to paragraphs (h) and (k) of this AD, in accordance with the Accomplishment Instructions of the applicable service information specified in table 1 to paragraphs (h) and (k) of this AD.

Table 1 to paragraphs (h) and (k) of this AD – Software Standard Updates

Software Standard to be Installed	FCPC Hardware Standard	Applicable Service Bulletin
P15/M24	2K2	Airbus Service Bulletin A330-27-3222, dated February 16, 2017
P16/M25	2K1	Airbus Service Bulletin A330-27-3223, dated June 6, 2017
M25	2K0	Airbus Service Bulletin A330-27-3223, dated June 6, 2017

(i) Terminating Action for Certain Requirements of AD 2014-25-52

For airplanes with an AOA configuration as identified in figure 1 to paragraph (i) of this AD, or as identified in paragraph (m)(2) of AD 2016-12-15, Amendment 39-18564 (81 FR 40160, June 21, 2016) (“AD 2016-12-15”), as applicable: Accomplishing the upgrade required by paragraph (h) of this AD terminates the requirements of paragraph (g) of AD 2014-25-52, and the airplane flight manual (AFM) procedure required by paragraph (g) of AD 2014-25-52 may be removed from the AFM.

Figure 1 to paragraph (i) of this AD – AOA Sensor Installation Configurations

AOA Sensor P/N – Captain	AOA Sensor P/N - First Officer	AOA Sensor P/N - Standby
C16291AB or C16291AA	C16291AB or C16291AA	C16291AB, C16291AA, 0861ED or 0861ED2

Note: For AOA sensor P/N C16291AA, paragraph (j) of AD 2016-12-15 requires detailed inspections and a functional heating test of that sensor.

(j) Terminating Action for Certain Requirements of AD 2016-25-30

Accomplishment of the actions required by paragraph (h) of this AD terminates the requirements of paragraph (g) of AD 2016-25-30 for that airplane.

(k) Parts Installation Prohibition

Installation of any software or hardware of a version earlier than the one listed in table 1 to paragraphs (h) and (k) of this AD is prohibited, as required by paragraphs (k)(1) and (k)(2) of this AD, as applicable.

(1) For Group 1 airplanes: After modification of an airplane as required by paragraph (h) of this AD.

(2) For Group 2 airplanes: As of the effective date of this AD.

(l) 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 manager of the International Branch, send it to the attention of the person identified in paragraph (m)(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 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.

(m) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0246R1, dated April 6, 2018, 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-2018-0498.

(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; telephone and fax 206-231-3229.

(n) 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 A330-27-3222, dated February 16, 2017.

(ii) Airbus Service Bulletin A330-27-3223, dated June 6, 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; 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 23, 2018.

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