



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2018-0556; Product Identifier 2018-NM-015-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Airbus Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all Airbus Model A318 series; Model A319 series; Model A320 series; and Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes. This proposed AD was prompted by reports of multiple angle of attack (AoA) probe blockages. This proposed AD would require all elevator aileron computer (ELAC) units to be upgraded with new software, or replaced with upgraded units. We are proposing this AD to address the unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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

### **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-2018-0556; 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 NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Sanjay Ralhan, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3223; fax 206-231-3398.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2018-0556; Product Identifier 2018-NM-015-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

### **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2018-0007R1, dated January 19, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all Airbus Model A318 series; Model A319 series; Model A320 series; and Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes. The MCAI states:

Occurrences were reported on multiple Angle of Attack (AoA) probes blockages. Investigation results indicated the need for improved AoA monitoring in order to detect cases of AoA probe blockage.

This condition, if not corrected, could lead to undue activation of the AoA protection, reverting to manual control of the aeroplane, which, under specific circumstances, could result in reduced control of the aeroplane.

To address this potential unsafe condition, Airbus developed several Elevator Aileron Computer (ELAC) standards, i.e. ELAC units loaded with a specific software Part Number (P/N), and EASA issued AD 2017-0008, retaining part of the requirements of EASA AD 2015-0088R1 [which corresponds to FAA AD 2016-17-03, Amendment 39-18616 (81 FR 55358, August 19, 2016) (“AD 2016-17-03”)], which was superseded, and requiring an upgrade of all ELAC units with ELAC L99 standard, which introduces improvements in the AoA probe monitoring for Current Engine Option (CEO) aeroplanes, and also incorporates flight control aspects for New Engine Option (NEO) aeroplanes.

Since that [EASA] AD was issued, it was determined that clarification is necessary for the Parts Installation requirements, and some typographical (P/N) errors were detected. This [EASA] AD is revised accordingly.

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-2018-0556.

### **Relationship of Proposed AD to AD 2016-17-03**

This NPRM does not propose to supersede AD 2016-17-03. Rather, we have determined that a stand-alone AD would be more appropriate to address the changes in the MCAI. This proposed AD would require all ELAC units to be upgraded with new software, or replaced with upgraded units. Accomplishment of the proposed actions would then terminate all of the requirements of AD 2016-17-03.

## **Related Service Information under 1 CFR part 51**

Airbus has issued Service Bulletin A320-27-1263, Revision 00, dated April 28, 2017; and Service Bulletin A320-27-1264, Revision 00, dated April 28, 2017. The service information describes the upgrade or replacement of ELAC units. These documents are distinct because they apply to different airplane 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.

## **FAA's Determination and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type designs.

## **Costs of Compliance**

We estimate that this proposed AD affects 1,250 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Modification	3 work-hours X \$85 per hour = \$255	Up to \$7,970	Up to \$8,225	Up to \$10,281,250

## **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 proposed 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 to the Director of the System Oversight Division.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

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.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

**Airbus:** Docket No. FAA-2018-0556; Product Identifier 2018-NM-015-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD affects AD 2016-17-03, Amendment 39-18616 (81 FR 55358, August 19, 2016) (“AD 2016-17-03”).

**(c) Applicability**

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

(1) Model A318-111, -112, -121, and -122 airplanes.

(2) Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes.

(3) Model A320-211, -212, -214, -216, -231, -232, -233, -251N, and -271N airplanes.

(4) Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes.

**(d) Subject**

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

**(e) Reason**

This AD was prompted by reports of multiple angle of attack (AoA) probe blockages. We are issuing this AD to address the blockage of AoA probes. This condition, if not corrected, could lead to undue activation of the AoA protection, reverting to manual control of the airplane, which, under specific circumstances, could result in reduced control of the airplane.

**(f) Compliance**

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

**(g) Definition of Affected Elevator Aileron Computer (ELAC)**

For the purposes of this AD, ELAC units having a part number (P/N) listed in table 1 to paragraphs (g), (h), and (i) of this AD are hereafter referred to as “affected ELAC” in this AD.

**Table 1 to paragraphs (g), (h), and (i) of this AD – Affected ELAC Part Numbers**

<b>ELAC P/N</b>	<b>Designation</b>	<b>FIN</b>
3945122202	ELAC A320-111 Type Def.	2 CE 1 / 2
3945122203	ELAC L50C	2 CE 1 / 2
3945122303	ELAC L50C	2 CE 1 / 2
3945122304	ELAC L60	2 CE 1 / 2
3945122305	ELAC L61B	2 CE 1 / 2
3945122306	ELAC L61F	2 CE 1 / 2
3945122307	ELAC L62C	2 CE 1 / 2
C12370AA01	ELAC L68C	2 CE 1 / 2
3945122501	ELAC L69	2 CE 1 / 2
3945122502	ELAC L69J	2 CE 1 / 2
3945122503	ELAC L77	2 CE 1 / 2
3945122504	ELAC L78	2 CE 1 / 2
3945122505	ELAC A L80	2 CE 1 / 2
3945123505	ELAC A’ L80	2 CE 1 / 2
3945128101	ELAC B L80	2 CE 1 / 2
3945122506	ELAC A L81	2 CE 1 / 2
3945123506	ELAC A’ L81	2 CE 1 / 2
3945128102	ELAC B L81	2 CE 1 / 2
3945122507	ELAC A L82	2 CE 1 / 2
3945123507	ELAC A’ L82	2 CE 1 / 2
3945128103	ELAC B L82	2 CE 1 / 2
3945122608	ELAC A L83	2 CE 1 / 2
3945123608	ELAC A’ L83	2 CE 1 / 2
3945122609	ELAC A L84	2 CE 1 / 2

<b>ELAC P/N</b>	<b>Designation</b>	<b>FIN</b>
3945123609	ELAC A' L84	2 CE 1 / 2
3945128204	ELAC B L90L	2 CE 1 / 2
3945128205	ELAC B L90N	2 CE 1 / 2
3945128206	ELAC B L91	2 CE 1 / 2
3945129101	ELAC B L91 data loadable	2 CE 1 / 2 SW1
3945128207	ELAC B L92	2 CE 1 / 2
3945128208	ELAC B L92L	2 CE 1 / 2
3945128209	ELAC B L93	2 CE 1 / 2
3945129103	ELAC B L93 data loadable	2 CE 1 / 2 SW1
3945128210	ELAC B L94	2 CE 1 / 2
3945129104	ELAC B L94 data loadable	2 CE 1 / 2 SW1
3945128212	ELAC B L96	2 CE 1 / 2
3945129106	ELAC B L96 data loadable	2 CE 1 / 2 SW1
3945129107	ELAC B L96 H-A data loadable	2 CE 1 / 2 SW1
3945128214	ELAC B L97	2 CE 1 / 2
3945129108	ELAC B L97 data loadable	2 CE 1 / 2 SW1
3945128215	ELAC B L97+	2 CE 1 / 2
3945129109	ELAC B L97+ data loadable	2 CE 1 / 2 SW1
3945128216	ELAC B L98	2 CE 1 / 2
3945129110	ELAC B L98 data loadable	2 CE 1 / 2 SW1

**(h) Required Actions**

For airplanes with ELAC part numbers listed in table 1 to paragraphs (g), (h), and (i) of this AD: Within the applicable compliance times defined in figure 1 to paragraph (h) of this AD, upgrade each ELAC by uploading L99 software part number (P/N) 3945129111 or by replacing the existing ELAC with ELAC L99 P/N 3945128217 in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-27-1263, Revision 00, dated April 28, 2017, or Airbus Service Bulletin A320-27-1264, Revision 00, dated April 28, 2017, as applicable, or in accordance with modification instructions approved by the Manager, International Section, Transport

Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus’s EASA Design Organization Approval (DOA); or in accordance with modification instructions approved by an EASA DOA (other than the Airbus EASA DOA), provided the conditions specified in paragraphs (h)(1) through (h)(4) of this AD are met. If approved by the DOA, the approval must include the DOA-authorized signature.

(1) Absence of electronic centralized aircraft monitoring (ECAM) warning or maintenance message related to ELAC, before the data-loadable ELAC unit is removed and software is loaded.

(2) The data-loadable ELAC unit is removed as specified in Airbus aircraft maintenance manual (AMM) Task 27-93-34-000-001-A.

(3) The data-loadable ELAC unit is checked by two different means, either line replaceable unit (LRU) identification and label call up, or Alpha Call Up ELA 1 and ELA 2.

(4) After the software is loaded, the data-loadable ELAC unit is re-installed as specified in Airbus AMM Task 27-93-34-400-001-A.

Note 1 to paragraph (h) of this AD: Non-data-loadable ELAC L99 P/N 3945128217 units are fully interchangeable and mixable with data-loadable ELAC L99 P/N 3945129100 units with L99 software P/N 3945129111 loaded.

**Figure 1 to paragraph (h) of this AD – Compliance Times**

<b>Airplanes</b> (all models)	<b>Compliance Time</b> (after the effective date of this AD)
A318, A319, and A321	Within 24 months
Model A320 series airplanes	Within 36 months

**(i) Parts Installation Prohibition**

(1) For airplanes with ELAC units listed in table 1 to paragraphs (g), (h), and (i) of this AD: After modification of an airplane as required by paragraph (h) of this AD, do not install any affected ELAC on that airplane.

(2) For airplanes with ELAC units not listed in table 1 to paragraphs (g), (h), and (i) of this AD: From the effective date of this AD, do not install any affected ELAC on that airplane.

**(j) Installation of Later Software Versions**

Installation of an ELAC unit with a software standard above L99 is equal to compliance with the requirements of paragraph (h) of this AD, provided the conditions specified in paragraphs (j)(1) through (j)(2) of this AD are met.

(1) The ELAC unit part number is approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or Airbus's EASA DOA.

(2) The installation is accomplished in accordance with modification instructions approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or Airbus's EASA DOA; or in accordance with modification instructions approved by an EASA DOA (other than the Airbus EASA DOA), provided the conditions in paragraphs (j)(2)(i) through (j)(2)(iv) of this AD are met.

(i) Absence of ECAM warning or maintenance message related to ELAC, before the data-loadable ELAC unit is removed and software is loaded.

(ii) The data-loadable ELAC unit is removed as specified in Airbus AMM Task 27-93-34-000-001-A.

(iii) The data-loadable ELAC unit is checked by two different means, either LRU identification and label call up, or Alpha Call Up ELA 1 and ELA 2.

(iv) After the software is loaded, the data-loadable ELAC unit is re-installed as specified in Airbus AMM Task 27-93-34-400-001-A.

**(k) Airplanes not Affected by the Requirements of Paragraph (h) of this AD**

(1) An airplane on which any modification (mod) specified in paragraphs (k)(1)(i) and (k)(1)(ii) of this AD was embodied in production is not affected by the requirements of paragraph (h) of this AD, provided it is determined that no affected ELAC is installed as of the effective date of this AD.

(i) Airbus mod 161843 (installation of data-loadable ELAC P/N 3945129100 unit with L99 software P/N 3945129111) or mod 159979 (installation of non-data-loadable ELAC L99 P/N 3945128217).

(ii) Airbus mod 160577 (installation of data-loadable ELAC P/N 3945129100 unit with L101 software P/N 3945129112) or mod 162042 (installation of non-data-loadable ELAC L101 P/N 3945128218).

(2) An airplane on which any modification specified in paragraphs (k)(2)(i), (k)(2)(ii), or (k)(2)(iii) of this AD was done is not affected by the requirements of paragraph (h) of this AD, provided it is determined that no affected ELAC is installed as of the effective date of this AD.

(i) A modification specified in Airbus Service Bulletin A320-27-1267, Revision 00, dated September 27, 2017 (ELAC L101 P/N 3945128218 non-data-loadable).

(ii) A modification specified in Airbus Service Bulletin A320-27-1268, Revision 00, dated September 27, 2017 (ELAC P/N 3945129100 data-loadable with L101 software P/N 3945129112 for A320 NEO).

(iii) A modification specified in Airbus Service Bulletin A320-27-1269, Revision 00, dated September 27, 2017 (ELAC P/N 3945129100 data-loadable with L101 software P/N 3945129112).

**(l) Terminating Action for AD 2016-17-03**

Accomplishing the actions required by paragraph (h) of this AD or complying with any method of compliance specified in paragraph (k) of this AD terminates all requirements of AD 2016-17-03.

**(m) 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 (n)(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 EASA; or Airbus's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(n) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2018-0007R1, dated January 19, 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-2018-0556.

(2) For more information about this AD, contact Sanjay Ralhan, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3223; fax 206-231-3398.

(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>. 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. 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.

Issued in Des Moines, Washington, on June 7, 2018.

Michael Kaszycki,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.

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