Airworthiness Directive

AD No.: 2018-0007

Issued: 10 January 2018

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

AIRBUS

Type/Model designation(s):

A318, A319, A320 and A321 aeroplanes

Effective Date: 24 January 2018

TCDS Number(s): EASA.A.064

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2015-0088R1 dated 02 June 2015.

ATA 27 – Flight Controls – Elevator Aileron Computers – Replacement / Software Update

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Manufacturer(s):

Airbus (formerly Airbus Industrie)

Applicability:

Airbus A318-111, A318-112, A318-121, A318-122, A319-111, A319-112, A319-113, A319-114, A319-115, A319-131, A319-132, A319-133, A320-211, A320-212, A320-214, A320-215, A320-216, A320-231, A320-232, A320-233, A320-251N, A320-271N, A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231 and A321-232 aeroplanes, all manufacturer serial numbers.

Reason:

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).

For the reason described above, this AD retains part of the requirements of EASA AD 2015-0088R1, which is superseded, and requires an upgrade of all ELAC units with ELAC L99 standard, which introduces improvements in the AoA probe monitoring for Current Engine Option (CEO)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.

Note 1: A321 NEO aeroplane models include the ELAC L99 standard in their type design definition.

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:

Note 2: For the purpose of this AD:
- Group 1 aeroplanes are those equipped with an ELAC listed in Appendix 1 of this AD.
- Group 2 aeroplanes are those equipped with an ELAC listed in Appendix 2 of this AD.
- Group 3 aeroplanes are those equipped with an ELAC not listed in Appendix 1 and 2 of this AD.

Partial restatement of the requirements of EASA AD 2015-0088R1:

Modification:
(1) For Group 1 aeroplanes: Within the compliance time as defined in Table 1 of this AD, as applicable, replace each ELAC unit with an ELAC P/N 3945129100 unit with L97+ software P/N 3945129109, or modify ELAC P/N 3945129100 units by uploading L97+ software P/N 3945129109, in accordance with the instructions of Airbus SB A320-27-1243.

Table 1 – ELAC L97+ Installation

Aeroplanes (all models) (see Note 3 of this AD)	**Compliance Time** (after 01 June 2015, the effective date of the original issue of AD 2015-0088)
A318 and A321 with UTAS AoA probes	5 months
A319 and A320 with UTAS AoA probes	10 months
All other aeroplanes	25 months

Note 3: Aeroplanes with UTAS (formerly Goodrich) AoA probes P/N 0861ED or P/N 0861ED2 installed in all 3 positions (Captain, First Officer and Standby).

(2) Modification of an aeroplane, within the compliance time as defined in Table 1 of this AD, as applicable, by replacing existing ELAC units with ELAC L97+ P/N 3945128215 units (see Note 4 of this AD) in accordance with the instructions of Airbus SB A320-27-1244 is an acceptable method of compliance with the requirement of paragraph (1) of this AD for that aeroplane.

Note 4: Non-data-loadable ELAC L97+ P/N 3945128215 units are fully interchangeable and mixable with data-loadable ELAC L97+ P/N 3945129100 units with operational software P/N 3945129109 loaded.

New requirements of this AD:

Note 5: Airbus SB A320-27-1263 and SB A320-27-1264, as applicable, are hereafter collectively referred to as "the applicable SB" in this AD.

Modification / Replacement:

(3) For Group 1 and Group 2 aeroplanes: Within the compliance time as defined in Table 2 of this AD, as applicable, upgrade each ELAC unit by uploading L99 software P/N 3945129111 or by replacing existing ELAC units with ELAC L99 P/N 3945128217 units (see Note 6 of this AD) in accordance with the applicable SB, or in accordance with modification instructions which are:
a) Approved by EASA, or
b) Approved under Airbus Design Organisation Approval (DOA), or
c) Approved under EASA Design Organisation for which the following conditions are met:
- Absence of ECAM warning or maintenance message related to ELAC, before the data-loadable ELAC unit is being removed and software is loaded.
- The data-loadable ELAC unit is removed as per Airbus AMM Task 27-93-34-000-001-A.
- The data-loadable ELAC unit is checked by two different means: LRU ident and label call up, or Alpha Call Up ELA 1 and ELA2.
- After the software is loaded, the data-loadable ELAC unit is re-installed as per Airbus AMM Task 27-93-34-400-001-A.

Note 6: Non-data-loadable ELAC L99 P/N 3945128217 units are fully interchangeable and mixable with data-loadable ELAC P/N 3945129100 units with L99 software P/N 3945129111 loaded.

Table 2 – ELAC L99 Installation

Aeroplanes (all models)	**Compliance Time** (after the effective date of this AD)
A318, A319 and A321	24 months
A320	36 months

Note 7: As for models A320-251N and A320-271N (part of Group 2) there is no Airbus SB for installation of ELAC L99 standard, refer to the provisions of paragraphs (5), (8) or (9) of this AD for these models.

Note 8: ELAC units having a P/N as listed in Appendix 1 and 2 of this AD are hereafter referred to as "affected ELAC" in this AD.

Parts Installation:

(4) Do not install on any aeroplane an affected ELAC (see Note 8 of this AD), as required by paragraph (4.1), (4.2) or (4.3) of this AD, as applicable.

(4.1) For Group 1 aeroplanes: After modification of the aeroplane as required by paragraph (1) of this AD.

(4.2) For Group 2 aeroplanes: After modification of the aeroplane as required by paragraph (3) of this AD.

(4.3) For Group 3 aeroplanes: From the effective date of this AD.

(5) Installation of an ELAC unit P/N with a software standard above L99, approved before or after the effective date of this AD, is equal to compliance with the requirements of paragraph (3) of this AD, provided the conditions as specified in paragraphs (5.1) and (5.2) of this AD are met.

(5.1) The ELAC unit P/N must be approved by EASA, or approved under Airbus DOA;

(5.2) The installation must be accomplished in accordance with modification instructions which are:
a) Approved by EASA, or
b) Approved under Airbus DOA, or
c) Approved under EASA Design Organisation for which the following conditions are met:
- Absence of ECAM warning or maintenance message related to ELAC, before the data-loadable ELAC unit is being removed and software is loaded.
- The data-loadable ELAC unit is removed as per Airbus AMM Task 27-93-34-000-001-A.
- The data-loadable ELAC unit is checked by two different means: LRU ident and label call up, or Alpha Call Up ELA 1 and ELA 2.
- After the software is loaded, the data-loadable ELAC unit is re-installed as per Airbus AMM Task 27-93-34-400-001-A.

Credit:

(6) An aeroplane on which Airbus mod 156546 (installation of data-loadable ELAC P/N 3945129100 unit with L97+ software P/N 3945129109) or mod 156550 (installation of non-data-loadable ELAC L97+ P/N 3945128215) was embodied in production is not affected by the requirements of paragraphs (1) and (2) of this AD, provided it is determined that no affected ELAC listed in Appendix 1 (see Note 8 of this AD) is installed on the effective date of this AD.

(7) An aeroplane on which Airbus mod 161209 (installation of data-loadable ELAC P/N 3945129100 unit with L98 software P/N 3945129110) or mod 158027 (installation of non-data-loadable ELAC L98 P/N 3945128216) was embodied in production, or an aeroplane that has been modified in service in accordance with Airbus SB A320-27-1251 (ELAC P/N 3945129110 data-loadable with L98 software P/N 3945129110) or SB A320-27-1255 (ELAC L98 P/N 3945128216 non-data-loadable), is not affected by the requirements of paragraphs (1) and (2) of this AD, provided it is determined that no affected ELAC listed in Appendix 1 (see Note 8 of this AD) is installed on the effective date of this AD.

(8) An aeroplane on which 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) was embodied in production is not affected by the requirements of paragraphs (1), (2) and (3) of this AD, provided it is determined that no affected ELAC (see Note 8 of this AD) is installed on the effective date of this AD.

(9) An aeroplane on which 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) was embodied in production, or an aeroplane that has been modified in service in accordance with Airbus SB A320-27-1269 (ELAC P/N 3945129112 data-loadable with L101 software P/N 3945129112), Airbus SB A320-27-1268 (ELAC P/N 3945129112

data-loadable with L101 software P/N 3945129112 for A320 NEO), or SB A320-27-1267 (ELAC L101 P/N 3945128218 non-data-loadable) is not affected by the requirements of paragraphs (1), (2) and (3) of this AD, provided it is determined that no affected ELAC (see Note 8 of this AD) is installed on the effective date of this AD.

Ref. Publications:

Airbus SB A320-27-1243 original issue dated 17 March 2015, or Revision 01 dated 14 December 2015.

Airbus SB A320-27-1244 original issue dated 05 March 2015.

Airbus SB A320-27-1251 original issue dated 26 May 2016, or Revision 01 dated 01 January 2017.

Airbus SB A320-27-1255 original issue dated 26 May 2016, or Revision 01 dated 01 January 2017.

Airbus SB A320-27-1263 original issue dated 28 April 2017.

Airbus SB A320-27-1264 original issue dated 28 April 2017.

Airbus SB A320-27-1267 original issue dated 27 September 2017.

Airbus SB A320-27-1268 original issue dated 27 September 2017.

Airbus SB A320-27-1269 original issue dated 27 September 2017.

The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. This AD was posted on 21 November 2017 as PAD 17-158 for consultation until 19 December 2017. The Comment Response Document can be found in the EASA Safety Publications Tool, in the compressed (zipped) file attached to the record for this AD.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS – Airworthiness Office – EIAS; Fax +33 5 61 93 44 51; E-mail: account.airworth-eas@airbus.com.

Appendix 1 – ELAC P/N (and associated Software P/N) to be removed from service after 01 July 2017 [25 months after the effective date of EASA AD 2015-0088R1].

ELAC P/N	Designation	FIN
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
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

Appendix 1 – ELAC P/N (and associated Software P/N) to be removed from service after 01 July 2017 [25 months after the effective date of EASA AD 2015-0088R1]. (Cont'd)

ELAC P/N	Designation	FIN
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

Appendix 2 – ELAC P/N to be removed from service in accordance with the requirements of this AD

ELAC P/N	Designation	FIN
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