



## Airworthiness Directive

**AD No.:** 2017-0237

**Issued:** 04 December 2017

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:** 18 December 2017

**TCDS Number(s):** EASA.A.064

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2014-0147 dated 11 June 2014.

## ATA 27 – Flights Controls – Trimmable Horizontal Stabilizer Actuator – Inspection

### 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, A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231 and A321-232 aeroplanes, all manufacturer serial numbers.

### Reason:

The Trimmable Horizontal Stabilizer Actuator (THSA) of Airbus A320 Family aeroplanes has been rig-tested to check secondary load path behaviour in case of primary load path failure. In that configuration, the loads are transferred to the secondary load path, which should jam, preventing any Trimmable Horizontal Stabilizer motion. The test results showed that the secondary load path did not jam as expected, preventing detection of the primary load path failure. To verify the integrity of the THSA primary load path and the correct installation of the THSA, Airbus issued Service Bulletin (SB) A320-27-1164, later revised multiple times, and SB A320-27A1179, and EASA issued AD 2006-0223, AD 2007-0178, AD 2008-0150 and AD 2014-0147, each AD superseding the previous one, requiring one-time and repetitive inspections.



Since EASA AD 2014-0147 was issued, Airbus designed a new device, called Electrical Load Sensing Device (ELSD), to introduce a new mean of THSA upper secondary load path engagement detection. Consequently, Airbus issued several SBs (Airbus SB A320-27-1245, A320-27-1246, and A320-27-1247, depending on aeroplane configuration) providing instructions to install the wiring provision for ELSD installation and to install ELSD on the THSA, and SB A320-27-1248, providing instructions to activate the ELSD. Airbus also revised SB A320-27-1164, now at Revision 13, including instructions applicable for aircraft equipped with ELSD.

Furthermore, following a visual inspection of the THSA, an operator reported that the THSA was found with a bush missing, inducing torqueing of the THSA lower attachment primary bolt against the THSA lug, which resulted in the application of a transverse force on the lug.

Prompted by several other identical findings, Airbus released Alert Operator Transmission (AOT) A27N010-17 to provide instructions for inspection and associated corrective actions.

For the reasons described above, this AD retains the requirements of EASA AD 2014-0147, which is superseded, and requires installation of ELSD on the THSA, ELSD activation, and a one-time inspection to verify the bush presence on the THSA lower attachment.

#### Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

#### Re-statement of the requirements of EASA AD 2014-0147 (see Note 1):

Note 1: EASA AD 2014-0147 required to accomplish the repetitive inspections, corrective actions and related reporting, as required by paragraphs (1) to (4) of this AD, in accordance with the instructions of Airbus SB A320-27-1164 Revision 10. Since the issuance of AD 2014-0147, Airbus SB A320-27-1164 Revision 13 was issued and has replaced, in the re-stated requirements of that AD, the Airbus SB A320-27-1164 Revision 10 reference.

#### Repetitive Inspections:

(1) Before exceeding 20 months since aeroplane first flight, or since aeroplane first flight following last THSA replacement, or within 20 months after the last inspection of the lower THSA attachment in accordance with the instructions of Airbus SB A320-27-1164 (Revision 02 up to Revision 09), whichever occurs later, and, thereafter, at intervals not exceeding 20 months, accomplish concurrently the actions as specified in paragraphs (1.1), (1.2) and (1.3) of this AD, in accordance with the instructions of Airbus SB A320-27-1164 Revision 13.

(1.1) Check the clearance between the secondary nut trunnions and the junction plates at the lower THSA attachment.

(1.2) Visually inspect the lower THSA attachment for correct installation of attachment parts.

(1.3) Visually inspect the ball screw.

(2) Before exceeding 10 months since aeroplane first flight, or since aeroplane first flight following last THSA replacement, or within 10 months after the last inspection of the upper THSA attachment in accordance with the instructions of Airbus SB A320-27-1164 (Revision 02 up to Revision 09), whichever occurs later, and, thereafter, at intervals not exceeding 10 months,



accomplish concurrently the actions as specified in paragraphs (2.1) and (2.2) of this AD, in accordance with the instructions of Airbus SB A320-27-1164 Revision 13.

(2.1) Inspect the upper THSA attachment for correct installation, cracks, damage, and metallic particles.

(2.2) Visually inspect the upper attachment for correct installation of attachment parts.

**Corrective Action(s):**

(3) If, during any inspection as required by paragraph (1) or (2) of this AD, any discrepancy is detected, accomplish the applicable corrective action(s) in accordance with the instructions of, and within the compliance time as identified in, Airbus SB A320-27-1164 Revision 13.

**Reporting Requirements:**

(4) Within 30 days after each action as required by paragraph (3) of this AD, in case of any findings, report the inspection results to Airbus. This can be accomplished by using the Appendix 01 "Inspection Reporting Sheet" of SB A320-27-1164 Revision 13.

**New requirements of this AD:**

**One-Time Inspection:**

(5) For aeroplanes on which the THSA has been replaced or reinstalled since Airbus date of manufacture, within 6 months after the effective date of this AD, accomplish a detailed inspection of the THSA lower attachment in accordance with the instructions of Airbus AOT A27N010-17.

**Corrective Action(s):**

(6) If, during the inspection as required by paragraph (5) of this AD, the measured gap is less than 0.5 mm, before next flight, replace the THSA in accordance with the instructions of AOT A27N010-17.

**Modification:**

Note 2: For the purpose of this AD, Group 1 aeroplanes are those that, on the effective date of this AD, do not have the ELSD activated. Group 2 aeroplanes are those that, on the effective date of this AD, have the ELSD activated.

(7) For an aeroplane equipped with a THSA having a part number listed in Appendix 1 of this AD: Concurrently with or before the modification as required by paragraph (9) of this AD, modify the aeroplane in accordance with the instructions of Airbus SB A320-27-1247.

(8) For Group 1 aeroplanes (see Note 2 of this AD): Concurrently with or before the modification as required by paragraph (9) of this AD, modify the aeroplane in accordance with the instructions of Airbus SB A320-27-1245 or SB A320-27-1246, as applicable.

(9) For Group 1 aeroplanes (see Note 2 of this AD): Within 4 years after the effective date of this AD, activate the ELSD of the THSA on the aeroplane in accordance with the instructions of Airbus SB A320-27-1248.



**Terminating Action:**

(10) None.

Note 3: Accomplishment on an aeroplane of the one-time inspection, related corrective action(s), as applicable, and the modification as required by paragraphs (5), (6), (7), (8) and (9) of this AD, as applicable, do not constitute terminating action for the repetitive inspections as required by paragraphs (1) and (2) of this AD for that aeroplane.

**Credit:**

(11) An aeroplane on which Airbus modification 155955 has been embodied in production is considered compliant with paragraphs (7), (8) and (9) on this AD, provided that it is determined that no THSA with a Part Number (P/N) listed in Appendix 1 of this AD is installed on that aeroplane, and that the ELSD is kept activated.

A review of aeroplane maintenance records is acceptable to make this determination, provided those records can be relied upon for that purpose.

(12) An aeroplane on which the THSA has been installed in accordance with the instructions of Aeroplane Maintenance Manual (AMM) 27-44-51-400-001 Revision May 2017, or later one, is not affected by the inspection requirement of paragraph (5) of this AD.

(13) Inspections, corrective actions and related reporting accomplished on an aeroplane before the effective date of this AD in accordance with the instructions of Airbus SB A320-27-1164 Revision 10, or Revision 11, or Revision 12 are acceptable to comply with the initial requirements of paragraphs (1) to (4) of this AD for that aeroplane.

**Parts Installation:**

(14) Do not install on any aeroplane a THSA with a P/N listed in Appendix 1 of this AD and do not deactivate the ELSD as required by paragraph (14.1) or (14.2) of this AD, as applicable.

(14.1) Group 1 aeroplanes (see Note 2 of this AD): After modification of the aeroplane as required by paragraph (9) of this AD.

(14.2) Group 2 aeroplanes (see Note 2 of this AD): From the effective date of this AD.

**Ref. Publications:**

Airbus SB A320-27-1164 Revision 02 dated 30 March 2005, or Revision 03 dated 24 August 2005, or Revision 04 dated 17 July 2006, or Revision 05 dated 11 January 2007, or Revision 06 dated 01 April 2008, or Revision 07 dated 23 June 2009, or Revision 08 dated 06 July 2010, or Revision 09 dated 02 May 2012, or Revision 10 dated 27 March 2014, or Revision 11 dated 15 December 2014, or Revision 12 dated 23 March 2016, or Revision 13 dated 08 August 2016.

Airbus SB A320-27-1245 original issue dated 06 March 2017.

Airbus SB A320-27-1246 original issue dated 20 March 2015, or Revision 01 dated 04 November 2016.

Airbus SB A320-27-1247 original issue dated 06 March 2017.



Airbus SB A320-27-1248 original issue dated 06 March 2017.

Airbus AOT 27N010-17 original issue dated 27 March 2017, or Revision 01 dated 17 October 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 06 October 2017 as PAD 17-140 for consultation until 03 November 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](mailto: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](mailto:account.airworth-eas@airbus.com).



## Appendix 1 – THSA without ELSD – Part Number

47145-021	47145-140
47145-030	47145-141
47145-031	47145-142
47145-032	47145-143
47145-033	47145-144
47145-034	47145-145
47145-035	47145-146
47145-036	47145-147
47145-037	47145-148
47145-050	47145-150
47145-051	47145-151
47145-052	47145-152
47145-053	47145-153
47145-054	47145-154
47145-055	47145-155
47145-056	47145-156
47145-057	47145-157
47145-121	47145-160
47145-130	47145-161
47145-131	47145-162
47145-132	47145-163
47145-133	47145-164
47145-134	47145-165
47145-135	47145-166
47145-136	47145-167
47145-137	47145-168

