Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 23-141

Issued: 12 December 2023

Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.
All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

Design Approval Holder's Name:
AIRBUS S.A.S.

Type/Model designation(s):
A330 and A340 aeroplanes

Effective Date: [TBD - standard: 14 days after AD issue date]

TCDS Number(s): EASA.A.004, EASA.A.015

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2022-0039 dated 08 March 2022.

ATA 27 – Flight Controls – Trimmable Horizontal Stabilizer Actuator / Electric Load Sensing Device – Modification

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Manufacturer(s):
Airbus, formerly Airbus Industrie

Applicability:
Airbus A330-201, A330-202, A330-203, A330-223, A330-223F, A330-243, A330-243F, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342, A330-343, and A330-941 aeroplanes, all manufacturer serial numbers (MSN) up to MSN 1919 inclusive, except MSN 1915; and

Airbus A340-211, A340-212, A340-213, A340-311, A340-312 and A340-313 aeroplanes, all MSN.

Definitions:
For the purpose of this AD, the following definitions apply:

The SB1a: Airbus Service Bulletin (SB) A330-27-3237 and SB A340-27-4213, as applicable, both at original issue, and the Airbus Repair and Design Approval Form (RDAF) 80874366/013/2021#A for A330 aeroplanes or RDAF 80874366/022/2021#A for A340 aeroplanes, as applicable (for aeroplanes to which the RDAF applies).

The SB1b: Airbus Service Bulletin (SB) A330-27-3237 and SB A340-27-4213, as applicable, both at Revision 01 or later.

The SB2: Airbus SB A330-27-3234 and SB A340-27-4214, as applicable.

Groups: Group 1 aeroplanes are all MSN up to MSN 1789 inclusive.
Group 2 aeroplanes are MSN 1790 to 1919 inclusive.

Reason:

The upper and lower attachments of the Trimmable Horizontal Stabilizer Actuator (THSA) have a primary load path (PLP) and a secondary load path (SLP), the latter of which is only engaged in case of PLP failure. When the SLP is engaged, the THSA should stall, and an indication should be provided to the flight crew, activated by position monitoring. It has been demonstrated by recent tests that, when the upper SLP is engaged, the unit might not stall, with consequently no indication of SLP engagement.

This condition, if not corrected, could lead to damage on the upper THSA SLP attachment, with consequent mechanical disconnection of the THSA, possibly resulting in loss of control of the aeroplane.

To initially address this potential unsafe condition, Airbus developed a method to inspect the upper THSA attachments parts and the PLP and SLP fuselage attachment points, and EASA issued AD 2017-0044 to require those repetitive inspections and, depending on findings, accomplishment of applicable corrective action(s). That AD was later cancelled, as the requirements were transferred into the applicable Airworthiness Limitation Sections (ALS) for the affected type designs, for which EASA published AD 2019-0047 and AD 2019-0048.

After those ADs were issued, Airbus designed an Electric Load Sensing Device (ELSD), to detect the engagement on the SLP, even in absence of a THSA stall. Consequently, Airbus published the SB1a, providing instructions for installation of the ELSD wiring provisions, and the SB2, providing instructions for ELSD installation and activation, and EASA issued AD 2022-0039 to require to modify the THSA installation, implementing ELSD wiring provision and installing and activating the ELSD.

Since that AD was issued, it has been determined that the SB1a cannot be accomplished on certain aeroplanes, and Airbus initially issued several adaptions to provide additional instructions and corrections, and eventually the SB1b.

For the reasons described above, this AD retains the requirements of EASA AD 2022-0039, which is superseded, but refers to the SB1b, and requires additional work for certain aeroplanes.

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

Required as indicated, unless accomplished previously:

Modification(s):
Within 48 months after 22 March 2022 [the effective date of EASA AD 2022-0039], accomplish the following:

(1) For Group 1 aeroplanes: Install the wiring for the ELSD in accordance with the instructions of the SB1b.

(2) For Group 1 and Group 2 aeroplanes: Install and activate the ELSD in accordance with the instructions of the SB2.

Additional Work:

(3) For Group 1 aeroplanes that, before the effective date of this AD, have been modified in accordance with the instructions of the SB1a: Within 48 months after 22 March 2022 [the effective date of EASA AD 2022-0039], accomplish the additional work as identified in, and in accordance with the instruction of, the SB1b, as applicable.

Ref. Publications:

Airbus SB A330-27-3234 original issue dated 05 March 2019 and Revision 01 dated 12 October 2020.

Airbus SB A330-27-3237 original issue dated 12 October 2020 and Revision 01 dated 20 June 2023.

Airbus SB A340-27-4213 original issue dated 12 October 2020 and Revision 01 dated 20 June 2023.

Airbus SB A340-27-4214 original issue dated 12 October 2020.

Airbus RDAF 80874366/013/2021#A dated 12 February 2021.

Airbus RDAF 80874366/022/2021#A dated 19 April 2021.

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

Remarks:

1. This Proposed AD will be closed for consultation on 09 January 2024.

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

3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, can be reported to the EU aviation safety reporting system. This may include reporting on the same or similar components, other than those covered by the design to which this PAD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.

4. For any question concerning the technical content of the requirements in this PAD, please contact: AIRBUS – 1IAL (Airworthiness Office), E-mail: airworthiness.A330-A340@airbus.com.