



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 21-157

Issued: 15 October 2021

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

Type/Model designation(s):

A350 aeroplanes

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

TCDS Number(s): EASA.A.151

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2021-0053R1 dated 26 April 2021.

ATA 27 – Flight Controls – Slat Transmission Shafts / Slat Power Control Unit Torque Sensing Units – Inspection / Modification

Manufacturer(s):

Airbus

Applicability:

Airbus A350-941 and A350-1041 aeroplanes, all manufacturer serial numbers.

Definitions:

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

The AOT: Airbus Alert Operators Transmission (AOT) A27P016-20 Revision 01.

The SB: Airbus Service Bulletin (SB) A350-27-P055, which includes reference to Liebherr-Aerospace Lindenberg GmbH SB 4785A-27-04, currently at Revision 1.

Affected part: Slat power control units (PCU), having Part Number (P/N) 4785A0000-04 or P/N 4785A0000-05.

Serviceable part: Slat PCU, having P/N 4785A0000-06.



Groups: Group 1 aeroplanes are those that have an affected part installed.

Group 2 aeroplanes are those that do not have an affected part installed. An A350 aeroplane that has embodied Airbus modification (mod) 116484 in production is a Group 2 aeroplane, provided that the aeroplane remains in that configuration.

Airbus date of manufacture: The date of transfer of title (ownership) of the aeroplane upon delivery by Airbus to the first operator.

Reason:

An occurrence was reported of a slat system jam on an A350 aeroplane during landing phase. Investigation results revealed a double slat transmission shaft disconnection. The sequence of events was attributed to temporary jamming of the left-hand (LH) slat gear rotary actuator (SGRA) at track 12, combined with a malfunction of the slat system control and monitoring loop due to lack of response from the slat PCU torque sensing unit (TSU), caused by excessive wear in the ball guide mechanism of the slat PCU TSU.

This condition, if not detected and corrected, could lead to a double shaft disconnection / rupture, potentially causing one or more slat surfaces to be no longer connected to either the slat wing tip brake or the slat PCU, possibly resulting in reduced control of the aeroplane.

To initially address this potential unsafe condition, Airbus issued AOT A27P015-20 to provide inspection instructions on a limited number of aeroplanes. Consequently, EASA issued AD 2020-0163 (later revised) to require a one-time health check of the slat PCU TSU, a detailed inspection (DET) of the LH and right-hand (RH) slat transmission systems, water drainage and vent plug cleaning of the LH and RH track 12 SGRA and, depending on findings, accomplishment of applicable corrective action(s).

After EASA AD 2020-0163R2 was issued, Airbus issued the AOT, as defined in this AD, to introduce repetitive TSU health checks to monitor the TSU wear on all affected aeroplanes. Consequently, EASA issued AD 2021-0053 (later revised), partially retaining the requirements of EASA AD 2020-0163R2, which was superseded, to require accomplishment of the actions specified in the AOT. The water drainage and vent plug cleaning of the LH and RH track 12 SGRA as previously required by EASA AD 2020-0163R2 were no longer required by that AD.

Since EASA AD 2021-0053R1 was issued, Airbus developed mod 116484, introducing a new slat PCU standard, defined as 'serviceable part' in this AD, and issued the SB to provide in-service modification instructions. Liebherr-Aerospace Lindenberg GmbH published SB 4785A-27-04 to provide instructions to modify and re-identify an affected part into a serviceable part.

For the reason explained above, this AD partially retains the requirements of EASA AD 2021-0053R1, which is superseded, and requires the installation of a new PCU standard as terminating action for the repetitive health check.

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

Required as indicated, unless accomplished previously:



Inspection:

- (1) For Group 1 aeroplanes: Within the compliance times specified in Table 1 of this AD, accomplish a DET of LH and RH slat transmission systems in accordance with the instructions of the AOT.

Health Check(s):

- (2) For Group 1 aeroplanes: Within the compliance times specified in Table 1 of this AD, but not exceeding the compliance time for the repeat health check as determined in accordance with the instructions of AOT A27P015-20, or AOT A27P016-20 initial issue or Revision 01, if accomplished before the effective date of this AD, accomplish a health check of the LH and RH slat PCU TSU in accordance with the instructions of the AOT.

Note 1: The actions as required by paragraphs (1) and (2) of this AD do not need to be accomplished concurrently.

Table 1 – DET and PCU TSU Health Check Thresholds (see Note 2 of this AD)

Flight Cycles (FC) Accumulated	Compliance Time
500 FC or more	Within 6 months or 350 FC, whichever occurs first after 11 March 2021 [the effective date of the original issue of EASA AD 2021-0053]
Less than 500 FC	Within 6 months or 350 FC, whichever occurs first after the affected part accumulates 500 FC

Note 2: Unless indicated otherwise, the FC specified in Table 1 of this AD are those accumulated by an affected part on 11 March 2021 [the effective date of the original issue of EASA AD 2021-0053], since installation of new TSU. If the FC accumulated by an affected part are unknown, and if it can be demonstrated that the part has not been replaced on the aeroplane, the FC of the part can be considered identical to those accumulated by the aeroplane since Airbus date of manufacture. If an affected part has been replaced, the certificate of release accompanying the replacement part will clarify if and when the last TSU health check was accomplished on that part, determining the time to comply with paragraph (2) of this AD, and allowing calculation of the interval of the repetitive health checks as required by paragraph (4) of this AD.

Corrective Action(s):

- (3) If, during the DET as required by paragraph (1) of this AD, any discrepancy is detected, before next flight, contact Airbus for approved instructions and accomplish those instructions accordingly.

Repetitive Health Checks:

- (4) Following the health check as required by paragraph (2) of this AD, depending on findings, repeat the health check of the LH and RH slat PCU TSU in accordance with the instructions of the AOT and within the threshold and intervals specified in Appendix 5 of the AOT and, depending on findings, accomplish the applicable corrective action(s).



Credit:

- (5) DET of LH and RH slat transmission systems and corrective action(s) accomplished on an aeroplane before 11 March 2021 [the effective date of the original issue of EASA AD 2021-0053] in accordance with the instructions of Airbus AOT A27P015-20, are acceptable to comply with the requirements of paragraph (1) of this AD for that aeroplane.

Modification / Replacement:

- (6) For Group 1 aeroplanes: Within 18 months after the effective date of this AD, replace each affected part with a serviceable part, as defined in this AD, in accordance with the instructions of the SB.

Terminating Action:

- (7) Modification of an aeroplane as required by paragraph (6) of this AD constitutes terminating action for the repetitive health checks as required by paragraph (4) of this AD for that aeroplane.

Parts Installation:

- (8) For Group 1 aeroplanes: From the effective date of this AD, it is allowed to install an affected part on an aeroplane, provided the conditions are met as specified in paragraphs (8.1) and (8.2) of this AD.

(8.1) Before next flight after installation and, thereafter, as required by paragraph (4) of this AD, health checks are accomplished on that part in accordance with the instructions of the AOT.

(8.2) Following installation, the affected part is removed as required by paragraph (6) of this AD.

- (9) For Group 2 aeroplanes: From the effective date of this AD, do not install on any aeroplane an affected part.

Ref. Publications:

Airbus AOT A27P015-20 original issue dated 20 July 2020.

Airbus AOT A27P016-20 Revision 01 dated 17 December 2020.

Airbus SB A350-27-P035 original issue dated 06 August 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 12 November 2021.
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 A350 XWB, E-mail: continued-airworthiness.a350@airbus.com.

