

COMMENT RESPONSE DOCUMENT

EASA PAD No. 21-046

[Published on 23 March 2021 and officially closed for comments on 06 April 2021]

Commenter 1: British Airways – Graham Burling – 24/03/2021

Comment # 1

Please can you clarify the reasoning behind for the issuing of a new AD in this instance and why AD 2021-0053 has not been raised inversion to include the amendments to “Note 2 and Table 1, and introducing a definition of ‘serviceable part’, clarifying the actions that have to be accomplished on affected parts.”

EASA response:

This PAD proposes a revision of AD 2021-0053 not an new AD. A PAD was used in this case to collect comments on the complicated changes shown in the reason paragraph in PAD.

No changes have been made to the Final AD in response to this comment.

Commenter 2: Qatar Airways – Naresh Solanki – 28/03/2021

Comment # 2

The subject PAD proposes to revise the AD 2021-0053. QTR appreciates EASA for considering the operator’s concerns and making a proposal to revise the existing AD. QTR has reviewed the subject PAD and observed few concerns to be considered and aligned in upcoming revision of AD.

1. Serviceable Part : This paragraph should include part as serviceable, which is received after shop visit (repair) or brand new.
Not having this statement will include additional burden to perform health check with reduced interval on a serviceable unit.
2. Paragraph (1) or Paragraph (6) : Similar to the credit given for AOT A27P016-20 accomplishment in paragraph (2) for health check, either of the Paragraph (1) or Paragraph (6) shall offer a credit for DET of LH and RH slat transmission system on aircraft already accomplished with AOT A27P016-20 prior effective date of EASA AD 2021-0053.
Not having this credit will impose additional maintenance burden to perform DET of LH and RH slat transmission system on aircraft already accomplished with AOT A27P016-20.



3. Paragraph (2) Table 1 : As per engineering justification, slat PCU failure is associated with the operation cycles at approx. 850 FC and there is no impact with calendar time. QTR recommends to remove the Calendar time (6 Months) from Table 1.

EASA response:

1. *Comment noted. The definition of Serviceable Part covers any part that has not exceeded the life limits as specified in paragraph (2) of the AD, which covers new parts or parts where the TSU has been replaced during a shop visit. The TSU status should be clearly identified on the Liebherr EASA Form 1 following maintenance to allow the operator to make the determination of the airworthiness status of the part.*
2. *Comment not agreed. There is no need to give credit to DET of LH and RH slat transmission systems already accomplished with AOT A27P016-20 before the effective date of EASA AD 2021-0053 in paragraph (6) because this case is already covered by the first sentence of paragraph "Required Action(s) and Compliance Time(s): " which is : "Required as indicated, unless accomplished previously:".*
3. *Comment not agreed. The proposal of the commenter is contrary to the intent of a 6-months' time limit to cover aircraft that are in long-term storage.*

No changes have been made to the Final AD in response to these comments.

Commenter 3: Deutsche Lufthansa AG – Jan Hoffmann – 30/03/2021

Comment # 3

After replacement of the Slat PCU (Max Dev Inc Trq" values are ≥ 25), the required inspection interval is still confusing.

Case 1:

A new affected PCU will be installed. According to the definition of a serviceable part and §2 of the PAD, the Health Check has to be performed "Within 6 months or 350 FC, whichever occurs first after the affected part accumulates 500 FC". But Note 2 refers to § 4 of this PAD, which refers to Appendix 5 of the AOT. Here the interval is given with 850 FC.

Case 2:

The installed PCU has 1000FC and the Health Check was performed with 900 FC. As the result of this Health Check is unclear, the remaining interval can be 50FC or 250FC. According to §4 and Appendix 5 , the interval is still 850FC.

Therefore the discrepancy between this PAD and the AOT appendix has to be fixed before the AD will be released.

Additionally DLH kindly request to set the Effective Date 14 days after the issue of the revised AD due to the current situation.



EASA response:

Comment noted. AD wording is clear in paragraph (2) Note 2. Furthermore, EASA was informed that the TC Holder will revised the AOT to update wording accordingly to properly distinguish case 1 & 2 and in line with AD. Moreover the TSU status should be clearly identified on the Liebherr EASA Form 1 following maintenance to allow the operator to make the determination of the airworthiness status of the part.

No changes have been made to the Final AD in response to these comments.

Commenter 4: Asiana Airlines – Doo Joo Kim – 02/04/2021
Comment # 4

I reviewed PAD 21-046 and I would like to ask that “Is there a specific certification which is mentioned in below sentence (Yellow)”?
Additionally, repetitive health check’s time will be mentioned in that specific certification?

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 this AD], 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.**

And I would like to know the limit about Serviceable part. Does the instruction mean the flight cycle of slat PCU after repair?

Serviceable part: **An affected part that has not exceeded the limits as specified in paragraph (2) of this AD;** or an affected part on which, before next flight after installation, a health check is accomplished in accordance with the instructions of the AOT .

EASA response:

Comment noted. TSU status should be clearly identified on the Liebherr EASA Form 1 following maintenance to allow the operator to make the determination of the airworthiness status of the part.



No changes have been made to the Final AD in response to this comment.

Commenter 5: Delta Air Lines – James Thompson – 05/04/2021

Comment # 5

Reference:

- (A) EASA Proposed Airworthiness Directive: PAD No. 21-046, dated 23 March 2021
- (B) EASA AD 2021-0053 dated 25 February 2021
- (C) Airbus AOT A27P015-20 original issue dated 20 July 2020
- (D) Airbus AOT A27P016-20 Revision 01 dated 17 December 2020
- (E) Liebherr Vendor Service Bulletin (VSB) 4785A-27-06

SUMMARY:

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 Power Control Unit (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.

References (A) and (D) introduce repetitive TSU health checks to monitor the TSU wear on all affected aeroplanes to detect defects in the slat transmission system.



DELTA'S COMMENTS

Upon review of the "Serviceable part" definition in Ref. (A), Delta disagrees with the use of the AOT instructions as a return to service requirement outside of the Maintenance Publication (MP) Instruction for Continued Airworthiness (ICA) document. Any testing requirement for the installation of a component should be defined in the MP ICA and not in an outside document (AOT). EASA needs to require Airbus to revise the MP requirements for installing a PCU to include the health check requirement(s). EASA could then mandate use of the new MP revision level or revision date, or later, as a requirement of the new AD.

Upon review of Ref. (A) paragraphs (1) through (4), Delta finds that the subject inspections, health checks and repetitive health checks would be more effectively managed for safety issues as an Airworthiness Limitations Section Part 3 requirement. Therefore, Delta requests that the inspections and checks defined in Ref. (A) be incorporated into the A350 ALS Part 3 ICA and managed by EASA as a requirement in that ICA, instead of as a separate AD requirement.

EASA response:

Comment not agreed. The intent of an AOT is to be much quicker process to provide mandatory instructions to the airlines. These instructions are equivalent of MP instructions. Further, as stated in the PAD, the revised AD is still considered an interim action and further AD action may follow. These further actions will bring about a final resolution of the issue.

No changes have been made to the Final AD in response to this comment.

Commenter 6: JAL – Masato Hiramatsu – 06/04/2021***Comment # 6***

In the NOTE 2, we concern this sentence of "the certificate of release accompanying the replacement part will clarify if and when the last TSU health check was accomplished on that part,".

We confirmed that there is no description about the last TSU Health date on the certification. (The attached PDF is a sample certification of a balnd-new SPCU.)



Therefore, please revise the description to clarify how to identify if and when the last TSU health check was accomplished on that part with the certification.

For example, "if and when the last TSU health check was accomplished on that part can be considered identical to the date of certification of the replacement part".

EASA response:

Comment noted. TSU status should be clearly identified on the Liebherr EASA Form 1 following maintenance to allow the operator to make the determination of the airworthiness status of the part.

No changes have been made to the Final AD in response to this comment.

Commenter 7: Lufthansa Technik – Jens Wiedau – 06/04/2021

Comment # 7

A/ Para (2) : There is stated in the last sentence of Para (2) to perform the health check of the LH and RH slat PCU TSU in accordance with the instructions of the AOT. Please clearly state iaw. AOT A27P016-20 in order to prevent any misunderstanding.

B/ Para (2) Note 2:

In this NOTE it is stated the certificate of release (e.g. EASA FORM 1) will clarify when the last TSU check was accomplished on that part. This is actually very good, but this Note than must contain the reference number (e.g. L-4785-ED-0003 refer to TechRequest Dossier 80899177) reflecting this inspection by Liebherr, otherwise no one knows whether it was done or not and furthermore is unable to calculate next due.

When the reference and the accumulated FC are given, the next due can be calculated. However, for LHT it is not clear which deadline should be taken into account for a unit which was repaired in shop with Health Check performed. Which limit is applicable?

- 1.) Is it the Table 1 for PCU less than 500 FC (this way is stated in the Airbus TechRequest Dossier 80899177)?
- 2.) Or is it the 850 FC limit as stated in Appendix 5 of AOT for replaced PCU's, a lot of PCU are repaired not new, so TSU is not new?
- 3.) Or is it the 350 FC limit as it cannot be distinguished using the Form 1 whether only the health check was performed or the TSU was replaced, reference for TSU replacement needs to be stated on FORM 1 as well and published in this AD?

In order to simplify this, LHT highly recommends to clearly state this in that AD and please avoid approach 1.) which is impossible to track by most of the operators automatically.



C/ In addition to that, LHT still requests harmonizing the due dates in Table 1 for units less than 500 FC to 850 FC, because they can be considered as new disregarding if they are parked or stored and the problem is FC based and therefore no justification, as already requested at PAD 20-209. As per LHT understanding Airbus has no objection to do so. This is required also to simplify the automatic tracking on component level without manual interaction, which is considered to be the safest way. Any manual interaction increases the failure potential on this issue. Therefore, LHT still strongly request the EASA as responsible safety agency to think about these aspects and to harmonize it as requested by several operators already accordingly.

EASA response:

A/ Comment noted. As per AD definitions paragraph: “The AOT” is AOT A27P016-20 Revision 01.

B/ Comment noted. TSU status should be clearly identified on the Liebherr EASA Form 1 following maintenance to allow the operator to make the determination of the airworthiness status of the part.. AD wording is clear in paragraph (2) Note 2 . Furthermore, EASA was informed that the TC Holder will revised the AOT to update wording in line with AD.

C/ Comment not agreed. . The proposal of the commenter is contrary to the intent of a 6-months’ time limit to cover aircraft that are in long-term storage.

No changes have been made to the Final AD in response to these comments.

Commenter 8: Cathay Pacific – Alfred Lee – 06/04/2021

Comment # 8

Q1) In PAD Table 1, for FC less than 500 FC, there are upper limit (i.e. 6 month or 350 FC after accumulated 500 FC) and lower limit (i.e. after affected part accumulated 500 FC). Can the required DET and/or health check be performed earlier than the lower limit ? For instance, both DET and health check performed on the slat transmission system and PCU TSU where the installed PCU only accumulated 300 FC (assuming PCU and TSU have same FC) . Is it still constituted as compliance for para (2) ? Could EASA state more clear in the final AD.

Q2) For PAD Note 2 below:

//Quote begins//

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 this AD], 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.

//Quote ends//

How do operators supposed to know whether the replacement PCU has a new TSU or not ? For more conservative control, can operate always assume the TSU always has the same FC as the PCU ?? For example, a spare serviceable PCU with TSN (time since new) 400 FC, is it acceptable to assume that the maximum possible FC on the TSU also has 400 FC ? Could EASA elaborate more on this Note 2 as a spare PCU released from shop-visit may or may not have new TSU replacement in shop.

EASA response:

Q1) Comment Noted. AD wording is clear. EASA confirms that DET and/or health check can be performed earlier than the lower limit as covered by the first sentence of paragraph "Required Action(s) and Compliance Time(s): " which is : "Required as indicated, unless accomplished previously:"

Q2) Comment noted. TSU status should be clearly identified on the Liebherr EASA Form 1 following maintenance to allow the operator to make the determination of the airworthiness status of the part.

No changes have been made to the Final AD in response to these comments.

