

COMMENT RESPONSE DOCUMENT

EASA PAD No. 24-107

[Published on 29 August 2024 and officially closed for comments on 12 September 2024]

Commenter 1: Deutsche Lufthansa AG – Hedwig Irriger – 30/08/2024

Comment # 1

- 1) **Repetitive Functional Check:** Request to rephrase time requirements to clarify handling of affected parts in case of part replacement / swaps to other aircraft
- DLH suggests changing the calculation basis from aircraft to part level to account for part replacements / swaps.
 - DLH also suggest incorporating the case of NLG overhaul as valid set-up point, because the affected part will be restored to damage free “in-tolerances” condition during shop overhaul.
 - In particular, DLH suggest rephrasing with basis “on the manufacturing date or overhaul date (whichever occurred later) of the affected part”.
- 2) **Part Installation:** Request to rephrase requirement for installation of affected parts

3) From the effective date of this AD, it is allowed to install on an aeroplane a NLG with an affected part, provided that, following installation, **before next flight**, the affected part installed on this NLG is checked **as per paragraph (1)**, and, depending on findings, corrected as applicable in accordance with the instructions of the AOT and, thereafter, repetitively checked as required by this AD.

The phrasing is unclear. It is up to interpretation, if the inspection needs to be done before next flight, or the thresholds / intervals per para (1) may be used.

- In case the inspection is required before next flight,
 - please specify if this shall also apply for new parts, freshly overhauled parts and parts that have been inspected before removal for the previous aircraft.
 - For affected parts that are new of fresh from shop overhaul, please explain why this is technically necessary even though the manufacturer / shop has just ensured their technical condition.
- In case inspection per time requirements from para (1)



- Please specify the set-up point for counting (see comments above).

3) Reporting: Request to remove reporting request from AD

- o As discussed during several EASA AD Workshops, DLH and other operators still hold the opinion that an email with a reporting sheet should have no impact on the airworthiness of any aircraft. Sending of the reporting sheet is part of the AOT instructions and has to be followed as requirement of this AD anyways.
- o A reporting requirement as AD-paragraph results in undue administrative burden for all operators to find methods how to include the tracking of emails into each AD-status report.
- o DLH therefore strongly asks EASA to remove this requirement.

EASA response:

Comment #1.1.a) not agreed. Paragraph (3) of the AD requires to check in accordance with the AOT instructions an NLG with an affected part, following installation on an aeroplane. This applies also to an NLG installed on an aeroplane post overhaul/repair/swap, as a consequence the current AD provisions already provide instructions allowing for an entire inspection interval allowance post NLG overhaul/repair/swap.

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

Comment #1.1.b) not agreed. See reply to Comment #1.1.a)

Comment #1.1.c) not agreed. See reply to Comment #1.1.a)

Comment #1.2) agreed. The text in paragraph (3) Part Installation of the final AD has been amended accordingly.

Comment #1.3) not agreed. Reporting is considered an essential element to enable Airbus to collect the necessary data and review any findings, and possibly reassess the measures required under this AD.

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

Commenter 2: JAL Engineering Co.,Ltd. – Miki Hashimoto – 06/09/2024

Comment # 2

In this PAD, reporting after steering check is mandated.

A350-900 is used on international flights by other airlines, but most of our A350-900s are used on domestic flights, so reporting is required once every two months per aircraft. This is very burdensome.



Of course, we conduct reporting in accordance with AOT A32P031-24, but we would like this not to be mandated by AD. AD 2024-0058R1, which conducts similar repetitive inspections, does not mandate reporting after inspection, although AOT directs reporting.

EASA response:

Comment #2 not agreed. See reply to Comment #1.3.

Commenter 3: Qatar Airways – Yacoob Jugoo – 08/09/2024

Comment # 3

Ref.1: EASA PAD 24-107

Ref.2: Airbus AOT A32P031-24 Rev.02

Ref.1 RACT 2 instructs for corrective actions before next flight in case of findings during any steering check or to contact Airbus for suitable disposition.

Ref.2 has 2 steering checks:

- (1) With the primary seal active (step b). In case of findings, Ref.2 allows a grace period of 6 months for the accomplishment of Ref.2 Appendix 4.
- (2) With the secondary seal active (step f). In case of findings, Ref.2 steps (a) to (f) have to be re-accomplished before next flight. If finding(s) persist, then Airbus must be contacted for further dispositions before next flight.

Request(s):

Clarification is required for which configuration (Steering check with NLG primary seal or secondary seal active), when findings arise, will the AD necessitate immediate action before next flight.

EASA response:

Comment #3 noted. With the primary seal activated (step b.), regardless of the steering check outcome, step d. (requiring the activation of the secondary seal) has to be accomplished before next flight.

With the secondary seal activated (steps f. and g.) before next flight Airbus has to be contacted in case after repetition of the procedure (steps a. to g.) relative movement is still measured while performing the steering check with secondary seal activated (step f.).

Airbus improved the AOT procedure step g. wording.

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



Commenter 4: Delta Air Lines – Elijah Weinstein – 11/09/2024

Comment # 4

Reference:

- (A) EASA Proposed Airworthiness Directive: PAD No. 24-107, dated 29 Aug 24
- (B) Airbus All Operator Transmission (AOT) A32P031-24-02, dated 28 Aug 24
- (C) Liebherr Correspondence, subject line “A350 NLG AOT A32P031-24 Appendix 4”
- (D) Airbus Correspondence, Tech Request 81453428

Comment A

Commenter Request

Change the compliance times in Table 1 to match AOT Ref (B)

Request justification

Ref (A) PAD Table 1 requires an initial threshold of

“Before exceeding 250 flight cycles (FC) **since aeroplane date of manufacture**, or within 2 months after the effective date of this AD (whichever occurs later)”

OR

“Before exceeding 1 000 FC **since aeroplane date of manufacture**, or within **17 months** after the effective date of this AD (whichever occurs later)”

Based on NLG P/N.

AOT Ref (B) part 5.1 recommends an initial threshold of “**within 5 months or 250FC** (whichever occurs later) from the effectivity date of AOT A32P031-24 Rev 00”

OR

“**within 20 months or 1000FC** (whichever occurs later) from the effectivity date of AOT A32P031-24 Rev 00 dated”

PAD Ref (A) changes the Calendar times from 5 months to 2 months, and from 20 months to 17 months. PAD Ref (A) also changes the FC based times from the effective date of the AOT to from Aeroplane date of manufacture. This is a dramatic decrease in the recommended compliance time from AOT Ref (B) and no technical justification for the reduced compliance time is provided in the PAD.



This reduction in compliance time will drive tremendous burden to operators for special scheduling. The initial accomplishment of the AOT requires A/C jacking in most cases which is too laborious to accomplish on an overnight visit. If the compliance time is left as is DAL will need to cancel flights to accommodate this AD.

DAL Requests the compliance times recommended by AOT Ref (B) be used in lieu of the proposed compliance times. If the AOT ref (B) compliance times are not used, significant technical justification must be provided in the AD to explain why a more conservative compliance time must be used than what was proposed by the OEM.

List paragraphs that change; describe (nonobvious) changes

Where Table 2 reads

“Before exceeding 250 flight cycles (FC) **since aeroplane date of manufacture**, or within **2 months** after the effective date of this AD””

AND

“Before exceeding 1 000 FC **since aeroplane date of manufacture**, or within **17 months** after the effective date of this AD”

Change this to match the AOT ref (B) compliance time as follows:

“Before exceeding 250 flight cycles (FC) **from the effective date of this AD**, or within **5 months** after the effective date of this AD”

AND

“Before exceeding 1 000 FC **from the effective date of this AD**, or within **20 months** after the effective date of this AD”

Comment B

Commenter Request

Clarify the correct interpretation of Ref (A) paragraph (2).

Request justification

Ref (A) PAD paragraph (2) says:

“If, during any steering check as required by paragraph (1) of this AD, any discrepancies as identified in the AOT are detected, **before next flight**, accomplish the applicable corrective action(s) **in accordance with the instructions of the AOT...**”

AOT Ref (B) allows a 6-month deferral for corrective actions if relative movement greater than 1 mm is found with the primary NLG seal active. It is unclear if this 6-month deferral is authorized under PAD Ref (A) since it is “in accordance with the instructions of the AOT” but is not “before next flight.”



No technical reason is provided in the AOT for why the 6-month deferral would not be authorized. DAL believes the 6-month deferral should be authorized under PAD Ref (A) since it is already approved by the OEM via the Ref (B) AOT. If the 6-month deferral is not authorized under the AD, technical justification for the deviation to the OEM recommendation must be provided in the AD.

List paragraphs that change; describe (nonobvious) changes

Add the following note to paragraph (2)

NOTE: For relative movement greater than 1 mm while the primary NLG seal active, corrective actions may be deferred in accordance with the AOT.

OR

Remove the “before next flight” from paragraph (2). Note that other findings in the AOT already require corrective actions “before next flight.”

Comment C

Commenter Request

Clarify the repetitive requirements of AOT Ref (B) after a repair is performed.

Request justification

AOT Step b. says:

“Once the inspection and repair procedure is applied (as per Appendix 4), the aircraft can return to service with NLG Secondary Seal activated for a temporary period of operation of 9000FC.

Note: Before reaching 9000FC, the procedure detailed in Appendix 4 has to be reapplied or the NLG Main Fitting corrosion protection must be restored as per applicable CMM.”

DAL has come up with 3 possible interpretations of this requirement:

1. Once Appendix 4 is accomplished, it must be reaccomplished at 9000FC intervals until the Main fitting corrosion protection is restored per the applicable CMM.
2. Once Appendix 4 is accomplished, appendix 4 or the CMM repair must be accomplished at 9000FC intervals forever.
3. Once Appendix 4 is accomplished, appendix 4 or the CMM repair must be accomplished before reaching 9000FC One additional time.

These 3 interpretations were sent to Airbus, See Ref (D) Tech request, and sent to Leihbherr aerospace See Ref (C) email.

- Airbus clarified that Interpretation 1 is correct, repeat Appendix 4 until terminated by the CMM.

- Liebherr aerospace clarified that interpretation 2 is correct, repeat Appendix 4 or the CMM repair at 9000FC intervals with no terminating action.

With a misalignment between the NLG and Airframe OEMs, DAL requests EASA clarify what the regulatory requirement is.

List paragraphs that change; describe (nonobvious) changes



None – respond to this comment with the correct interpretation.

Comment D

Commenter Request

Add a paragraph to PAD Ref (A) for exception to the AOT Ref (B) appendix 4.

Request justification

There a technical deficiency within the AOT Ref (B) appendix 4 will prevent it from being accomplished as written.

Where steps (6)(h)17 and 6(h)19 say to

“Take a new anode and assemble the new anode in accordance with Step 8.

Repeat the steps (6)(h)9 thru (6)(h)15 applying brush-cadmium to the re-marked quarter segments of the ring groove.”

This should say

“Repeat steps (6)(h)6 thru (6)(h)15 with a new anode”

See Ref (D) Tech Request pg. 9 questions 3 and 4.

List paragraphs that change; describe (nonobvious) changes

Add a paragraph, exceptions to AOT Ref (B) Appendix 4 that says

If an operator elects to accomplish AOT Ref (B) Appendix 4 in accordance with paragraph (2)

1. In lieu of AOT Ref (B) Appendix 4 Step (6)(h)17, Repeat steps (6)(h)6 thru (6)(h)15 with a new anode
2. In lieu of AOT Ref (B) Appendix 4 Step (6)(h)19, Repeat steps (6)(h)6 thru (6)(h)15 with a new anode

Comment E

Commenter Request

Delete paragraph (4) of the PAD Ref (A)

Request justification

During a meeting Liebherr told DAL they have already selected a permanent solution that is in development and will be available at overhaul. There are not “bad” serial numbers that need to be tracked and accounted for. In this case reporting inspection findings does not provide any enhanced level of safety. DAL sees no technical reason for reporting to be required for compliance with this AD.

When reporting is required for compliance with an AD it drives additional burden to operators, namely we need to keep a permanent record that the reports were sent to document compliance with the AD. Furthermore, during heavy maintenance visits, the inspection might be accomplished on Day



1, however the report is only sent from maintenance at the end of the visit which could be day 45. This would violate the AD since more than 30 days have passed. If reporting is required, consider revising the language to within 30 days of the end of the maintenance visit.

DAL will constantly report SB findings to Airbus when requested but making it an AD requirement is unnecessary.

List paragraphs that change; describe (nonobvious) changes

- Delete paragraph (4)

OR

- Revise paragraph (4) as follows:

Within 30 days after completion of each steering check maintenance visit as required by paragraph (1) of this AD, as applicable, report the inspection results (including no findings) to Airbus. Using the Reporting Form attached to the AOT is an acceptable method to comply with this requirement.

EASA response:

Comment #4 A not agreed. The AD compliance time has been determined also taking into account the time which elapsed between previous AOT revisions publication date and AD effective date.

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

Comment #4 B partly agreed. The AD paragraph (2) requires to “accomplish the applicable corrective action(s) in accordance with the instructions of the AOT”.

The AOT step d. requires, with no deferral option, to activate the secondary NLG seal. Such an action has therefore to be accomplished before next flight.

The AOT step b. requires to accomplish the inspection/repair procedure detailed in the AOT Appendix 4 within 6 months. Such compliance timeframe is recognized by the AD and considered covered by the AD wording “accomplish the applicable corrective action(s) in accordance with the instructions of the AOT”.

See also reply to Comment #3.

Comment #4 C noted. Airbus introduced the necessary clarification in the AOT procedure step b.

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

Comment #4 D noted. Airbus introduced the necessary corrections in the AOT.

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

Comment #4 E not agreed. See reply to Comment #1.3.

