Airworthiness Directive

AD No.: 2024-0087
[Correction: 14 May 2024]

Issued: 16 April 2024

Note: This Airworthiness Directive (AD) 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.

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, or Annex Vb Part ML.A.301, as applicable, 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 Annex Vb Part ML.A.303, as applicable] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

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

Type/Model designation(s):
A380 aeroplanes

Effective Date: 30 April 2024
TCDS Number(s): EASA.A.110
Foreign AD: Not applicable
Supersedure: None

ATA 57 – Wings – Metallic Wing Rib Feet – Inspection

Manufacturer(s):
Airbus

Applicability:
Airbus A380-841, A380-842 and A380-861 aeroplanes, manufacturer serial numbers (MSN) 00003 to 00092 inclusive, 00097 to 00099 inclusive, and 00101 to 00109 inclusive.

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

The AOT: Airbus Alert Operators Transmission (AOT) A57R023-24 Revision 01.

Reason:
A trend of an increasing number of unexpected finding of damage (cracking) of rib feet was observed during the inspections of the (24) metallic 7449 alloy main wing ribs of both wings in accordance with the instructions of the Airworthiness Limitations Section (ALS) document for A380 aeroplanes.

Analysis of the inspection results revealed that a significantly longer period of parking or storage of an aeroplane, particularly, significant (accumulated) time spent on ground under certain specific

environmental conditions, appears to be a predominant, driving parameter for the higher number of findings.

Further investigation determined that material embrittlement of the metallic rib feet of 7449 alloy, due to susceptibility to hydrogen environmental assisted cracking (HEAC) phenomenon, is the root cause for the findings.

Timely detection of cracked rib feet is necessary, because this condition, if not detected and corrected, could reduce the structural integrity of an affected wing.

To address this potential unsafe condition, Airbus issued the AOT, as defined in this AD, introducing a new criterion, called storage factorized time on ground (SFTOG), to be used for the determination of the inspection thresholds for additional, calendar based (repetitive) inspections. This SFTOG is determined individually for each affected aeroplane and is listed in Appendix 1 to the AOT for each known to be affected MSN at the date of publication of the AOT.

For the reasons described above, this AD requires repetitive inspections of the feet of the (24) metallic 7449 alloy main wing ribs of both wings and depending on findings, accomplishment of applicable corrective action(s).

This AD is republished to correct a typographical error in Table 1 of this AD.

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

Required as indicated by this AD, unless the action(s) required by this AD have been already accomplished:

Inspection(s):

(1) Within the compliance times specified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 84 months, inspect the feet of the (24) metallic 7449 alloy main wing ribs of both wings in accordance with the instructions of the AOT.

Table 1 – Inspection Threshold

Aeroplane Status	Compliance Time
Aeroplanes which on the effective date of this AD are parked or stored for more than one (1) year	Before return to service
In-service aeroplanes, last inspected as per ALS task 572100-00079-01A or 572100-00079-02A, as applicable, on or after 01 January 2021	Before exceeding 84 months since last inspection as per ALS

In-service aeroplanes, last inspected as per ALS task 572100-00079-01A or 572100-00079-02A, as applicable, before 01 January 2021, with an:	
SFTOG > 7 years	Within 9 months from the effective date of this AD
5 years ≤ SFTOG ≤ 7 years	Within 18 months from the effective date of this AD
SFTOG < 5 years	Within 18 months from the effective date of this AD or before exceeding 84 months since last ALS task accomplishment, whichever occurs later

Corrective Action(s):

(2) If, during any inspection as required by paragraph (1) of this AD, any damage to a rib foot is found, as defined in Table 2 of this AD, before next flight, accomplish the applicable corrective action(s) as defined in Table 2 of this AD in accordance with the instructions of the AOT.

Table 2 – Corrective Action

Found Damage on a Metallic Rib	**Corrective Action**
Corrosion (without further damage)	Determine the corrosion type(s), remove the corrosion and re-apply corrosion protection in accordance with the applicable instructions of the A380 Structural Repair Manual (SRM) as specified in the AOT (see Note 1 of this AD)
Mechanical damage, like scratches, gouges, dents, creases or cracks	Determine (classify) and assess the type(s) of damage, and repair found damage in accordance with the applicable instructions of the A380 SRM as specified in the AOT (see Note 1 of this AD)

Note 1: If no suitable repair is defined in the applicable SRM as specified in the AOT, contact Airbus for approved repair or other instructions and accomplish those instructions accordingly.

Credit:

(3) Credit from ALS task accomplishment can be taken when performed as per baseline scheduled maintenance program.

Terminating Action:

(4) None.

Ref. Publications:

Airbus AOT A57R023-24 (including Appendix 1, SFTOG per MSN) original issue dated 21 February 2024, or Revision 1 dated 05 March 2024.

The use of later approved revisions of the above-mentioned document 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 08 March 2024 as PAD 24-032 for consultation until 05 April 2024. No comments were received during the consultation period.

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

4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, 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 AD 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.

5. For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS SAS - EIANA (Airworthiness Office), Telephone: +33 562 110 253, Fax: +33 562 110 307, or E-mail: account.airworth-A380@airbus.com.