Airworthiness Directive

AD No.: 2020-0183

Issued: 17 August 2020

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, 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 agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

AIRBUS

Type/Model designation(s):

A380 aeroplanes

Effective Date: 31 August 2020

TCDS Number(s): EASA.A.110

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2020-0009 dated 23 January 2020.

ATA 24 – Electrical Power – Ram Air Turbine Gearbox – Inspection

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Manufacturer(s):

Airbus

Applicability:

Airbus A380-841, A380-842 and A380-861 aeroplanes, all manufacturer serial number (MSN).

Definitions:

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

Affected part: Ram air turbines (RAT), having Part Number (P/N) 1704287G or P/N 1704287H.

The SB: Airbus Service Bulletin (SB) A380-24-8158 Revision 01.

Aeroplane date of manufacture: The date of transfer of title, which is referenced in Airbus documentation at the time of first delivery to an operator.

Reason:

An occurrence was reported where a RAT installed on an aeroplane failed a ground torque check in accordance with the instructions of Airbus SB A380-24-8133, with the RAT gearbox drain hole not plugged. Subsequent disassembly of the RAT gearbox revealed excess water in the gearbox and corrosion. After investigation by the RAT manufacturer (previously Hamilton Sundstrand

Corporation, currently Collins Aerospace), a significant amount of water, oil and metallic particles were found in the gearbox.

Prompted by that event, Airbus published SB A380-24-8147 (which includes reference to Hamilton Sundstrand Corporation SB ERPS38M-24-9) to provide inspection instructions, and EASA issued AD 2019-0124, applicable to a limited number of MSN, later superseded by EASA AD 2019-0192, reducing the compliance time, to require a one-time manual turbine free rotation check of each affected part and, depending on results, accomplishment of applicable corrective action(s). That AD also required reporting certain findings to Collins Aerospace.

After that AD was issued, reported results of the rotation check revealed several cases with water quantity in excess of 25 ml.

This condition, if not detected and corrected, could lead to water ingress into the gearbox, surrounding the turbine shaft gear and freezing at altitude, possibly preventing RAT operation, resulting in loss of electrical generation, which could, if combined with an electrical system emergency condition, possibly result in reduced control of the aeroplane.

To address this unsafe condition, Airbus issued SB A380-24-8158 original issue to provide inspection instructions. Consequently, EASA issued AD 2020-0009, requiring repetitive detailed inspections (DET) of gearbox oil of each affected part, and, depending on results, accomplishment of applicable corrective action(s).

Since AD 2020-0009 was issued, Airbus issued the SB, as defined in this AD, to add a manual torque check test in the corrective action(s) procedure in order to detect corrosion on RAT forward bearings having any water contamination history.

For the reason described above, this AD retains the requirements of EASA AD 2020-0009, which is superseded, but requires an additional manual torque check test as part of the applicable corrective action(s).

This AD is still considered to be an interim measure and further AD action may follow.

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

Required as indicated, unless accomplished previously:

Inspection(s):

(1) Within the compliance times as defined in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 6 months or 4 000 flight hours (FH) whichever occurs first, accomplish a DET of the gearbox oil of the affected part in accordance with the instructions of the SB.

Corrective Action(s):

(2) If, during any DET as required by paragraph (1) of this AD, the calculated water ingress rate exceeds the value specified in the SB, or if contaminant was found in the RAT during previous or current inspection(s), before next flight, accomplish the applicable corrective action(s), and, thereafter, depending on findings, accomplish any applicable follow-on action(s) in accordance with the instructions of the SB.

Table 1 – Initial DET

Aeroplane Date of Manufacture	Compliance Time	
Before 01 January 2019	whichever occurs later, **A** or **B**:	
	A	Within 6 months or 4 000 FH, whichever occurs first after accomplishment of Airbus SB A380-24-8147
	B	Within 3 months or 2 000 FH, whichever occurs first after 06 February 2020 [the effective date of EASA AD 2020-0009]
From 01 January 2019 up to 06 February 2020 inclusive	Within 3 months or 2 000 FH, whichever occurs first after 06 February 2020 [the effective date of EASA AD 2020-0009]	
After 06 February 2020	Before exceeding 6 months or 4 000 FH, whichever occurs first since aeroplane date of manufacture	

Reporting:

(3) Report the results of each inspection to Airbus, as required by paragraph (3.1) or (3.2) of this AD, as applicable.

(3.1) In case of any finding: Within 10 days after the inspection.

(3.2) In case of no findings, as defined in the SB: Within 30 days after the inspection.

Credit:

(4) DET(s) and corrective action(s) on an aeroplane, accomplished before the effective date of this AD in accordance with the instructions of the SB at original issue, are acceptable to comply with the initial requirements of paragraphs (1) and (2) of this AD for that aeroplane. From the effective date of this AD, DET and corrective actions have to be accomplished in accordance with the instructions of the SB at Revision 01.

Terminating Action:

(5) None.

Ref. Publications:

Airbus SB A380-24-8158 original issue dated 15 November 2019, and Revision 01 dated 12 June 2020.

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 09 July 2020 as PAD 20-109 for consultation until 23 July 2020. The Comment Response Document can be found in the EASA Safety Publications Tool, in the compressed (zipped) file attached to the record for this AD.

3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness 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 – IIANA (Airworthiness Office), Telephone: +33 562 110 253, Fax: +33 562 110 307, E-mail: account.airworth-A380@airbus.com.