



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 21-003

Issued: 22 January 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):

A380 aeroplanes

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

TCDS Number(s): EASA.A.110

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2019-0310R1 dated 20 April 2020.

ATA 27 – Flight Controls – Rudder Electrical Backup Hydraulic Actuator and Elevator Servo Control Solenoid Valves – Replacement

ATA – Master Minimum Equipment List / Airplane Flight Manual – Amendment

Manufacturer(s):

Airbus

Applicability:

Airbus A380-841, A380-842 and A380-861 aeroplanes, all manufacturer serial numbers.

Definitions:

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

The rudder SB: Airbus Service Bulletin (SB) A380-27-8068, which refers to Goodrich Actuation Systems SB 31129-27-12.

The elevator SB: Airbus SB A380-27-8070, which refers to Goodrich Actuation Systems SB 31130-27-06.



The MER: Airbus A380 Master Minimum Equipment List (MMEL), Major Event Revision (MER), approved 03 December 2019.

The AFM TR: Airbus A380 Aircraft Flight Manual (AFM) Temporary Revision (TR) 208 issue 1.0.

Affected part: Solenoid valves, having part number (P/N) D90ST0216-100, and having a serial number (s/n) in the range 2289 to 2775 inclusive, for rudder electrical back-up hydraulic actuators (EBHA) and elevator servo controls, except those with an encircled 'R' engraved on the identification plate. A solenoid valve where the s/n cannot be determined is considered to be an affected part.

Serviceable part: Solenoid valves, eligible for installation on rudder EBHA or elevator servo controls, which are not an affected part.

Groups:

Group 1 aeroplanes are those that have an affected part installed on both rudder and elevator.

Group 2 aeroplanes are those that have an affected part installed on rudder only.

Group 3 aeroplanes are those that have an affected part installed on elevator only.

Group 4 aeroplanes are those that do not have an affected part installed, neither on rudder nor on elevator.

Reason:

An in-service occurrence was reported where, during an engine shut down on ground, the upper rudder yellow EBHA untimely went into active mode. Investigation identified that a ball was missing inside the solenoid valve of the EBHA, which may have caused this active mode when the hydraulic circuit was pressurized. This non-conformity of a missing ball inside the solenoid valve may exist on rudder EBHAs and elevator servo controls.

This condition, if not detected and corrected, could lead to rudder runaway or elevator runaway, possibly resulting in loss of control of the aeroplane.

To address this potential unsafe condition, Airbus issued the rudder SB to provide instructions to identify and replace the affected parts on rudder EBHA, and issued the MER of the A380 MMEL that incorporates temporary restrictions of the associated MMEL items. Consequently, EASA issued AD 2019-0310 (later revised) to require implementation of certain dispatch restrictions. That AD also required replacement of the affected parts on rudder EBHA, which allowed removal of some MMEL restrictions on the rudder.

Since EASA AD 2019-0310R1 was issued, Airbus issued the elevator SB to provide instructions to identify and replace the affected parts on elevator servo controls. As an interim action, valid until replacement of the affected parts on elevator servo controls, Airbus issued the AFM TR and Flight Operations Transmission (FOT) Ref. 999.0072/20 informing operators and providing temporary changes to the electronic centralized aircraft monitoring (ECAM), and issued SB A380-31-8108 accordingly, providing modification instructions. The AFM TR and the ECAM Temporary Change (ETC) 62 add the "MANEUVER WITH CARE" instructions to the F/CTL ALTN LAW (PROT LOST) procedure.



For the reason described above, this AD retains the requirements of the EASA AD 2019-0310R1, which is superseded, and requires amendment of the applicable AFM and activation of the ECAM Temporary Change (ETC) 62, replacement of affected parts on elevator servo controls, which allows the removal of some MMEL restrictions on the elevators and, following (recommended) ETC62 deactivation, the removal of the AFM TR from the AFM.

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

Required as indicated, unless accomplished previously:

MMEL Changes / Dispatch Restrictions:

- (1) For Group 1, Group 2 and Group 3 aeroplanes: Within 30 days after 03 January 2020 [the effective date of the original issue of EASA AD 2019-0310], amend the MMEL, on the basis of which the operator MEL is made, as specified in Table 1 of this AD, as applicable, in accordance with the instructions of the MER, inform all flight crews, and, thereafter, operate the aeroplane accordingly.

Table 1 – Applicability of Restricted (NO GO) MMEL Items

Restricted MMEL items	Affected Aeroplanes		
	Group 1	Group 2	Group 3
27-24-02A Rudder Double Pressure Function	Applicable	Applicable	Not applicable
27-24-04A Rudder EBHA	Applicable	Applicable	Not applicable
27-93-01A PRIM 1	Applicable	Applicable	Applicable
27-34-01 Elevator Electro-Hydrostatic Actuator (only for the outboard elevators)	Applicable	Not applicable	Applicable

AFM Amendment :

- (2) For Group 1 and Group 3 aeroplanes: Within 30 days month after the effective date of this AD, amend the applicable AFM to incorporate the AFM TR, inform all flight crews, and, thereafter, operate the aeroplane accordingly.

Until modification of an aeroplane as required by paragraph (4) of this AD, the AFM TR procedures, as required to be incorporated by paragraph (2) of this AD, take precedence over the procedures displayed on the ECAM of that aeroplane.

- (3) Amending the applicable AFM to incorporate a later AFM revision, which includes the content of the AFM TR as required by paragraph (2) of this AD, is an acceptable method to comply with the requirements of paragraph (2) of this AD.

Modification:

- (4) For Group 1 and Group 3 aeroplanes: Within 30 days after the effective date of this AD, activate the ETC62 in accordance with the instructions of Airbus SB A380-31-8108.



Replacement:

- (5) For Group 1 and Group 2 aeroplanes: Within 12 months after 03 January 2020 [the effective date of the original issue of EASA AD 2019-0310], replace each affected part (installed at locations as indicated in the rudder SB) on the rudder EBHA with a serviceable part, as defined in this AD, in accordance with the instructions of the rudder SB.
- (6) For Group 1 and Group 3 aeroplanes: Within 18 months after the effective date of this AD, replace each affected part (installed at locations as indicated in the elevator SB) on the elevator servo controls with a serviceable part, as defined in this AD, in accordance with the instructions of the elevator SB.

Credit:

- (7) An aeroplane on which Airbus modification (mod/mod proposal) 66400/T87378 has been embodied in production is compliant with the requirements of paragraph (4) of this AD for that aeroplane.
- (8) An aeroplane on which Airbus mod/mod proposal 66400/T87379 and 78683/T87381 have been embodied in production is compliant with the requirements of paragraph (6) of this AD for that aeroplane.

Part Installation:

- (9) For Group 1, Group 2, Group 3 and Group 4 aeroplanes: From 03 January 2020 [the effective date of the original issue of EASA AD 2019-0310], do not install on any aeroplane an affected part on any rudder EBHA or elevator servo control.

MMEL Change:

- (10) After replacement of all affected parts on the rudder EBHA of an aeroplane as required by paragraph (5) of this AD, the restrictions of MMEL items "27-24-02A Rudder Double Pressure Function" and "27-24-04A Rudder EBHA" implemented on that aeroplane as required by paragraph (1) of this AD are no longer necessary and can be removed from that aeroplane.
- (11) After replacement of all affected parts on the elevator servo controls of an aeroplane as required by paragraph (6) of this AD, the restriction of MMEL item "27-34-01 Elevator Electro-Hydrostatic Actuator (only for the outboard elevators)" implemented on that aeroplane as required by paragraph (1) of this AD is no longer necessary and can be removed from that aeroplane.
- (12) After replacement of all affected parts on the rudder EBHA and elevator servo controls of an aeroplane as required by paragraphs (5) and (6) of this AD, the restriction of MMEL item "27-93-01A PRIM1" implemented as required by paragraph (1) of this AD is no longer necessary and can be removed from that aeroplane.

ETC62 Deactivation / AFM Change:

- (13) For Group 1 and Group 3 aeroplanes: After modification of an aeroplane as required by paragraph (6) of this AD and after the (recommended) ETC62 deactivation in accordance with the instructions of Airbus SB A380-31-8109, the operational procedure of the AFM TR is no longer necessary and can be removed from the AFM of that aeroplane.



Ref. Publications:

Airbus SB A380-27-8068 original issue dated 12 December 2019.

Airbus SB A380-27-8070 original issue dated 06 January 2021.

Airbus SB A380-31-8108 original issue dated 06 January 2021.

Airbus SB A380-31-8109 original issue dated 06 January 2021.

Airbus A380 MMEL MER, approved 03 December 2019.

Airbus A380 AFM TR 208 issue 1.0, approval date 03 December 2020.

Airbus FOT Ref. 999.0072/20 original issue dated 18 January 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 19 February 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 SAS - EIANA (Airworthiness Office), Telephone: +33 562 110 253, Fax: +33 562 110 307, E-mail: account.airworth-A380@airbus.com.

