



## Airworthiness Directive

**AD No.:** 2019-0123R1

**Issued:** 18 June 2019

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:** 19 June 2019 (same as original issue)

**TCDS Number(s):** EASA.A.110

**Foreign AD:** Not applicable

**Revision:** This AD revises EASA AD 2019-0123 dated 05 June 2019, which superseded EASA AD 2017-0131R1 dated 09 October 2017.

## ATA 32 – Landing Gear – Gravity Extension System – Inspection / Modification

### Manufacturer(s):

Airbus

### Applicability:

Airbus A380-841, A380-842 and A380-861 aeroplanes, all manufacturer serial numbers, except those that have embodied Airbus modification (mod) 77381 in production.

### Definitions:

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

**The AOT:** Airbus Alert Operators Transmission (AOT) A32R009-16 Revision 01.

**The SB:** Airbus Service Bulletin (SB) A380-92-8103 Revision 02.

### Reason:

During a free-fall gravity landing gear (LG) extension of an A380 aeroplane, the left-hand (LH) wing LG failed to extend, remained in up-locked position in the LG bay and an associated alert was initiated. Consequent investigation determined that the wiring of both channels, A and B, of the LG gravity extension system, providing electrical signals to the LH wing LG Emergency Up-lock Actuator (EUA), were found damaged. Similar wiring damage was also detected on channel B of the right-hand (RH) wing LG EUA. The investigation concluded that the detected wiring failure mode



was provoked by fatigue degradation present in the wing LG gear up-lock areas. No fatigue degradation of wiring was identified in the up-lock areas of nose LG, body LG and wing LG doors.

This condition, if not detected and corrected, could result in a failure of the wing LG emergency gravity extension system, possibly preventing safe landing in case of a failure of the normal LG extension system.

To address this potential unsafe condition, Airbus issued AOT A32R009-16 to provide inspection instructions. The results collected by that inspection confirmed that the fatigue degradation was present only on the wing LG up-lock EUA wiring. Consequently, Airbus issued AOT A32R009-16 Revision 01 (the AOT), providing instructions to inspect wing LG up-lock EUA wiring and accomplish on-ground LG gravity extension tests. Additionally, Airbus developed mod 77381, introducing improved attachments for harnesses connected to wing LG EUAs, and issued SB A380-92-8103 to provide instructions for in-service modification.

Consequently, EASA issued AD 2017-0131 (later revised) to require repetitive general visual (GVI) or detailed (DET) inspections of wing LG up-lock EUA wiring and functional on-ground tests of the wing LG gravity extension system, accomplishment of applicable corrective action(s) depending on findings, and modification of the electrical harness, which constituted terminating action for the repetitive inspection and functional tests.

Since EASA AD 2017-0131R1 was issued, it was determined that inspection of the termination of specific wires supplied in the new bundle is necessary for post-SB aeroplanes and Airbus published SB A380-92-8103 Revision 02 accordingly to provide the necessary additional work instructions.

For the reason described above, EASA issued AD 2019-0123, retaining the requirements of EASA AD 2017-0131R1, which was superseded, to require additional work for aeroplanes on which the SB at original issue or Revision 01 was embodied.

Since that AD was issued, some risk of misunderstanding was identified, particularly the terminating action statement of paragraph (6). This AD is revised to eliminate that possible misunderstanding.

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

Required as indicated, unless accomplished previously:

#### **Inspection(s):**

- (1) Within the compliance time specified in Table 1 of this AD, and, thereafter, at intervals not to exceed 6 months, accomplish concurrently a DET or GVI of the wire harnesses connected to wing LG up-lock EUA, and an on-ground wing LG gravity extension test, in accordance with the instructions of the AOT.



Table 1 – Initial Wing LG Up-lock EUA DET/GVI and on-ground Wing LG Gravity test

Compliance Time (A, B or C, whichever occurs later)	
<b>A</b>	Within 6 months after aeroplane first flight
<b>B</b>	Within 6 months after the last wing LG up-lock EUA wiring inspection and LG gravity extension test in accordance with the instructions of the AOT
<b>C</b>	Within 30 days after 10 August 2017 [the effective date of the original issue of EASA AD 2017-0131]

**Corrective Action(s):**

- (2) If, during any inspection or test as required by paragraph (1) of this AD, any discrepancy is detected, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of the AOT.

**Credit:**

- (3) Inspection(s), wing LG gravity extension test(s) and, depending on finding(s), corrective action(s) on an aeroplane, accomplished before 10 August 2017 [the effective date of the original issue of EASA AD 2017-0131] in accordance with Airbus AOT A32R009-16 at original issue, are acceptable to comply with the initial requirements of paragraphs (1) and (2) of this AD for that aeroplane.

**Modification:**

- (4) Within 36 months after 10 August 2017 [the effective date of the original issue of EASA AD 2017-0131], modify the wing LG EUA electrical harnesses in accordance with the instructions of the SB.
- (5) For an aeroplane that was modified, before the effective date of this AD in accordance with the instructions of Airbus SB A380-92-8103 at original issue or Revision 01, within 12 months after the effective date of this AD, accomplish the actions identified as “additional work” in the SB.

**Terminating Action:**

- (6) Modification of an aeroplane in accordance with the instructions of Airbus SB A380-92-8103 (at any issue) constitutes terminating action for the repetitive inspections and wing LG gravity extension tests as required by paragraph (1) of this AD for that aeroplane.

**Ref. Publications:**

Airbus AOT A32R009-16 original issue dated 22 November 2016, or Revision 01 dated 28 February 2017.

Airbus SB A380-92-8103 original issue dated 05 May 2017, or Revision 01 dated 03 May 2018, or Revision 02 dated 22 January 2019.

The use of later approved revisions of the above-mentioned documents 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. The original issue of this AD was posted on 02 April 2019 as PAD 19-053 for consultation until 30 April 2019. 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](mailto: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](#).
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, E-mail: [account.airworth-A380@airbus.com](mailto:account.airworth-A380@airbus.com).

