



Airworthiness Directive

AD No.: 2017-0131

Issued: 27 July 2017

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

AIRBUS

Type/Model designation(s):

A380 aeroplanes

Effective Date: 10 August 2017

TCDS Number(s): EASA.A.110

Foreign AD: Not applicable

Supersedure: None

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.

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 Unlock Actuator (EUA), were found damaged. Similar wiring damage was also detected on channel B of the right hand (RH) wing LG up-lock 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 Alert Operators Transmission (AOT) A32R009-16 to provide instructions for one-time inspection of EUAs fitted onto the LGs, up-locks of LG doors and LG gravity extension on ground. The inspection results collected during accomplishment of original issue of Airbus AOT A32R009-16 confirmed that the fatigue degradation was present only on the wing LG up-lock EUA wiring. Consequently, Airbus issued Revision 01 of Airbus AOT A32R009-16 providing instructions for repetitive inspections of wing LG up-lock EUA wiring and retaining on ground LG gravity extension tests. Additionally, Airbus developed mod 77381, introducing improved attachments for harnesses connected to wing LG EUAs, available for in service aeroplanes through Airbus Service Bulletin (SB) A380-92-8103.

For the reasons described above, this AD requires repetitive detailed inspections (DET) of wing LG up-lock EUA wiring and functional tests of the wing LG gravity extension system, accomplishment of applicable corrective action(s), and modification of the electrical harness, which constitutes terminating action for the repetitive DET and functional tests.

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

Required as indicated, unless accomplished previously:

Inspection(s):

- (1) Within 6 months after aeroplane first flight or after accomplishment of the last wing LG up-lock EUA wiring inspection and LG gravity extension test in accordance with the instructions of Airbus AOT A32R009-16, as applicable, or within 30 days after the effective date of this AD, whichever occurs later, and, thereafter, at intervals not to exceed 6 months, accomplish concurrently the actions as required by paragraphs (1.1) and (1.2) of this AD, in accordance with the instructions of Airbus AOT A32R009-16 Revision 01.

(1.1) A DET of wire harnesses connected to wing LG up-lock EUA.

(1.2) An on ground wing LG gravity extension test.

Corrective Action(s):

- (2) If, during any DET 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 Airbus AOT A32R009-16 Revision 01.

Credit:

- (3) DET and wing LG gravity extension test and, depending on finding(s), corrective action(s) on an aeroplane, accomplished before the effective date of this AD in accordance with the original issue of Airbus AOT A32R009-16, is acceptable to comply with the initial inspection and LG gravity extension test as required by paragraph (1) of this AD for that aeroplane.

Modification:

- (4) Within 36 months after the effective date of this AD, modify the wing LG EUA electrical harnesses in accordance with the instructions of Airbus SB A380-92-8103.



Terminating Action

- (5) Modification of an aeroplane as required by paragraph (4) of this AD constitutes terminating action for the repetitive DET 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.

The use of later approved revisions of these 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. This AD was posted on 14 June 2017 as PAD 17-078 for consultation until 12 July 2017. 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. For any question concerning the technical content of the requirements in this AD, please contact: Airbus – EIANA (Airworthiness Office), Telephone: +33 562 110 253; Fax: +33 562 110 307, E-mail: account.airworth-A380@airbus.com.

