European Union Aviation Safety Agency

Airworthiness Directive

AD No.: 2020-0145

Issued: 01 July 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:	**Type/Model designation(s):**
AIRBUS	A300, A300-600 and A300-600ST aeroplanes

Effective Date:	15 July 2020
TCDS Number(s):	EASA.A.172 and EASA.A.014
Foreign AD:	Not applicable
Supersedure:	This AD supersedes EASA AD 2018-0170 dated 06 August 2018.

ATA 32 – Landing Gear – Main Landing Gear Hinge Arm / Barrel – Pin Replacement / Inspection / Spacer Modification

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Manufacturer(s):

Airbus, formerly Airbus Industrie

Applicability:

Airbus A300 and A300-600 aeroplanes, all certified models, all manufacturer serial numbers (MSN); and
Airbus A300F4-608ST aeroplanes, all MSN.

Definitions:

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

Affected pin: Main landing gear (MLG) hinge arm/barrel pins, having Part Number (P/N) C66441-(X), or P/N C65543-(X), where X represents any number, except P/N C66441-200 (improved pin).

Improved pin: MLG hinge arm/barrel pins, having P/N C66441-200.

Affected spacer: Spacer, having P/N D57756 (without a stop).

Improved spacer: Spacer, having P/N D57756-1 (with a stop).

The AOT: Airbus Alert Operators Transmission (AOT) A32W008-16 Revision 01 (detailed inspection - DET).

The applicable pin replacement SB: Airbus Service Bulletin (SB) A300-32-0469, SB A300-32-6120 and SB A300-32-9025, as applicable.

The pin manufacturer SB: SAFRAN Landing Systems SB 470-32-840 (out-of-roundness check).

The applicable inspection SB: Airbus SB A300-32-0468, SB A300-32-6119 and SB A300-32-9024, as applicable (general visual inspection - GVI).

The applicable spacer replacement SB: Airbus SB A300-32-0470, SB A300-32-6121 and SB A300-32-9026, as applicable.

Groups:
Group 1 are A300 B2-1A, A300 B2-1C, A300 B2K-3C, A300 B2-202, A300 B2-203 and A300 B2-320 aeroplanes.
Group 2 are A300 (all models, except A300 B2 = Group 1), A300-600 (all models) and A300F4-608ST aeroplanes.

Reason:
Two occurrences were reported of finding cracked MLG hinge arm/barrel pins during maintenance.

This condition, if not detected and corrected, could lead to MLG collapse, possibly resulting in damage to the aeroplane and injury to occupants.

To address this potential unsafe condition, Airbus issued AOT A32W008-16 (later revised) to provide instructions for DET to detect cracks, and EASA issued AD 2016-0058 accordingly, requiring repetitive DET of the affected pins, as defined in this AD, and, depending on findings, replacement of the affected MLG leg.

After that AD was issued, a third case was reported by an operator. Subsequent investigation determined that the cracks initiate on the inner diameter of the affected pin following an overload leading to fracture and migration of the connecting rod bushes. It was also determined that overhaul of the MLG cannot alleviate the inspection requirement for the affected pins.

Consequently, EASA issued AD 2018-0170, retaining the requirements of EASA AD 2016-0058, which was superseded, and removing the option to use the time since MLG overhaul to determine the initial compliance time for DET of affected pins.

After that AD was issued, following further investigation for Group 2 aeroplanes, Airbus issued the applicable pin replacement SB, as defined in this AD, providing instructions for installation of a new MLG hinge arm/barrel pin with wet primer integration, to improve corrosion protection. It was also determined that an out-of-roundness check of removed pins is needed to detect potential overload. Airbus issued the applicable inspection SB, as defined in this AD, providing instructions for repetitive GVI of affected pins and connecting rod bushes. Airbus also issued the applicable spacer

replacement SB, as defined in this AD, providing instructions for modification of the spacer design to prevent migration of the connecting rod bushes in case of bush fracture.

For the reasons described above, this AD retains the requirements of EASA AD 2018-0170, which is superseded, and requires, for all aeroplanes, repetitive DET of affected pins and, depending on findings, replacement of the affected MLG leg. For Group 2 aeroplanes, this AD also requires modification of the MLG hinge arm by installing improved pins (terminating the DET inspection requirement), an out-of-roundness check of removed pins, repetitive GVI of affected pins and the associated connecting rod bushes, and installation of an improved spacer (terminating the GVI inspection requirement).

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

Required as indicated, unless accomplished previously:

DET Inspection(s):

(1) For Group 1 and Group 2 aeroplanes: Within the compliance time defined in Table 1 of this AD, and, thereafter, at intervals not to exceed 100 flight cycles, accomplish a DET of the internal diameter of each affected pin in accordance with the instructions of the AOT, as defined in this AD.

Table 1 – Initial DET Inspection

Compliance Time (whichever occurs later, **A** or **B**)	
A	Within 30 months since affected pin first flight on an aeroplane
B	Within 30 days after 20 August 2018 [the effective date of EASA AD 2018-0170], without exceeding the threshold and interval defined in AOT A32W008-16 original issue

Pin Replacement:

(2) For Group 2 aeroplanes: Within the compliance time defined in Table 2 of this AD, modify the MLG hinge arm by replacing each affected pin with an improved pin, as defined in this AD, in accordance with the instructions of the applicable pin replacement SB.

Table 2 – Pin Replacement

Compliance Time (whichever occurs later, **A** or **B**)	
A	Within 30 months since affected pin first flight on an aeroplane
B	Within 30 months after the effective date of this AD

Out-of-Roundness Check:

(3) For Group 2 aeroplanes: Within 30 days after pin replacement as required by paragraph (2) of this AD, send all removed pins for an out-of-roundness check and, depending on findings, report the result to the pin manufacturer within the compliance time as defined in, and in accordance with the instructions of, the pin manufacturer SB.

GVI Inspection(s):

(4) For Group 2 aeroplanes: Within 30 months after pin replacement as required by paragraph (2) of this AD and, thereafter, at intervals not to exceed 30 months, accomplish a GVI of the improved pins and the associated connecting rod bushes in accordance with the instructions of the applicable inspection SB.

Corrective Action(s):

(5) For Group 1 and Group 2 aeroplanes: If, during any DET as required by paragraph (1) of this AD, any crack is found on the pin, before next flight, replace the MLG leg in accordance with the instructions of the AOT.

(6) For Group 2 aeroplanes: If, during the out-of-roundness check as required by paragraph (3) of this AD, the measurement results are outside the criteria as defined in the pin manufacturer SB, within 24 hours after receipt of the measurement results, contact the pin manufacturer for further instructions and accomplish those instructions accordingly.

(7) For Group 2 aeroplanes: If, during any GVI as required by paragraph (4) of this AD, any crack is found on the pin or on the bushes, before next flight, replace the MLG leg and inspect the opposite side MLG leg in accordance with the instructions of the applicable inspection SB.

Spacer Replacement:

(8) For Group 2 aeroplanes: Within 10 years after the effective date of this AD, modify the MLG hinge arm by replacing the affected spacer with an improved spacer, as defined in this AD, in accordance with the instructions of the applicable spacer replacement SB. Concurrently, unless already accomplished as required by paragraph (2) of this AD, replace each affected pin with an improved pin in accordance with the instructions of the applicable pin replacement SB.

Credit:

(9) Inspection(s) and corrective action(s) accomplished on an aeroplane before 20 August 2018 [the effective date of EASA AD 2018-0170] in accordance with the instructions of Airbus AOT A32W008-16 at original issue are acceptable to comply with the initial requirements of paragraphs (1) and (5) of this AD for that aeroplane.

Terminating Action:

(10) For Group 2 aeroplanes: Replacement of each affected pin on an aeroplane as required by paragraph (2) of this AD constitutes terminating action for the repetitive DET as required by paragraph (1) of this AD for that aeroplane.

(11) For Group 2 aeroplanes: Replacement of the affected spacer on an aeroplane as required by paragraph (8) of this AD constitutes terminating action for the repetitive GVI as required by paragraph (4) of this AD for that aeroplane.

(12) For Group 1 aeroplanes: None.

Parts Installation:

(13) For Group 2 aeroplanes: After pin replacement on an aeroplane as required by paragraph (2) or (8) of this AD, as applicable, do not install an affected pin on the MLG of that aeroplane.

(14) For Group 2 aeroplanes: From the effective date of this AD, it is allowed to install an affected spacer on the MLG of an aeroplane, provided that the spacer is replaced as required by paragraph (8) of this AD.

Ref. Publications:

Airbus AOT A32W008-16 original issue dated 25 February 2016, or Revision 01 dated 30 July 2018.

Airbus SB A300-32-0468 original issue dated 24 September 2019.

Airbus SB A300-32-0469 original issue dated 24 September 2019.

Airbus SB A300-32-0470 original issue dated 19 March 2020.

Airbus SB A300-32-6119 original issue dated 24 September 2019.

Airbus SB A300-32-6120 original issue dated 24 September 2019.

Airbus SB A300-32-6121 original issue dated 19 March 2020.

Airbus SB A300-32-9024 original issue dated 24 September 2019.

Airbus SB A300-32-9025 original issue dated 24 September 2019.

Airbus SB A300-32-9026 original issue dated 19 March 2020.

SAFRAN Landing Systems SB 470-32-840 original issue dated 03 December 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. This AD was posted on 05 May 2020 as PAD 20-074 for consultation until 02 June 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.

5. For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS – IIAW (Airworthiness Office),
E-mail: continued.airworthiness-wb.external@airbus.com.