



適航指令發布單

Airworthiness Directive Issuance Form

民航局 AD 編號 AD number	CAA-2020-03-022	發布日期 Date issued	2020/4/6
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	Airbus A330-201, A330-202, A330-203, A330-223, A330-223F, A330-243, A330-243F, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342 and A330-343 aeroplanes, all manufacturer serial numbers (MSN), and Airbus A340-211, A340-212, A340-213, A340-311, A340-312, A340-313, A340-541, A340-542, A340-642 and A340-643 aeroplanes, all MSN.		
主旨摘要	Landing Gear - Free Fall Actuators - Inspection / Replacement		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主管機構 Original Authorities <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> FAA <input checked="" type="checkbox"/> EASA <input type="checkbox"/> Brazil <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> DGAC </div> <div style="width: 48%;"> <input type="checkbox"/> Germany LBA <input type="checkbox"/> CAA-NL <input type="checkbox"/> UK CAA <input type="checkbox"/> Japan CAB <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____ </div> </div>		
	設計國 AD 編號 Original AD number	2020-0076	
	1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	This AD supersedes EASA AD 2019-0164(CAA-2019-07-005) dated 11 July 2019.		
註： 1. AD 內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： adcaa@mail.caa.gov.tw Note： 1. The AD text is enclosed. 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval. 3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： adcaa@mail.caa.gov.tw			



Airworthiness Directive

AD No.: 2020-0076

Issued: 30 March 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):

A330 and A340 aeroplanes

Effective Date: 13 April 2020

TCDS Number(s): EASA.A.004, EASA.A.015

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2019-0164 dated 11 July 2019.

ATA 32 – Landing Gear – Free Fall Actuators – Inspection / Replacement

Manufacturer(s):

Airbus, formerly Airbus Industrie

Applicability:

Airbus A330-201, A330-202, A330-203, A330-223, A330-223F, A330-243, A330-243F, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342 and A330-343 aeroplanes, all manufacturer serial numbers (MSN), and

Airbus A340-211, A340-212, A340-213, A340-311, A340-312, A340-313, A340-541, A340-542, A340-642 and A340-643 aeroplanes, all MSN.

Definitions:

The AOT: Airbus Alert Operators Transmission (AOT) A32L012-18 Revision 3.

Affected FFA: Free fall actuators (FFA), having Part Number (P/N) AR02404, and having a serial number (s/n) listed in Appendix 3, 4 or 5 of the AOT, installed on nose landing gear (NLG), main landing gear (MLG) and centre landing gear (CLG). Identification whether or not an affected FFA is installed on an aeroplane can be accomplished either by physical P/N and s/n inspection, or a records check, provided those records can be relied upon for that purpose.

Serviceable FFA: An FFA which is not an affected part.



Groups:

Group 1 aeroplanes are those that have an affected FFA installed.

Group 2 aeroplanes are those that do not have an affected FFA installed. An aeroplane that has embodied Airbus modification 200949 in production, or Airbus SB A330-32-3293, SB A340-32-4317, or SB A340-32-5120, as applicable, in service, is a Group 2 aeroplane, provided that the aeroplane remains in that configuration.

Reason:

An occurrence was reported on an A330 aeroplane, where the NLG failed to extend by free fall method, prompted by the loss of the green hydraulic system. Investigation results identified that the magnets on the NLG FFA P/N AR02404 were found detached on both electrical motors. Further investigation identified a potential similar issue on specific FFA with the same P/N, manufactured in 2001 and 2002. These affected FFA can also be fitted on MLG (on A330 and A340 aeroplanes) and CLG (on A340-500/600 aeroplanes only) of the aeroplane.

This condition, if not detected and corrected, could prevent landing gear (LG) extension by free fall method, possibly resulting in loss of control of the aeroplane after landing, with consequent damage to the aeroplane and injury to occupants.

To initially address this potential unsafe condition, Airbus issued AOT A32L012-18 to provide instructions to inspect and test the affected FFA and EASA published AD 2019-0063 to require repetitive testing of each affected FFA, and, depending on findings, replacement with a serviceable FFA. That AD also prohibited (re)installation of an affected FFA on any aeroplane.

After that AD was published, units manufactured in other years were investigated. Additional affected FFA were identified and it was determined that the intervals for the repetitive test defined in AOT A32L012-18 at original issue needed to be amended. Airbus issued Revision 2 of AOT A32L012-18, expanding the list of affected FFA and amending the intervals. Consequently, EASA published AD 2019-0164 to retain the requirements of EASA AD 2019-0063, which was superseded, to add affected FFA and to amend the inspection intervals.

Since that AD was published, it was determined that each affected FFA must be replaced and Airbus issued the AOT, as defined in this AD, to provide replacement instructions.

For the reasons described above, this AD retains the requirements of EASA AD 2019-0164, which is superseded, and requires replacement of each affected FFA.

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

Required as indicated, unless accomplished previously:

Identification / Inspections:

- (1) For Group 1 aeroplanes: Within the compliance times specified in Table 1 of this AD, and, thereafter, at intervals not to exceed the values defined in Table 2 of this AD, accomplish a test of the free fall system of each LG fitted with an affected FFA, as defined in this AD, in accordance with the instructions of the AOT.



If an aeroplane is equipped with affected FFA from different Appendices, the interval applicable for each affected FFA as specified in Table 2 of this AD can be used, or the applicable lowest interval can be used for all affected FFA on that aeroplane.

Table 1 – Inspection / Test Thresholds

FFA installed	Compliance Time (flight hours (FH) or calendar time, whichever occurs first)
Affected FFA in Appendix 3, not tested per Airbus AOT A32L012-18 at original issue	Within 90 days after 09 April 2019 [the effective date of EASA AD 2019-0063]
Affected FFA in Appendix 3, tested per Airbus AOT A32L012-18 at original issue	Within 1 600 FH or 5 months, whichever occurs first since previous test
Affected FFA in Appendix 4 or 5	Within 90 days after 25 July 2019 [the effective date of EASA AD 2019-0164]

Table 2 – Inspection / Test Intervals

Aeroplane	Equipped with affected FFA in the AOT, Appendix No.	Compliance Time (FH or calendar time, whichever occurs first)
All	3	1 600 FH or 5 months
A330-200, A330-200F, A330-300 and A340-200/-300	4	2 500 FH or 8 months
A340-500/-600	4	2 025 FH or 8 months
A330-200, A330-200F, A330-300	5	3 400 FH or 10 months
A340-200/-300	5	3 800 FH or 10 months
A340-500/-600	5	2 025 FH or 10 months

Corrective Action(s):

- (2) If, during any test as required by paragraph (1) of this AD, an affected FFA fails the test, before next flight, replace the affected FFA with a serviceable FFA, as defined in this AD, in accordance with the instructions of the AOT.

Test / Compliance:

- (3) Accomplishment of a test as required by paragraph (1) of this AD on an aeroplane allows an operator to claim compliance with the applicable ALS Part 3 (CMR), “Operational Check of Landing Gear Freefall system”, A330 task 323000-00001-1-C, A340 task 323000-A0001-1-C, or A340 task 323000-B0001-1-C, as applicable, provided the continuity test specified in A330 AMM task 32-33-00-710-809, or A340 AMM task 32-33-00-710-806, as applicable, is accomplished concurrently on that aeroplane.



Credit:

- (4) Test(s) of the free fall system of an LG fitted with an affected FFA on an aeroplane and corrective action(s), accomplished before the effective date of this AD in accordance with the instructions of Airbus AOT A32L012-18 Revision 1 or Revision 2, are acceptable to comply with the initial requirements of paragraph (1) of this AD for that aeroplane.

Replacement:

- (5) Unless already accomplished as required by paragraph (2) of this AD, within the compliance time as defined in Table 3 of this AD, replace each affected FFA installed on an aeroplane with a serviceable FFA in accordance with the instructions of the AOT.

Table 3 – FFA Replacement Thresholds

Affected FFA in the AOT, Appendix No.	Compliance Time (after the effective date of this AD)
3	Within 22 months
4	Within 46 months
5	

Terminating Action:

- (6) Replacement on an aeroplane of each affected FFA with a serviceable FFA, as required by paragraph (2) or (5) of this AD, as applicable, constitutes terminating action for the repetitive tests of the free fall system of each LG, as required by paragraph (1) of this AD for that aeroplane.

Part(s) Installation:

- (7) For Group 1 and Group 2 aeroplanes: From 09 April 2019 [the effective date of EASA AD 2019-0063], do not install an affected FFA on any aeroplane.

Ref. Publications:

Airbus AOT A32L012-18 original issue dated 29 January 2019, or Revision 1 dated 16 May 2019, or Revision 2 dated 03 July 2019 and Revision 3 dated 21 January 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 03 February 2020 as PAD 20-023 for consultation until 02 March 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 – A330/A340 Airworthiness Office,
E-mail: airworthiness.A330-A340@airbus.com.

