Airworthiness Directive

AD No.: 2017-0138

Issued: 02 August 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):

A318, A319, A320, and A321 aeroplanes

Effective Date:	16 August 2017
TCDS Number(s):	EASA.A.064
Foreign AD:	Not applicable
Revision:	This AD supersedes EASA AD 2016-0010R1 dated 16 February 2016.

ATA 71 – Powerplant – Aft Engine Mounts Retainers – Inspection / Replacement

Manufacturer(s):

Airbus (formerly Airbus Industrie)

Applicability:

Airbus A318-111, A318-112, A319-111, A319-112, A319-113, A319-114, A319-115, A320-211, A320-212, A320-214, A320-215, A320-216, A321-111, A321-112, A321-211, A321-212, and A321-213 aeroplanes, all manufacturer serial numbers.

Reason:

During in-service inspections, several aft engine mount inner retainers, fitted on aeroplanes equipped with CFM56-5A/5B engines, were found broken. Investigation identified that the main cause of crack initiation was the vibration dynamic effect that affects the retainers, and that the "dull" surface finish pitting is an aggravating factor when compared with the "bright" surface finishing.

This condition, if not detected and corrected, could lead to in-flight loss of an aft mount link, possibly resulting in damage to the aeroplane and/or injury to persons on the ground.

To address this potential unsafe condition, Airbus issued Alert Operators Transmission (AOT) A71N001-12 (later revised) and EASA issued AD 2013-0050, later superseded by EASA

AD 2015-0021, requiring repetitive detailed inspections (DET) of all aft engine mount inner retainers and, depending on findings, their replacement.

After EASA AD 2015-0021 was issued, a production quality deficiency was identified by Airbus and Goodrich Aerostructures, the engine mount retainer manufacturer, on the delivery of the inner retainer, Part Number (P/N) 238-0252-505, installed in the three link assemblies of the engine mount fitted on CFM56-5A/5B engines. Airbus issued AOT A71N011-15 and Service Bulletin (SB) A320-71-1070, providing a list of affected parts and applicable corrective actions.

Consequently, EASA issued AD 2016-0010 (later revised), retaining the requirements of EASA AD 2015-0021, which was superseded, and in addition requiring the identification and replacement of all non-conforming aft engine mount inner retainers.

Since that AD was issued, a new engine mount retainer was developed by Goodrich Aerostructures to improve the retainer efficiency. For retrofit purposes, Goodrich Aerostructures issued SB RA32071-164, and Airbus issued SB A320-71-1071, providing instructions to modify and re-identify the engine mount assemblies as instructed in Goodrich Aerostructures SB. Subsequently, it was observed that, on aeroplanes equipped with certain engines fitted with a Turbine Rear Frame (TRF) with 4 lugs configuration, the installation of the new engine mount retainers can lead to interference, and Goodrich Aerostructures revised SB RA32071-164, providing instructions not to install the new engine retainers on affected engines. Airbus SB A320-71-1071 is expected to be revised accordingly. For engines fitted with a TRF with 4 lugs, a new installation (potentially requiring different engine mount retainers) is being developed by Goodrich Aerospace and Airbus.

For the reason described above, this AD retains the requirements of EASA AD 2016-0010R1, which is superseded, and, except for aeroplanes equipped with engines fitted with a TRF with 4 lugs configuration, requires modification and identification of aft engine mount assemblies as terminating action for the repetitive inspections of the retainers. This AD also includes additional instructions applicable to installation of engines fitted with a TRF with 4 lugs configuration.

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

Required as indicated, unless accomplished previously:

Restatement of the requirements of EASA AD 2016-0010R1:

Note 1: For the purpose of this AD, a Group 1 aeroplane has an aft engine mount assembly installed, having a P/N identified as “Old” in Table 1 of this AD. A Group 2 aeroplane does not have any aft engine mount assembly installed, having a P/N identified as “Old” in Table 1 of this AD.

Note 2: For the purpose of this AD, a “4-lugs engine” is a CFM56-5A1, CFM56-5A3, CFM56-5A4, CFM56-5A4/F, CFM56-5A5, or CFM56-5A5/F engine, fitted with a TRF having a P/N as identified in Appendix 1 of this AD.

Table 1: Aft Engine Mount Re-identification P/N

Old P/N	New P/N
238-0230-11	238M0230-11
238-0230-15	238M0230-15
238-0230-5	238M0230-5
642-2300-3	642-2300-11

One-time Inspection:

(1) For Group 1 aeroplanes (see Note 1 of this AD): Within 3 months after 19 March 2013 [the effective date of EASA AD 2013-0050], accomplish a DET of the aft engine mount inner retainers in accordance with the instructions of Airbus AOT A71N001-12 Revision (Rev.) 01.

Repetitive Inspections:

(2) For Group 1 aeroplanes (see Note 1 of this AD): Within the compliance time as specified in Table 2 of this AD and, thereafter, at intervals not to exceed 12 months, accomplish a DET of the aft engine mount inner retainers in accordance with the instructions of Airbus SB A320-71-1060, or Goodrich Aerostructures SB RA32071-160.

Table 2 – Inspection Threshold

Compliance Time (**A**, **B** or **C**, whichever occurs later)	
A	Within 12 months since Airbus date of manufacture of the aeroplane
B	Within 12 months after installation of new inner retainers
C	Within 9 months after 27 February 2015 [the effective date of EASA AD 2015-0021]

Corrective Action(s):

(3) If, during the DET as required by paragraph (1) of this AD, any installed “dull” finish aft engine mount inner retainer is found without cracks and not failed, within 25 flight cycles (FC), repeat the DET as required by paragraph (1) of this AD and, within 50 FC after the first DET as required by paragraph (1) of this AD, replace all “dull” finish inner retainers in accordance with the instructions of Airbus AOT A71N001-12 Rev. 01.

(4) If, during the DET as required by paragraph (1) of this AD, any installed aft engine mount inner retainer is found cracked or failed, before next flight, replace all affected aft engine mount inner retainers in accordance with the instructions of Airbus AOT A71N001-12 Rev. 01.

(5) If, during any DET as required by paragraph (2) of this AD, any aft engine mount inner retainer is found damaged, cracked or broken, or detected as missing, before next flight, replace the affected aft engine mount inner retainers of the affected engine installation in accordance with the instructions of Airbus SB A320-71-1060.

Part Identification / Replacement:

(6) For Group 1 aeroplanes (see Note 1 of this AD): Within 2 months after 27 January 2016 [the effective date of EASA AD 2016-0010], identify each engine mount inner retainer in accordance with the instructions of Airbus SB A320-71-1070, and replace each part that meets any of the criteria as specified in paragraph (6.1), (6.2) or (6.3) of this AD, as applicable.

(6.1) Part listed in Table 1 of Airbus AOT A71N011-15 Rev. 01.

(6.2) Part installed since the aeroplane date of manufacture, or since 01 March 2015 (whichever occurred later) and before 27 January 2016 [the effective date of the original issue of EASA AD 2016-0010], which can be identified by a Purchase Order (PO) as listed in Table 2 of Airbus AOT A71N011-15 Rev. 01.

(6.3) Part installed since the aeroplane date of manufacture, or since 01 March 2015 (whichever occurred later) and before 27 January 2016 [the effective date of the original issue of EASA AD 2016-0010], which cannot be identified by a PO.

The use of Airbus AOT A71N011-15 Rev. 01 or Goodrich Aerostructures SB RA32071-165 is an acceptable method in lieu of Airbus SB A320-71-1070 to comply with paragraph (6) of this AD.

A review of aeroplane maintenance records is acceptable to make this identification, provided those records can be relied upon for the purpose of this requirement.

Parts Installation:

(7) From 19 March 2013 [the effective date of EASA AD 2013-0050], do not install on any aeroplane a “dull” finish aft engine mount inner retainer. The instructions of Airbus AOT A71N001-12, or Goodrich SB RA32071-146, can be used to verify the correct finish of the part.

(8) From 27 January 2016 [the effective date of the original issue of EASA AD 2016-0010], do not install on any aeroplane an engine mount inner retainer that meets any of the criteria as specified in paragraph (8.1), (8.2) or (8.3) of this AD, as applicable.

(8.1) Part delivered through a PO as listed in Table 2 of AOT A71N011-15 Rev. 01.

(8.2) Part delivered through an unidentified PO.

(8.3) Part listed in Table 1 of AOT A71N011-15 Rev. 01.

New Requirements of this AD:

Modification:

(9) For Group 1 aeroplanes (see Note 1 of this AD): Within 48 months after the effective date of this AD, except for “4-lugs engine” (see Note 2 of this AD), modify the aft engine mount assembly, having a P/N identified as “Old” in Table 1 of this AD, and re-identify it with the corresponding P/N identified as “New” in Table 1 of this AD, in accordance with the instructions of Airbus SB A320-71-1071.

Alternative Method:

(10) Replacement on an aeroplane of each aft engine mount assembly, identified as “Old P/N” in Table 1 of this AD, with a corresponding aft engine mount assembly, identified as “New P/N” in Table 1 of this AD, is an acceptable method to comply with the requirements of paragraph (9) of this AD for that aeroplane.

Credit:

(11) An aeroplane on which Airbus modification 158435 has been embodied in production is a Group 2 aeroplane (see Note 1 of this AD), provided that it is determined that no aft engine mount assembly, identified as “Old P/N” in Table 1 of this AD, have been installed on that aeroplane after aeroplane date of manufacture.

A review of aeroplane maintenance records is acceptable to make this determination, provided those records can be relied upon for that purpose.

Parts Installation:

(12) Do not install an aft engine mount assembly identified as “Old P/N” in Table 1 of this AD on any aeroplane, as required by paragraph (12.1) or (12.2) of this AD, as applicable (see Note 1 of this AD).

(12.1) For Group 1 aeroplanes: After modification of the aeroplane as required by paragraph (9) of this AD, or as specified in paragraph (10) of this AD, as applicable.

(12.2) For Group 2 aeroplanes: From the effective date of this AD.

(13) From the effective date of this AD, it is allowed to (re)install a “4 lugs engine” on an aeroplane (left hand (LH) and/or right hand (RH) side) provided that the aeroplane is equipped with an aft engine mount assembly identified as “Old P/N” in Table 1 of this AD on the affected engine pylon (LH and/or RH).

Terminating Action:

(14) Replacement of inner retainers on an aeroplane as required by paragraph (5) or (6) of this AD, as applicable, does not constitute terminating action for the repetitive DET as required by paragraph (2) of this AD for that aeroplane.

(15) Modification of an aeroplane as required by paragraph (9) of this AD, or as specified in paragraph (10) of this AD, as applicable, constitutes terminating action for the repetitive DET as required by paragraph (2) for that aeroplane, and compliance with the requirements of paragraph (6) of this AD for that aeroplane.

Ref. Publications:

Airbus AOT A71N001-12 Revision 01 dated 09 August 2012, or Revision 02 dated 27 February 2013.

Airbus AOT A71N011-15 original issue dated 16 September 2015, or Revision 01 dated 01 February 2016.

Airbus SB A320-71-1060 original issue dated 09 October 2014, or Revision 01 dated 07 April 2015, or Revision 02 dated 18 December 2015.

Airbus SB A320-71-1070 original issue dated 23 November 2015.

Airbus SB A320-71-1071 original issue dated 08 November 2016.

Goodrich Aerostructures SB RA32071-146 Revision 02 dated 26 July 2012.

Goodrich Aerostructures SB RA32071-160 original issue dated 18 September 2014.

Goodrich Aerostructures SB RA32071-165 original issue dated 09 October 2015.

Goodrich Aerostructures SB RA32071-164 original issue dated 06 October 2016, or Revision 1 dated 19 July 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 21 March 2017 as PAD 17-036 for consultation until 18 April 2017. The Comment Response Document can be found at http://ad.easa.europa.eu in the compressed (zipped) file attached to the record for this AD.

3. Enquiries regarding this AD should be referred to the Safety Information Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu.

4. For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS – Airworthiness Office – EIAS; Fax +33 5 61 93 44 51; E-mail: account.airworth-eas@airbus.com.

Appendix 1 – TRF with 4 lugs configuration

Part Number
336-031-615-0
336-031-617-0
336-031-618-0
336-031-621-0
336-031-650-0
336-031-651-0
336-031-652-0
336-031-653-0
336-031-660-0
336-031-661-0
336-031-662-0
336-031-663-0
336-031-670-0
336-031-671-0
336-031-672-0
336-031-673-0
336-031-640-0
336-031-642-0