Airworthiness Directive

AD No.: 2017-0065

Issued: 19 April 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:
CFM INTERNATIONAL S.A.

Type/Model designation(s):
CFM56-5 and -5B engines

Effective Date: 03 May 2017

TCDS Number(s): EASA.E.003 and EASA.E.067

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2012-0123 dated 09 July 2012.

ATA 73 – Engine Fuel and Control – Hydro-Mechanical Units – Operational Limitations

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Manufacturer(s):
SAFRAN Aircraft Engines (formerly SNECMA), General Electric

Applicability:
CFM56-5 and CFM56-5B engines, all models, all serial numbers, when installed on an aeroplane operated under an air operator certificate issued by a national aviation authority of the Commonwealth of Independent States, i.e. Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine or Uzbekistan.

These engines are known to be installed on, but not limited to, Airbus A318, A319, A320 and A321 aeroplanes.

Reason:
In the period 2010 - 2012, some A320 family aeroplanes, equipped with CFM56-5 or CFM56-5B engines and operated predominantly using TS-1 fuel, experienced in-flight shut downs (IFSD) resulting from hydro-mechanical unit (HMU) failures. TS-1 fuel is mainly supplied in countries belonging to the Commonwealth of Independent States. Investigation results determined that these HMU failures were caused by corrosion and consequential seizure of the HMU delta-P valve. In addition, contaminants and corrosive catalysts were detected within some TS-1 fuel samples.

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This condition, if not corrected, could lead to an increased IFSD rate, increasing the risk of an emergency landing, possibly resulting in damage to the aeroplane and injury to the occupants.

Prompted by these findings, CFM International issued CFM56-5B Service Bulletin (SB) No. 73-0122 Revision 8, and CFM56-5 SB No. 73-0182 Revision 6, providing instructions to clean the HMU of the affected engines. Consequently, EASA issued AD 2012-0123 to prohibit the operational use of an HMU which has exceeded a certain number of hours in service, unless the actions as specified in the relevant SBs are accomplished.

Since that AD was issued, prompted by further evaluation of reported occurrences, EASA have decided that delta-P valve replacement should become part of the required actions, allowing an affected HMU to be returned to service. These instructions were already part of CFM International revised CFM56-5B SB No. 73-0122 Revision 9 and CFM56-5 SB No. 73-0182 Revision 7 (and later revisions), but were not required by EASA AD 2012-0123.

For the reasons described above, this AD partially retains the requirements of EASA AD 2012-0123, which is superseded, and adds the delta-P valve replacement action.

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, an affected HMU is one that is being operated, or has been operated, by using TS-1 fuel, except if it can be demonstrated that the HMU has not been operated with more than 50% of TS-1 fuel during any 12-month period, either since new, since overhaul, or since last delta-P valve replacement (see Note 2 of this AD). An affected engine is one on which an affected HMU is installed.

Re-statement of the requirements of EASA AD 2012-0123:
Determination:

(1) Within 24 months after 23 July 2012 [the effective date of EASA AD 2012-0123], accomplish the actions as specified in paragraphs (1.1) and (1.2) of this AD.

(1.1) Determine whether the HMU is, or has been, operated using TS-1 fuel (see Note 1 of this AD).

(1.2) Determine the engine hours accumulated by each affected HMU, since first installation on an engine, since last HMU overhaul, and since last maintenance on the HMU (see Note 2 of this AD).

New requirements of this AD:
Replacement:

(2) For an affected engine (as defined in Note 1 of this AD), before the affected HMU exceeds 10 000 engine hours since first installation on an engine, or since last HMU overhaul, or since last maintenance, or within 3 months after the effective date of this AD, whichever occurs later, replace the HMU with a serviceable part as defined in Note 2 of this AD.

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Note 2: For the purpose of this AD, a serviceable HMU is an HMU which has never been installed on an engine, or on which the delta-P valve has been replaced in accordance with the instructions of Section 3 of CFM International CFM56-5B SB No.73-0122 (Revision 9 or later Revision), or CFM56-5 SB No.73-0182 (Revision 7 or later Revision), as applicable to engine type.

(3) From the effective date of this AD, it is allowed to operate an affected HMU (as defined in Note 1 of this AD) on an engine, provided the HMU has not exceeded 10 000 engine hours since first installation on an engine, or since last HMU overhaul, or since last delta-P valve replacement (see Note 2 of this AD) of the affected HMU.

Ref. Publications:
CFM International S.A. CFM56-5 SB No. 73-0182 Revision 6 dated 08 March 2012, Revision 7 dated 25 September 2012, Revision 8 dated 30 October 2013, and Revision 9 dated 07 February 2017.

CFM International S.A. CFM56-5B SB No. 73-0122 Revision 8 dated 08 March 2012, Revision 9 dated 25 September 2012, Revision 10 dated 30 October 2013, and Revision 11 dated 02 February 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 16 February 2017 as PAD 17-023 for consultation until 16 March 2017. 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 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:

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