

EASA	NOTIFICATION OF A PROPOSAL TO ISSUE AN AIRWORTHINESS DIRECTIVE
	PAD No.: 15-066 Date: 22 May 2015 Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.
In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below. All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation closing date indicated.	
Design Approval Holder's Name: CFM INTERNATIONAL S.A.	Type/Model designation(s): CFM56-3 and CFM56-7B engines
TCDS Numbers: EASA.E.066 and EASA.E.004	
Foreign AD: Not applicable	
Supersedure: None	
ATA 72	Engine – Accessory Gearbox Gearshaft – Inspection / Replacement
Manufacturer(s):	SNECMA and GE Aviation (formerly General Electric Aircraft Engines)
Applicability:	CFM56-3, CFM56-3B and CFM56-3C engines, all serial numbers (s/n), and CFM56-7B engines, all certified models, all s/n, except models CFM56-7B27A, CFM56-7B27A/3 and CFM56-7B27AE. These engines are known to be installed on, but not limited to, Boeing 737-300, -400, -500, -600, -700, -800, -900 and -900ER aeroplanes.
Reason:	Reports have been received of uncommanded in-flight shutdowns on CFM56-7B engines, caused by premature wear of the 73-tooth gearshaft located in the engine accessory gearbox (AGB). CFM International has identified a batch of 73-tooth and 41-tooth gearshafts that show premature wear on the teeth, due to inadequate shot peening. The affected gearshafts exhibit micro-pitting which may lead to material separating from the gearshaft. This condition, if not detected and corrected, could lead to failure of an AGB gearshaft, possibly resulting in engine failure or loss of thrust control, with consequent reduced control of the aeroplane. Prompted by these findings, CFM published CFM56-7B Service Bulletin (SB) 72-0964 Revision 1 and SB 72-0965, providing instructions to inspect and replace the affected AGB gearshafts. For the reasons described above, this AD requires repetitive magnetic chip detector (MCD) inspections of the affected AGB gearshafts and their eventual removal from service. As the affected parts are also eligible for installation on CFM56-3 engines and some spares are affected, this AD also applies to those engines.
Effective Date:	[TBD: 14 days after final AD issue date]

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

Required as indicated, unless accomplished previously:

Note: For the purpose of this AD, an affected 41-tooth or 73-tooth AGB gearshaft is one identified by Part Number (P/N) and s/n in Appendix A or Appendix B, as applicable, of CFM56-7B SB 72-0964, Revision 1, dated December 15, 2014. Appendix A and Appendix B of SB 72-0965 also identify the s/n of the CFM56-7B engines on which the affected parts were known to be installed.

- (1) Within 25 flight hours (FH) after the effective date of this AD, determine whether an affected 41-tooth AGB gearshaft P/N 335-303-002-0 (intermediate line 7) or 73-tooth AGB gearshaft P/N 335-302-902-0 (fuel pump line 6) is installed on the engine. A review of engine maintenance records is acceptable to make this determination, provided the P/N and s/n of the installed AGB gearshaft can be conclusively identified from that review.
- (2) For an engine with an affected AGB gearshaft installed, as determined by paragraph (1) of this AD, initially within the compliance time specified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 500 FH, accomplish an AGB/TGB (transfer gearbox) MCD inspection in accordance with the instructions of CFM56-7B SB 72-0964.

Table 1 – Inspection Threshold

Gearshaft	Compliance Time (A, B, or C, whichever occurs later)
73-tooth	A: Within 250 FH since last AGB/TGB MCD inspection B: Within 25 FH after the effective date of this AD C: Before the gearshaft exceeds 3 000 FH since first installation on an engine
41-tooth	A: Within 250 FH since last AGB/TGB MCD B: Within 25 FH after the effective date of this AD C: Before the gearshaft exceeds 6 000 FH since first installation on an engine

- (3) If, during any AGB/TGB MCD inspection as required by paragraph (2) of this AD, any magnetic particles, including fuzz, are seen, accomplish a particles laboratory analysis, and, if the particles are 73-tooth or 41-tooth gearshaft material, as applicable, within 75 FH since the AGB/TGB MCD inspection, remove the affected AGB gearshaft(s) from service.
- (4) **Terminating Action**
 - (4.1) Before exceeding 6 000 FH since first installation on an engine, or within 50 FH after the effective date of this AD, whichever occurs later, remove each affected 73-tooth AGB gearshaft from service in accordance with the instructions of CFM56-7B SB 72-0965.
 - (4.2) Before exceeding 9 000 FH since first installation on an engine, or within 50 FH after the effective date of this AD, whichever occurs later, remove each affected 41-tooth AGB gearshaft from service in accordance with the instructions of CFM56-7B SB 72-0965.
- (5) From the effective date of this AD, it is allowed to install on any engine a 41-tooth AGB gearshaft P/N 335-303-002-0 (intermediate line 7) or 73-tooth AGB gearshaft P/N 335-302-902-0 (fuel pump line 6), provided that, prior to installation, it is determined that this is not an affected AGB gearshaft as identified in Appendix A or Appendix B of CFM56-7B SB 72-0964, Revision 1, dated December 15, 2014.

Ref. Publications:	CFM International S.A. CFM56-7B SB 72-0964 (original not issued) Revision 1, dated December 15, 2014. CFM International S.A. CFM56-7B S/B 72-0965, dated December 16, 2014. The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.
Remarks:	1. This Proposed AD will be closed for consultation on 30 June 2015. 2. Enquiries regarding this PAD should be referred to the Safety Information Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. 3. For any question concerning the technical content of the requirements in this PAD, please contact: CFM SA Customer Support Center E-mail : snecma.csc@snecma.fr International Telephone : +33 1 6414 8866, Fax : +33 1 6479 8555, or CFM Inc. Customer Support Center E-mail : geae.aoc@ge.com International Telephone: +1 513 552 3272, Fax : +1 513 552 3329.