

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. FAA-2007-27112; Directorate Identifier 2001-NE-49-AD; Amendment 39-14926; AD 2007-03-15]

RIN 2120-AA64

**Airworthiness Directives; CFM International CFM56-5 and -5B Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD) for CFM International CFM56-5 and -5B series turbofan engines. That AD requires exhaust gas temperature (EGT) harness replacement or the establishment of an EGT baseline and trend monitoring. That AD also requires replacement, if necessary, of certain EGT harnesses and EGT couplings as soon as a slow and continuous EGT drift downward is noticed after the effective date of that AD. This AD requires the same actions but for an increased population of affected EGT harnesses. This AD results from CFM International adding subsequently certified engine models to the list of engines that could have affected harnesses installed. We are issuing this AD to prevent unexpected deterioration of critical rotating engine parts due to higher than desired engine operating EGTs.

**DATES:** This AD becomes effective March 19, 2007. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of March 19, 2007.

**ADDRESSES:** You can get the service information identified in this AD from CFM International, Technical Publications Department, 1 Neumann Way, Cincinnati, OH 45215; telephone (513) 552-2800; fax (513) 552-2816.

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** James Rosa, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; telephone (781) 238-7152; fax (781) 238-7199; e-mail: [james.rosa@faa.gov](mailto:james.rosa@faa.gov).

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with

a proposed AD. The proposed AD applies to CFM International CFM56-5 and -5B series turbofan engines. We published the proposed AD in the **Federal Register** on June 16, 2006 (71 FR 34852). That action proposed to require, for an increased population of affected EGT harnesses:

- EGT harness replacement or the establishment of an EGT baseline and trend monitoring; and
- Replacement, if necessary, of certain EGT harnesses and EGT couplings as soon as a slow and continuous EGT drift downward is noticed after the effective date of that AD.

**Examining the AD Docket**

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility Docket Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in **ADDRESSES**. Comments will be available in the AD docket shortly after the DMS receives them.

**Comments**

We provided the public the opportunity to participate in the development of this AD. We received no comments on the proposal or on the determination of the cost to the public.

**Conclusion**

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

**Docket Number Change**

We are transferring the docket for this AD to the Docket Management System as part of our on-going docket management consolidation efforts. The new Docket No. is FAA-2007-27112. The old Docket No. became the Directorate Identifier, which is 2001-NE-49-AD. This AD might get logged into the DMS docket, ahead of the previously collected documents from the old docket file, as we are in the process of sending those items to the DMS.

**Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more

detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under **ADDRESSES**.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**Adoption of the Amendment**

- Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends 14 CFR part 39 as follows:

**PART 39—AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by removing Amendment 39-13020 (68 FR 3171, January 23, 2003) and by adding a new airworthiness directive,

Amendment 39-14926, to read as follows:

**2007-03-15 CFM International:**

Amendment 39-14926; Docket No. FAA-2007-27112; Directorate Identifier 2001-NE-49-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective March 19, 2007.

**Affected ADs**

(b) This AD supersedes AD 2003-02-04, Amendment 39-13020.

**Applicability**

(c) This AD applies to CFM International CFM56-5 and -5B series turbofan engines:

(1) With an exhaust gas temperature (EGT) upper harness part number (P/N) CA170-00, with a serial number (SN):

(i) Listed in Table 1, Table 4, or Table 5 of CFM56 Service Bulletin (SB) No. CFM56-5B S/B 77-0008, Revision 3, dated April 4, 2005, or

(ii) Listed in Table 1 or Table 4 of CFM56 SB No. CFM56-5 S/B 77-0020, Revision 3, dated April 4, 2005.

(2) With an EGT lower harness P/N CA171-00, with a SN:

(i) Listed in Table 2, Table 4, or Table 5 of CFM56 SB No. CFM56-5B S/B 77-0008, Revision 3, dated April 4, 2005; or

(ii) Listed in Table 2 or Table 4 of CFM56 SB No. CFM56-5 S/B 77-0020, Revision 3, dated April 4, 2005.

(3) With an EGT coupling P/N CA172-02 with a SN:

(i) Listed in Table 3, Table 4, or Table 5 of CFM56 Service Bulletin (SB) No. CFM56-5B S/B 77-0008, Revision 3, dated April 4, 2005, or

(ii) Listed in Table 3 or Table 4 of CFM56 SB No. CFM56-5 S/B 77-0020, Revision 3, dated April 4, 2005.

(4) These engines are installed on, but not limited to Airbus Industrie A318, A319, A320, and A321 airplanes.

**Unsafe Condition**

(d) This AD results from CFM International adding subsequently certified engine models,

CFM56-5B3/P1, CFM56-5B3/2P1, CFM56-5B4/P1, and CFM56-5B4/2P1, to the list of engines that could have affected harnesses installed, and increasing the population of affected EGT harnesses. We are issuing this AD to prevent unexpected deterioration of critical rotating engine parts due to higher than desired engine operating EGTs.

**Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

(f) If an EGT harness or EGT coupling has a serial number that is followed by the letter "W", no further action is required for that part.

(g) For affected EGT harnesses and EGT couplings identified using paragraph (c) of this AD, with fewer than 3,000 engine flight hours since installation, do the following:

(1) Replace affected EGT harnesses and EGT couplings, not being trend monitored, with serviceable parts within 500 flight hours after the effective date of this AD; or

(2) After the effective date of this AD:

(i) Review the smooth data EGT trend via the System for Analysis of Gas Turbine Engines (SAGE), or equivalent, since the affected components were first installed on the current engine.

(ii) Continue this trend monitoring for the affected EGT harnesses and EGT couplings to ensure that the system does not show a minimum of 30 °C downward (i.e. cooler) indication, or more, without a corresponding change in other associated engine parameters such as N1 (LPT rotor speed), N2 (HPT rotor speed), and fuel flow.

(iii) Provided that there is sufficient, actual EGT margin to do so, replace the EGT harnesses and EGT couplings within 100 flight hours after they have been determined to be defective.

(iv) Continue to monitor the EGT indications for 3,000 engine flight hours since the first installation on the current engine.

**Terminating Action**

(h) Any of the following three conditions is terminating action for the trend monitoring

requirements specified in paragraphs (g)(2)(i) through (g)(2)(iv) of this AD:

(1) Replacing an EGT harness and EGT coupling with a serviceable part, or

(2) Replacing an EGT harness and EGT coupling with an EGT harness and EGT coupling that has a letter "W" following the SN, or

(3) Accumulating 3,000 engine flight hours on an EGT harness and EGT coupling.

**Alternative Methods of Compliance**

(i) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

**Related Information**

(j) Airworthiness directive No. F-2003-001 R2, dated June 8, 2005, which is from the Direction Generale de L'Aviation Civile airworthiness authority for France, also addresses the subject of this AD.

(k) Contact James Rosa, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; telephone (781) 238-7152; fax (781) 238-7199; e-mail: [james.rosa@faa.gov](mailto:james.rosa@faa.gov) for more information about this AD.

**Material Incorporated by Reference**

(l) You must use the CFM56 Service Bulletin Tables specified in the compliance of this AD, to determine applicability to this AD. The following Table 1 lists the Service Bulletins. The Director of the Federal Register approved the incorporation by reference of the documents listed in Table 1 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact CFM International, Technical Publications Department, 1 Neumann Way, Cincinnati, OH 45215; telephone (513) 552-2800; fax (513) 552-2816, for a copy of this service information. You may review copies at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

TABLE 1.—INCORPORATION BY REFERENCE

CFM56 Service Bulletin No.	Page	Revision	Date
CFM56-5B S/B 77-0008 .....	All .....	3	April 4, 2005.
Total Pages: 34			
CFM56-5 S/B 77-0020 .....	All .....	3	April 4, 2005.
Total Pages: 16			

Issued in Burlington, Massachusetts, on January 31, 2007.  
**Peter A. White,**  
*Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.*  
 [FR Doc. E7-2068 Filed 2-9-07; 8:45 am]  
**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2006-26570; Directorate Identifier 2006-NE-39-AD; Amendment 39-14931; AD 2007-03-20]

RIN 2120-AA64

#### Airworthiness Directives; Turbomeca S.A. Makila 1A and 1A1 Turboshaft Engines

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

The back-up mode can be activated by an electrostatic discharge or by a malfunction of the collective pitch signal. The two engines fitted on the same helicopter can therefore be frozen in this back-up position at 85% N1.

Freezing both engines in the back-up mode can lead to an inability to continue safe flight and forced landing. We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective March 19, 2007. The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of March 19, 2007.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW, Nassif Building, Room PL-401, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Christopher Spinney, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park,

Burlington, MA 01803; telephone (781) 238-7175; fax (781) 238-7199.

#### SUPPLEMENTARY INFORMATION:

##### Streamlined Issuance of AD

The FAA is implementing a new process for streamlining the issuance of ADs related to MCAI. This streamlined process will allow us to adopt MCAI safety requirements in a more efficient manner and will reduce safety risks to the public. This process continues to follow all FAA AD issuance processes to meet legal, economic, Administrative Procedure Act, and **Federal Register** requirements. We also continue to meet our technical decision-making responsibilities to identify and correct unsafe conditions on U.S. certificated products.

This AD references the MCAI and related service information that we considered in forming the engineering basis to correct the unsafe condition. The AD contains text copied from the MCAI and for this reason might not follow our plain language principles.

##### Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the **Federal Register** on December 19, 2006 (71 FR 75896). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

The control system of the engines covered by this Airworthiness Directive includes an electrical back-up mode at 85% N1 (gas generator speed) activated on the detection of certain occurrences affecting engine control. The activation of the back-up mode is irreversible and freezes the engine at 85% N1.

An analysis of reported occurrences in service showed that the back-up mode can be activated by an electrostatic discharge or by a malfunction of the collective pitch signal. The two engines fitted on the same helicopter can therefore be frozen in this back-up position at 85% N1.

The present Airworthiness Directive therefore imposes the application of modification TU241 on the LPG board of the Makila 1A and 1A1 ECU, which reduces the aforementioned risk by changing the conditions in which the engines switch to and are maintained in the 85% NG back-up mode.

Freezing both engines in the back-up mode can lead to an inability to continue safe flight and forced landing.

You may obtain further information by examining the MCAI in the AD docket.

##### Comments

We gave the public the opportunity to participate in developing this AD. We

received no comments on the NPRM or on the determination of the cost to the public.

##### Conclusion

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

##### Differences Between This AD and the MCAI or Service Information

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are described in a separate paragraph of the AD, and take precedence over the actions copied from the MCAI.

##### Differences Between This AD and the Proposed AD

In paragraph (e) of the proposed AD, published December 19, 2006, we state "Unless already done, before January 31, 2007, apply the modification TU 241 by replacing the LPG board of the ECU using Turbomeca Mandatory Service Bulletin No. 298 73 0241, dated April 5, 2006." Because that compliance date will have past before this AD becomes effective, we have changed paragraph (e) to read, "Unless already done, within 30 days after the effective date of this AD, apply the modification TU 241 by replacing the LPG board of the ECU using Turbomeca Mandatory Service Bulletin No. 298 73 0241, dated April 5, 2006."

##### Costs of Compliance

Based on the service information, we estimate that this AD will affect about five products of U.S. registry. We also estimate that it will take about 1.0 work-hour per product to comply with this AD. The average labor rate is \$80 per work-hour. Required parts will cost about \$3,500 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these costs. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of the