



適航指令發布單

Airworthiness Directive Issuance Form

民航局AD編號 AD Number	CAA-2017-04-009	發布日期 Date issued	2017/4/19
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	General Electric Company (GE) GE90-76B, GE90-85B, GE90-90B, GE90-94B, GE90-110B1, and GE90-115B turbofan engines.		
主旨摘要	Engine Oil Cooler - Main Fuel Oil Heat Exchanger - Replacement		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主關機構 Original Authorities <input checked="" type="checkbox"/> FAA <input type="checkbox"/> Germany LBA <input type="checkbox"/> EASA <input type="checkbox"/> CAA-NL <input type="checkbox"/> Brazil <input type="checkbox"/> UK CAA <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> Japan CAB <input type="checkbox"/> DGAC <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____		
	設計國AD編號 Original AD number	2017-08-06	
	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	General Electric Company (GE) SB GE90-100 S/B 79-0034, Revision 03, dated August 5, 2016. GE SB GE90 S/B 79-0058, Revision 02, dated August 05, 2016.		
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			

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[Rules and Regulations]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9167; Directorate Identifier 2016-NE-20-AD; Amendment 39-18855; AD 2017-08-06]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain General Electric Company (GE) GE90 turbofan engines. This AD was prompted by a report of an engine and airplane fire. This AD requires replacing affected fuel/oil lube/servo coolers (“main fuel oil heat exchangers”) with a part eligible for installation. We are issuing this AD to correct the unsafe condition on these products.

DATES: This AD is effective May 22, 2017.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of May 22, 2017.

ADDRESSES: For service information identified in this final rule, contact General Electric Company, GE-Aviation, Room 285, 1 Neumann Way, Cincinnati, OH 45215, phone: 513-552-3272; email: aviation.fleetsupport@ge.com. You may view this referenced service information at the FAA, You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9167.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9167; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of

Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: John Frost, Aerospace Engineer, Engine Certification Office, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7756; fax: 781-238-7199; email: john.frost@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain GE GE90 turbofan engines. The NPRM published in the Federal Register on December 7, 2016 (81 FR 88145) (“the NPRM”). The NPRM was prompted by a report of an engine and airplane fire. The NPRM proposed to require replacing affected fuel/oil lube/servo coolers (“main fuel oil heat exchangers”) with a part eligible for installation. We are issuing this AD to prevent failure of a main fuel oil heat exchanger, which could result in an engine fire.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Revise Applicability Reference

All Nippon Airways, MTU Maintenance Hannover GmbH (MTU), and Air New Zealand commented that this AD should list all vendor part numbers referenced in GE Service Bulletin (SB) GE90-100 S/B 79-0034, Revision 03, dated August 5, 2016. This would ensure that the applicability of the AD is not misinterpreted.

We agree. We changed this AD by adding a reference in the Applicability paragraph to the respective vendor number after the part number.

Request To Clarify Tracking of Accomplishment of AD

MTU commented that clarification of the accomplishment of this AD is needed because GE SB GE90-100 S/B 79-0034, Revision 03, dated August 5, 2016, requires marking repaired parts with the suffix “A” at the end of the serial number but the proposed AD does not. MTU indicated that “GE fleet highlites” note that the suffix is not part of the actual serial number and must not appear on EASA or FAA documents.

We disagree. Although we are not requiring that parts be marked with the suffix “A” to reflect compliance with this AD, these parts are typically marked after repair per the requirements of GE SB GE90-100 S/B 79-0034. Operators are free, however, to devise an alternate tracking system, i.e. through part markings and/or records, to show that the part has been repaired and is eligible for installation. We did not change this AD.

Request To Reference Latest Service Bulletin

MTU requested that we change the reference to GE SB GE90-100 S/B 79-0034, Revision 03, dated August 5, 2016, to the “latest version” of this SB.

We disagree. We cannot require compliance to a document that does not exist. We note that operators may submit a request for an alternate method of compliance if this SB is revised after the publication of this AD. We did not change this AD.

Request To Revise References to Main Heat Exchanger

GE requested that references in the AD to the “main heat exchanger” be changed to the “main fuel oil heat exchanger” and/or the “MFOHE.” GE indicated that “main fuel oil heat exchanger” is the term that it uses in communications with its operators.

We agree. We changed references in this AD from “main heat exchanger” to “main fuel oil heat exchanger.”

Request To Revise Description of Incident and Unsafe Condition Statement

GE requested that we revise the discussion in the NPRM of the cause of the incident and the unsafe condition statement. GE indicated that this AD should say: “The incident investigation determined the cause to be the separation of a tube internal to the main fuel oil heat exchanger, which resulted in leakage of fuel into the oil system, causing fuel to flood the oil sump that overwhelmed the scavenge and venting system. This condition (engine with main fuel oil heat exchanger that has not been repaired), if not corrected, could result in failure of a main fuel oil heat exchanger, which could result in an engine fire.”

We disagree. The description of the incident in the NPRM is not repeated in this final rule AD. The description of the unsafe condition in this AD is accurate. These changes, therefore, are unnecessary. We did not change this AD.

Support for the NPRM

Federal Express and the Air Line Pilots Association expressed support for the NPRM as written. The Boeing Company and United Airlines indicated that they have no objections to the content of this NPRM.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

We reviewed GE SB GE90-100 S/B 79-0034, Revision 03, dated August 5, 2016, and GE SB GE90 S/B 79-0058, Revision 02, dated August 5, 2016. These service bulletins describe procedures to repair and replace a main fuel oil heat exchanger. These documents are distinct since they apply to different engine models. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 185 engines installed on airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replace main fuel oil heat exchanger	5 work-hours × \$85 per hour = \$425	\$7,000	\$7,425	\$1,373,625

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

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),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) 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.

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 FAA 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 adding the following new airworthiness directive (AD):



2017-08-06 General Electric Company: Amendment 39-18855; Docket No. FAA-2016-9167; Directorate Identifier 2016-NE-20-AD.

(a) Effective Date

This AD is effective May 22, 2017.

(b) Affected ADs

None.

(c) Applicability

This AD applies to General Electric Company (GE) GE90-76B, GE90-85B, GE90-90B, GE90-94B, GE90-110B1, and GE90-115B turbofan engines with a fuel/oil lube/servo cooler (“main fuel oil heat exchanger”), part number (P/N) 1838M88P11 (VIN UA541461-12) or 1838M88P13 (VIN UA541461-14), with a serial number (S/N) listed in paragraph 1.A of GE Service Bulletin (SB) GE90-100 S/B 79-0034, Revision 03, dated August 05, 2016; or GE SB GE90 S/B 79-0058, Revision 02, dated August 05, 2016.

(d) Subject

Joint Aircraft System Component (JASC) Code 7921, Engine Oil Cooler.

(e) Unsafe Condition

This AD was prompted by an engine and airplane fire. We are issuing this AD to prevent failure of a main fuel oil heat exchanger, which could result in an engine fire.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Within 12 months after the effective date of this AD, replace the main fuel oil heat exchanger with a part eligible for installation.

(h) Definition

For the purposes of this AD, a part eligible for installation is a main fuel oil heat exchanger:

(1) That has been repaired in accordance with the Accomplishment Instructions, paragraphs 3.C.(2) through 3.C.(7), of GE SB GE90-100 S/B 79-0034, Revision 03, dated August 5, 2016; or GE SB GE90 S/B 79-0058, Revision 02, dated August 05, 2016; or

(2) with an S/N not listed in paragraph 1.A. of GE SB GE90-100 S/B 79-0034, Revision 03, dated August 05, 2016; or SB GE90 S/B 79-0058, Revision 02, dated August 05, 2016.

(i) Credit for Previous Actions

You may take credit for the replacement that is required by paragraph (g) of this AD if you performed the replacement before the effective date of this AD using a main fuel oil heat exchanger repaired in accordance with the Accomplishment Instructions, paragraphs 3.C.(2) through 3.C.(7), of GE SB GE90-100 S/B 79-0034, Revision 02, dated November 6, 2015, or earlier versions; or GE SB GE90 S/B 79-0058, Revision 01, dated December 10, 2015, or earlier versions.

(j) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(k) Related Information

For more information about this AD, contact John Frost, Aerospace Engineer, Engine Certification Office, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7756; fax: 781-238-7199; email: john.frost@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) General Electric Company (GE) SB GE90-100 S/B 79-0034, Revision 03, dated August 5, 2016.

(ii) GE SB GE90 S/B 79-0058, Revision 02, dated August 05, 2016.

(3) For GE service information identified in this AD, contact General Electric Company, GE-Aviation, Room 285, 1 Neumann Way, Cincinnati, OH 45215, phone: 513-552-3272; email: aviation.fleetsupport@ge.com.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information 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>.

Issued in Burlington, Massachusetts, on April 5, 2017.
Carlos A. Pestana,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.