



**適航指令發布單**  
**Airworthiness Directive Issuance Form**

民航局 AD 編號 AD number	CAA-2023-03-006	發布日期 Date issued	2023/3/16												
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	This AD applies to General Electric Company (GE) GE90-110B1 and GE90-115B model turbofan engines with an installed high-pressure compressor (HPC) rotor stage 7-9 spool with part number(P/N) 2032M23G01, P/N 2032M23G02, P/N 2676M00G01, or P/N 2676M00G02, and a serial number listed in paragraph 4., Appendix?XA, Table 1 of GE GE90-100 Service Bulletin (SB) 72-0905 R00, dated July 25, 2022 (GE SB 72-0905).														
主旨摘要 Subject	This AD requires FPI of the affected HPC rotor stage 7-9 spool and, depending on the results of the inspection, replacement with a part eligible for installation.														
民航局 CAA <input type="checkbox"/> 本國產品 Native product  <input type="checkbox"/> 其他個案 Other	<div style="text-align: center;">設計國民航主管機構 Original Authority</div> <table style="width: 100%;"><tr><td><input checked="" type="checkbox"/> FAA</td><td><input type="checkbox"/> Germany LBA</td></tr><tr><td><input type="checkbox"/> EASA</td><td><input type="checkbox"/> CAA-NL</td></tr><tr><td><input type="checkbox"/> Brazil</td><td><input type="checkbox"/> UK CAA</td></tr><tr><td><input type="checkbox"/> Transport Canada Civil Aviation</td><td><input type="checkbox"/> Japan CAB</td></tr><tr><td><input type="checkbox"/> DGAC</td><td><input type="checkbox"/> CAA of Israel</td></tr><tr><td colspan="2"><input type="checkbox"/> Other _____</td></tr></table>			<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 _____	
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	設計國 AD 編號 Original AD number	2023-04-19													
	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	ATA 72. Ref. GE90-100 Service Bulletin 72-0905 R00, dated July 25, 2022.														
<p>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)2349-6330 / 6332, Fax：(02)2545-8464, e-mail：<a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a></p> <p>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)2349-6330 / 6332, Fax：(02)2545-8464, e-mail：<a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a></p>															

[Federal Register, Volume 88 Number 47 (Friday, March 10, 2023)]

[Rules and Regulations]

[Pages 14871-14874]

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

**[Docket No. FAA-2023-0423; Project Identifier AD-2022-01525-E; Amendment 39-22366; AD 2023-04-19]**

**RIN 2120-AA64**

### Airworthiness Directives; General Electric Company Turbofan Engines

#### AGENCY:

Federal Aviation Administration (FAA), DOT.

#### ACTION:

Final rule; request for comments.

#### SUMMARY:

The FAA is adopting a new airworthiness directive (AD) for certain General Electric Company (GE) GE90-110B1 and GE90-115B model turbofan engines. This AD was prompted by a manufacturer investigation which discovered that florescent penetrant inspections (FPI) were not performed on the dovetail pressure face of certain high-pressure compressor (HPC) rotor spools at overhaul. This AD requires FPI of the affected HPC rotor stage 7-9 spool and, depending on the results of the inspection, replacement with a part eligible for installation. The FAA is issuing this AD to address the unsafe condition on these products.

#### DATES:

This AD is effective March 27, 2023.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 27, 2023.

The FAA must receive comments on this AD by April 24, 2023.

#### ADDRESSES:

You may send comments, using the procedures found in [14 CFR 11.43](#) and [11.45](#), by any of the following methods:

- *Federal eRulemaking Portal*: Go to *regulations.gov*. Follow the instructions for submitting comments.
- *Fax*: 202-493-2251.
- *Mail*: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- *Hand Delivery*: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket*: You may examine the AD docket at *regulations.gov* by searching for and locating Docket No. FAA-2023-0423; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for Docket Operations is listed above.

### Material Incorporated by Reference

- 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](mailto:aviation.fleetsupport@ge.com).
- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at *regulations.gov* by searching for and locating Docket No. FAA-2023-0423.

### FOR FURTHER INFORMATION CONTACT:

Stephen Elwin, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7236; email: [Stephen.L.Elwin@faa.gov](mailto:Stephen.L.Elwin@faa.gov).

### SUPPLEMENTARY INFORMATION:

#### Background

The FAA received a report that a GE overhaul shop internal investigation found that several HPC rotor stage 7-9 spools were shipped to operators prior to a final FPI being performed on the dovetail pressure face. A final FPI is performed to confirm that any linear indications have been removed, as indications on the HPC rotor stage 7-9 spool may potentially propagate and eventually lead to failure of the HPC rotor stage 7-9 spool. This condition, if not addressed, could result in an in-flight shutdown, damage to the engine, and damage to the airplane. The FAA is issuing this AD to address the unsafe condition on these products.

#### FAA's Determination

The FAA is issuing this AD because the agency has determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### Related Service Information Under [1 CFR Part 51](#)

The FAA reviewed GE GE90-100 Service Bulletin 72-0905 R00, dated July 25, 2022. This service information specifies procedures for performing a piece-part inspection of the affected HPC rotor stage 7-9 spools. 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 **ADDRESSES**.

## AD Requirements

This AD requires, at the next shop visit after the effective date of this AD, performing an FPI of each affected HPC rotor stage 7-9 spool and, depending on the results of the inspection, replacement with a part eligible for installation.

## Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) ([5 U.S.C. 551](#) *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

The FAA has found the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because no domestic operators use this product. It is unlikely that the FAA will receive any adverse comments or useful information about this AD from any U.S. operator.

Accordingly, notice and opportunity for prior public comment are unnecessary, pursuant to [5 U.S.C. 553\(b\)\(3\)\(B\)](#). In addition, for the foregoing reason(s), the FAA finds that good cause exists pursuant to [5 U.S.C. 553\(d\)](#) for making this amendment effective in less than 30 days.

## Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under **ADDRESSES**. Include “FAA-2023-0423 Project Identifier AD-2022-01525-E” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in [14 CFR 11.35](#), the FAA will post all comments received, without change, to *regulations.gov*, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

## Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) ([5 U.S.C. 552](#)), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be

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placed in the public docket of this AD. Submissions containing CBI should be sent to Stephen Elwin, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to [5 U.S.C. 553](#) to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 0 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Perform an FPI of the HPC rotor stage 7-9 spool	5 work-hours × \$85 per hour = \$425	\$0	\$425	\$0

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the inspection. The agency has no way of determining the number of aircraft that might need these replacements:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replace the HPC rotor stage 7-9 spool	40 work-hours × \$85 per hour = \$3,400	\$1,183,200	\$1,186,600

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.

The FAA is 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, and
- (2) Will not affect intrastate aviation in Alaska.

## List of Subjects in [14 CFR Part 39](#)

- Air transportation
- Aircraft
- Aviation safety
- Incorporation by reference
- Safety

## 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:

**2023-04-19 General Electric Company:** Amendment 39-22366; Docket No. FAA-2023-0423; Project Identifier AD-2022-01525-E.

#### (a) Effective Date

This airworthiness directive (AD) is effective March 27, 2023.

#### (b) Affected ADs

None.

#### (c) Applicability

This AD applies to General Electric Company (GE) GE90-110B1 and GE90-115B model turbofan engines with an installed high-pressure compressor (HPC) rotor stage 7-9 spool with part number (P/N) 2032M23G01, P/N 2032M23G02, P/N 2676M00G01, or P/N 2676M00G02, and a serial

number listed in paragraph 4., Appendix—A, Table 1 of GE GE90-100 Service Bulletin (SB) 72-0905 R00, dated July 25, 2022 (GE SB 72-0905).

#### **(d) Subject**

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

#### **(e) Unsafe Condition**

This AD was prompted by a manufacturer investigation which revealed that florescent penetrant inspections (FPI) were not performed on the dovetail pressure face of certain HPC rotor stage 7-9 spools at overhaul. The FAA is issuing this AD to prevent the failure of the HPC rotor stage 7-9 spool. The unsafe condition, if not addressed, could result in an in-flight shutdown, damage to the engine, and damage to the airplane.

#### **(f) Compliance**

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

#### **(g) Required Actions**

(1) At the next engine shop visit after the effective date of this AD, perform an FPI of the dovetail pressure face of the affected HPC rotor stage 7-9 spool in accordance with the Accomplishment Instructions, paragraph 3.A.(1)(a) of GE SB 72-0905.

(2) If, during the FPI required by paragraph (g)(1) of this AD, the HPC rotor stage 7-9 spool does not meet the part serviceability criteria in the Accomplishment Instructions, paragraph 3.A.(1)(a) of GE SB 72-0905, before further flight, replace the compressor rotor stage 7-9 spool with a part eligible for installation.

#### **(h) Definition**

For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving separation of pairs of major mating engine flanges, except for the following situations, which do not constitute an engine shop visit:

(i) Separation of engine flanges solely for the purposes of transportation of the engine without subsequent maintenance; or

(ii) Separation of engine flanges solely for the purpose of replacing the fan or propulsor without subsequent maintenance.

#### **(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in [14 CFR 39.19](#). In accordance with [14 CFR 39.19](#), send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD and email it to: [ANE-AD-AMOC@faa.gov](mailto:ANE-AD-AMOC@faa.gov).

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding



district office.

## **(j) Related Information**

For more information about this AD, contact Stephen Elwin, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7236; email: [Stephen.L.Elwin@faa.gov](mailto:Stephen.L.Elwin@faa.gov).

## **(k) 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) GE GE90-100 Service Bulletin 72-0905 R00, dated July 25, 2022.

(ii) [Reserved]

(3) For GE service information identified in this AD, contact General Electric Company, 1 Neumann Way, Cincinnati, OH 45215; phone: (513) 552-3272; email: [aviation.fleetsupport@ae.ge.com](mailto:aviation.fleetsupport@ae.ge.com); website: [ge.com](http://ge.com).

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on February 25, 2023.

Christina Underwood,

Acting Director, Compliance & Airworthiness Division, Aircraft Certification Service.

[[FR Doc. 2023-04869](#) Filed 3-9-23; 8:45 am]

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