



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

民航局 AD 編號 AD number	CAA-2020-05-006	發布日期 Date issued	2020/5/15
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	To all General Electric Company (GE) GE90-110B1 and GE90-115B model turbofan engines with an interstage high-pressure turbine (HPT) rotor seal with a part number and serial number listed in Table 1 of GE GE90-100 Alert Service Bulletin (ASB) 72-A0841 R00, dated February 26, 2020 ("the ASB").		
主旨摘要	This AD requires initial and repetitive ultrasonic inspections of the interstage HPT rotor seal and, depending on the results of the inspection, replacement of the interstage HPT rotor seal with a part eligible for installation, and also requires the removal of the interstage HPT rotor seal at the next engine shop visit.		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	<div style="text-align: center;">設計國民航主管機構 Original Authorities</div> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> FAA  <input type="checkbox"/> EASA  <input type="checkbox"/> Brazil  <input type="checkbox"/> Transport Canada Civil Aviation  <input type="checkbox"/> DGAC             </div> <div style="width: 50%;"> <input type="checkbox"/> Germany LBA  <input type="checkbox"/> CAA-NL  <input type="checkbox"/> UK CAA  <input type="checkbox"/> Japan CAB  <input type="checkbox"/> CAA of Israel  <input type="checkbox"/> Other _____             </div> </div>		
	設計國 AD 編號 Original AD number	2020-10-04	
	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. General Electric Company GE90-100 Alert Service Bulletin 72-A0841 R00, dated February 26, 2020.		
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： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a> 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： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a>			

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2020-0469; Project Identifier AD-2020-00258-E; Amendment 39-21122; AD 2020-10-04]**

**RIN 2120-AA64**

### **Airworthiness Directives; General Electric Company Turbofan Engines**

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all General Electric Company (GE) GE90-110B1 and GE90-115B model turbofan engines with a certain interstage high-pressure turbine (HPT) rotor seal installed. This AD requires initial and repetitive ultrasonic inspections (USIs) of the interstage HPT rotor seal and, depending on the results of the inspection, replacement of the interstage HPT rotor seal with a part eligible for installation. This AD also requires the removal of the interstage HPT rotor seal at the next engine shop visit. This AD was prompted by investigative findings from an event involving an uncontained interstage HPT rotor seal failure that resulted in debris penetrating the fuselage and the other engine. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective May 27, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of May 27, 2020.

The FAA must receive comments on this AD by June 26, 2020.

**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 <https://www.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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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 781-238-7759. It is also available on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0469.

### **Examining the AD Docket**

You may examine the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0469; 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 the Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Stephen Elwin, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7236; fax: 781-238-7199; email: [stephen.l.elwin@faa.gov](mailto:stephen.l.elwin@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

The FAA received a report of an event that occurred on October 20, 2019, in which a Boeing Model 777-300ER airplane, powered by GE GE90-115B model turbofan engines, experienced an uncontained interstage HPT rotor seal failure resulting in an aborted takeoff. The FAA has determined that an unusual flight profile is a contributing factor in the failure of the interstage HPT rotor seal. This condition, if not addressed, could result in an uncontained interstage HPT rotor seal release, release of high-energy debris, damage to the engine, and damage to the airplane. The FAA is issuing this AD to address the unsafe condition on these products.

### **Related Service Information Under 1 CFR Part 51**

The FAA reviewed GE GE90-100 Alert Service Bulletin (ASB) 72-A0841 R00, dated February 26, 2020. The ASB describes procedures for performing USIs of the interstage HPT rotor seal and removing it from service. 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.

### **Other Related Service Information**

The FAA reviewed GE GE90-100 Service Bulletin (SB) 72-0830 R00, dated January 17, 2020. The SB describes procedures for performing a USI at the air holes of the interstage HPT rotor seal on wing.

## **FAA's Determination**

The FAA is issuing this AD because the Agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **AD Requirements**

This AD requires initial and repetitive USIs of the interstage HPT rotor seal and, depending on the results of the inspection, replacement of the interstage HPT rotor seal with a part eligible for installation. This AD also requires the removal of the interstage HPT rotor seal at the next engine shop visit.

## **Interim Action**

The FAA considers this AD interim action. The root cause of the interstage HPT rotor seal failure is still being investigated, and the FAA will consider further rulemaking depending on the results of the investigation.

## **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.) 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 seeking comment prior to the rulemaking. Similarly, Section 553(d) of the APA authorizes agencies to make rules effective in less than 30 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 U.S. operators. Therefore, the FAA finds good cause that notice and opportunity for prior public comment are unnecessary. In addition, for this same reason, the FAA finds that good cause exists for making this amendment effective in less than 30 days.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, the FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2020-0469 and Project Identifier AD-2020-00258-E at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. 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 <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this final rule.

## **Confidential Business Information**

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 placed in the public docket of this AD. Submissions containing CBI should be sent to Stephen Elwin, Aerospace 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 the FAA has determined that it has good cause to adopt this rule without 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
Replace interstage HPT rotor seal	100 work-hours × \$85 per hour = \$8,500	\$540,000	\$548,500	\$0
USI of interstage HPT rotor seal	2 work-hours × \$85 per hour = \$170	0	170	0

## 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.

### **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):



**2020-10-04 General Electric Company:** Amendment 39-21122; Docket No. FAA-2020-0469; Project Identifier AD-2020-00258-E.

**(a) Effective Date**

This AD is effective May 27, 2020.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all General Electric Company (GE) GE90-110B1 and GE90-115B model turbofan engines with an interstage high-pressure turbine (HPT) rotor seal with a part number and serial number listed in Table 1 of GE GE90-100 Alert Service Bulletin (ASB) 72-A0841 R00, dated February 26, 2020 ("the ASB").

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

**(e) Unsafe Condition**

This AD was prompted by investigative findings from an event involving an uncontained interstage HPT rotor seal failure, resulting in debris penetrating the fuselage and the other engine. The FAA is issuing this AD to prevent failure of the interstage HPT rotor seal. The unsafe condition, if not addressed, could result in uncontained interstage HPT rotor seal release, release of high-energy debris, 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) Perform an ultrasonic inspection (USI) of the interstage HPT rotor seal in accordance with the Accomplishment Instructions, paragraph 3.B.(1), of the ASB, as follows:

(i) After the effective date of this AD, perform an initial USI of the interstage HPT rotor seal before reaching the additional cycles listed in Table 1 of the ASB. When computing the additional cycles, use the effective date of this AD instead of the issue date of the ASB.

(ii) Thereafter, repeat the USI of the interstage HPT rotor seal required by paragraph (g)(1)(i) within every 100 cycles since the last inspection.

(2) If, during any USI required by paragraph (g)(1)(i) or (ii) of this AD, a non-serviceable indication is found, as defined in paragraph 3.B.(2)(b) of the ASB, before further flight, remove the interstage HPT rotor seal from service.

#### **(h) Mandatory Terminating Action**

As a terminating action to the repetitive USI required by paragraph (g)(1)(ii) of this AD, at the next engine shop visit after the effective date of this AD, remove the affected interstage HPT rotor seal from service and replace with a part eligible for installation.

#### **(i) Definition**

For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine case flanges, except separation of engine flanges solely for the purposes of transportation of the engine without subsequent maintenance does not constitute an engine shop visit.

#### **(j) 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 (k) of this AD. You may email your request to: 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.

#### **(k) Related Information**

For more information about this AD, contact Stephen Elwin, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7236; fax: 781-238-7199; email: stephen.l.elwin@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) GE90-100 Alert Service Bulletin 72-A0841 R00, dated February 26, 2020.

(ii) [Reserved]

(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 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 781-238-7759.

(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, email: fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.



Issued on May 6, 2020.  
Gaetano A. Sciortino,  
Deputy Director for Strategic Initiatives, Compliance & Airworthiness Division, Aircraft  
Certification Service.  
[FR Doc. 2020-10048 Filed 5-11-20; 8:45 am]