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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2018-0630; Product Identifier 2018-NE-25-AD; Amendment 39-19347; AD 2018-16-07]**

**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:** We are adopting a new airworthiness directive (AD) for certain General Electric Company (GE) GENx-1B54, -1B58, -1B64, -1B67, -1B70, -1B54/P1, -1B58/P1, -1B64/P1, -1B67/P1, -1B70/P1, -1B54/P2, -1B58/P2, -1B64/P2, -1B67/P2, -1B70/P2, -1B70C/P1, -1B70/72/P1, -1B70/75/P1, -1B74/75/P1, -1B75/P1, -1B70C/P2, -1B70/72/P2, -1B70/75/P2, -1B74/75/P2, -1B75/P2, -1B76/P2, -1B76A/P2, -1B78/P2, -2B67, -2B67B, and -2B67/P turbofan engines. This AD requires removal of affected high-pressure turbine (HPT) stator cases (HPT cases) from service and their replacement with a part eligible for installation. This AD was prompted by the discovery of a quality escape at a manufacturing facility. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 15, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 15, 2018.

We must receive comments on this AD by September 14, 2018.

**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 <http://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. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7759. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0630.

## **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-2018-0630; 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, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations (phone: 800-647-5527) is listed above. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Herman Mak, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7147; fax: 781-238-7199; email: herman.mak@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We learned from GE of a quality escape at one of their suppliers. This supplier was performing welds on newly-manufactured components to correct errors introduced in their manufacturing process. These welds were not reviewed or approved by either GE or the FAA. GE's review of manufacturing records determined that these parts include HPT cases installed on GENx engines. These HPT cases are life limited. The unapproved repairs reduced the material capability of these cases which requires their removal prior to reaching their published Airworthiness Limitation Section life limit. This condition, if not addressed, could result in failure of the HPT case, engine fire, and damage to the airplane. We are issuing this AD to address the unsafe condition on these products.

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

We reviewed GE Service Bulletin (SB) GENx-1B S/B 72-0424, Revision 03, dated June 29, 2018 and GENx-2B S/B 72-0360, Revision 03, dated June 29, 2018. The SBs describe procedures for removing the affected HPT cases from the engine. GE SB GENx-1B S/B 72-0424 is effective for GENx-1B engines with the serial numbers of HPT cases listed in that SB. GE SB GENx-2B S/B 72-0360 is effective for GENx-2B engines with the serial numbers of HPT cases listed in that SB. 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**

We reviewed Inspection 001, Subtask 72-52-01-230-001 of GENx-1B Cleaning, Inspection, and Repair Manual GEK112862, Rev 27, dated April 30, 2018, and GENx-2B Cleaning, Inspection, and Repair Manual GEK114120, Rev 20, dated April 30, 2018. These manuals provide guidance for conducting Class A fluorescent penetrant inspections.

## FAA's Determination

We are issuing this AD because we 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 removal of the affected HPT cases from service and their replacement with a part eligible for installation.

## FAA's Justification and Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because the compliance time for the required action is shorter than the time necessary for the public to comment and for us to publish the final rule. Therefore, we find good cause that notice and opportunity for prior public comment are impracticable. In addition, for the reason stated above, we find 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, we invite 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-2018-0630 and Product Identifier 2018-NE-25-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. We will consider all comments received by the closing date and may amend this final rule because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this final rule.

## Costs of Compliance

We estimate that this AD affects 13 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
Replacement of HPT case	0 work-hours × \$85 per hour = \$0	\$362,400	\$362,400	\$4,711,200

## **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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

## **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, 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):



**2018-16-07 General Electric Company:** Amendment 39-19347; Docket No. FAA-2018-0630; Product Identifier 2018-NE-25-AD.

**(a) Effective Date**

This AD is effective August 15, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to General Electric Company (GE) GEnx-1B54, -1B58, -1B64, -1B67, -1B70, -1B54/P1, -1B58/P1, -1B64/P1, -1B67/P1, -1B70/P1, -1B54/P2, -1B58/P2, -1B64/P2, -1B67/P2, -1B70/P2, -1B70C/P1, -1B70/72/P1, -1B70/75/P1, -1B74/75/P1, -1B75/P1, -1B70C/P2, -1B70/72/P2, -1B70/75/P2, -1B74/75/P2, -1B75/P2, -1B76/P2, -1B76A/P2, -1B78/P2, -2B67, -2B67B, and -2B67/P turbofan engines with a high-pressure turbine (HPT) stator case (HPT case), part number (P/N) 2302M90G04 installed, and with any serial number (S/N) listed in Table 1, 2, or 3, in the Planning Information section of GE Service Bulletin (SB) GEnx-2B S/B 72-0360, Revision 03, dated June 29, 2018, or GEnx-1B S/B 72-0424, Revision 03, dated June 29, 2018, installed.

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by the discovery of a quality escape at a manufacturing facility involving unapproved welds on HPT cases. We are issuing this AD to prevent failure of the HPT case. The unsafe condition, if not addressed, could result in engine fire and damage to the airplane.

**(f) Compliance**

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

**(g) Required Actions**

(1) For HPT cases listed in Planning Information, Table 1 or 2, of GE SBs GEnx-2B S/B 72-0360, Revision 03, dated June 29, 2018 and GEnx-1B S/B 72-0424, Revision 03, dated June 29, 2018, determine the lesser of the following: Cycles since new (CSN) or cycles since Class A fluorescent penetrant inspection (CSFPI) of the entire HPT case.

(2) Using the determination made in paragraph (g)(1) of this AD, remove from service the HPT case after the effective date of this AD as specified in Table 1 to paragraph (g) of this AD. Replace the removed HPT case with a part eligible for installation.

**Table 1 to Paragraph (g) of this AD – Compliance Times**

<b>CSN or CSFPI of HPT case</b>	<b>Remove from Service (cycles after the effective date of this AD)</b>
Less than 1000	150 cycles
1000 to 2000	125 cycles
2001 to 3000	100 cycles
3001 to 4000	75 cycles
4001 to 5000	50 cycles
5001 or more	25 cycles

(3) Remove from service HPT cases listed in Planning Information, Table 3, of GE SBs GENx-2B S/B 72-0360, Revision 03, dated June 29, 2018 or GENx-1B S/B 72-0424, Revision 03, dated June 29, 2018, prior to exceeding 10 cycles after the effective date of this AD or exceeding the CSN limits listed in Table 3, whichever comes later. Replace the removed HPT case with a part eligible for installation.

**(h) Installation Prohibition**

(1) After the effective date of this AD, do not install any affected HPT case onto any engine.

(2) After the effective date of this AD, HPT cases listed in Planning Information, Table 3, in GE SB GENx-2B S/B 72-0360, Revision 03, dated June 29, 2018 or GENx-1B S/B 72-0424, Revision 03, dated June 29, 2018, and any higher level assemblies with these parts installed, may not be removed from a GENx-2B engine and installed on a GENx-1B engine or removed from a GENx-1B engine and installed on a GENx-2B engine.

**(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. 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.

**(j) Related Information**

For more information about this AD, contact Herman Mak, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7147; fax: 781-238-7199; email: herman.mak@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) General Electric Company (GE) Service Bulletin (SB) GENx-2B S/B 72-0360, Revision 03, dated June 29, 2018.

(ii) GE SB GENx-1B S/B 72-0424, Revision 03, dated June 29, 2018.

(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, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7759.

(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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on July 25, 2018.

Karen M. Grant,  
Acting Manager, Engine & Propeller Standards Branch,  
Aircraft Certification Service.