

the initial inspection required by paragraph (i) of this AD has been done. Although BAE Systems (Operations) Limited Inspection Service Bulletin ISB.32–156, Revision 1, dated July 3, 2001, specifies to report certain information to the manufacturer, this AD does not require a report.

(1) If the number of flight cycles accumulated on the side stay can be positively determined: Inspect before the accumulation of 2,000 total flight cycles on the side stay, or within 500 flight cycles after May 2, 2005 (the effective date of AD 2005–06–14), whichever occurs later.

(2) If the number of flight cycles accumulated on the side stay cannot be positively determined: Inspect within 500 flight cycles after May 2, 2005 (the effective date of AD 2005–06–14).

#### (h) Retained Optional Terminating Action for Paragraph (g) of This AD, With No Changes

This paragraph restates the optional terminating action of paragraph (g) of AD 2005–06–14, with no changes. Relocation of each affected grease nipple to the upper surface of the outer link of the MLG side stays terminates the repetitive inspections required by paragraph (g) of this AD, if the relocation action is done in accordance with paragraph 2.C. of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.32–156, Revision 1, dated July 3, 2001.

#### (i) New Requirements

Except as specified in paragraph (j) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, United Kingdom Civil Aviation Authority AD G–2022–0018, dated October 18, 2022 (U.K. CAA AD G–2022–0018).

#### (j) Exceptions to U.K. CAA AD G–2022–0018

(1) Where U.K. CAA AD G–2022–0018 refers to its effective date, this AD requires using the effective date of this AD.

(2) The “Remarks” section of U.K. CAA AD G–2022–0018 does not apply to this AD.

(3) Where paragraph (2) of U.K. CAA AD G–2022–0018 refers to “discrepancies (*i.e.* cracks or other adverse findings),” replace the text “discrepancies (*i.e.* cracks or other adverse findings),” with “any cracking.”

(4) Where U.K. CAA AD G–2022–0018 refers to ASB.32–A189, this AD requires using BAE Systems (Operations) Limited Alert Service Bulletin ASB.32–A189, dated September 16, 2022.

#### (k) No Reporting Requirement

Although BAE Systems (Operations) Limited Alert Service Bulletin ASB.32–A189, dated September 16, 2022, specifies to submit certain information to the manufacturer, this AD does not include that requirement.

#### (l) Additional AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, International Validation 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 responsible Flight Standards Office, as appropriate. If sending information directly to the International Validation Branch, send it to the attention of the person identified in paragraph (n) of this AD. Information may be emailed to: [9-AVS-AIR-730-AMOC@faa.gov](mailto:9-AVS-AIR-730-AMOC@faa.gov). Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, International Validation Branch, FAA; or the United Kingdom Civil Aviation Authority (U.K. CAA); or BAE Systems (Operations) Limited’s U.K. CAA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

#### (m) Additional Information

For more information about this AD, contact Todd Thompson, Aerospace Engineer, Large Aircraft Section, FAA, International Validation Branch, 2200 South 216th St., Des Moines, WA 98198; telephone 206–231–3228; email [todd.thompson@faa.gov](mailto:todd.thompson@faa.gov).

#### (n) 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 this AD specifies otherwise.

(3) The following service information was approved for IBR on December 27, 2022.

(i) BAE Systems (Operations) Limited Alert Service Bulletin ASB.32–A189, dated September 16, 2022.

(ii) Messier-Dowty Service Bulletin 146–32–147, dated May 29, 2001.

(iii) United Kingdom Civil Aviation Authority (U.K. CAA) AD G–2022–0018, dated October 18, 2022.

(4) The following service information was approved for IBR on May 2, 2005 (70 FR 15574, March 28, 2005; corrected April 14, 2005 (70 FR 19681)).

(i) BAE Systems (Operations) Limited Inspection Service Bulletin ISB.32–156, Revision 1, dated July 3, 2001.

(ii) [Reserved]

(5) For BAE Systems (Operations) Limited service information identified in this AD, contact BAE Systems (Operations) Limited, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; telephone +44 1292 675207; fax +44 1292 675704; email [RApublications@baesystems.com](mailto:RApublications@baesystems.com); website [baesystems.com/Businesses/RegionalAircraft/index.htm](http://baesystems.com/Businesses/RegionalAircraft/index.htm).

(6) For Messier-Dowty service information identified in this AD, contact Messier-Dowty: Messier Services Americas, Customer Support Center, 45360 Severn Way, Sterling, VA 20166–8910; telephone 703–450–8233;

fax 703–404–1621; website [techpubs.services/messier-dowty.com](http://techpubs.services/messier-dowty.com).

(7) For U.K. CAA AD G–2022–0018, contact Civil Aviation Authority, Aviation House, Beehive Ring Road, Crawley, West Sussex RH6 0YR, United Kingdom; telephone +44(0) 330 022 4401; email [continued.airworthiness@caa.co.uk](mailto:continued.airworthiness@caa.co.uk); website [caa.co.uk](http://caa.co.uk).

(8) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195. This material may be found in the AD docket at [regulations.gov](http://regulations.gov) under Docket No. FAA–2022–1574.

(9) You may view this material 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 December 1, 2022.

**Christina Underwood,**

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

[FR Doc. 2022–27007 Filed 12–8–22; 4:15 pm]

**BILLING CODE 4910–13–P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA–2022–0989; Project Identifier AD–2022–00468–E; Amendment 39–22236; AD 2022–23–09]

RIN 2120–AA64

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

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain General Electric Company (GE) GE90–90B, GE90–94B, GE90–110B1, and GE90–115B model turbofan engines. This AD was prompted by a manufacturer investigation that revealed that certain high-pressure turbine (HPT) stage 1 disks, HPT stage 2 disks, and stages 7–9 compressor rotor spools were manufactured from powder metal material suspected to contain iron inclusion. This AD requires the replacement of the affected HPT stage 1 disks, HPT stage 2 disks, and stages 7–9 compressor rotor spools. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective January 17, 2023.

**ADDRESSES:**

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-0989; 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 address for Docket Operations is 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:**

Alexei Marqueen, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7178; email: [Alexei.T.Marqueen@faa.gov](mailto:Alexei.T.Marqueen@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain GE GE90-90B, GE90-94B, GE90-110B1, and GE90-115B model turbofan engines. The NPRM published in the **Federal Register** on September 09, 2022 (87 FR 55319). The NPRM was prompted by a manufacturer investigation that revealed that certain HPT stage 1 disks, HPT stage 2 disks, and stages 7-9 compressor rotor spools were manufactured from powder metal material suspected to contain iron

inclusion. Further investigation by the manufacturer determined that the iron inclusion is attributed to deficiencies in the manufacturing process. The investigation by the manufacturer also determined that certain HPT stage 1 disks, HPT stage 2 disks, and stages 7-9 compressor rotor spools made from billets manufactured using the same process may have reduced material properties and a lower fatigue life capability due to iron inclusion, which may cause premature fracture and uncontained failure. In the NPRM, the FAA proposed to require the replacement of certain HPT stage 1 disks, HPT stage 2 disks, and stages 7-9 compressor rotor spools. The FAA is issuing this AD to address the unsafe condition on these products.

**Discussion of Final Airworthiness Directive**

**Comments**

The FAA received comments from three commenters. The commenters were Air Line Pilots Association, International, FedEx Express, and The Boeing Company. All commenters supported the NPRM without change.

**Conclusion**

The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these

products. This AD is adopted as proposed in the NPRM.

**Related Service Information**

The FAA reviewed the following service information issued by GE, which specifies procedures for removing the affected HPT stage 2 disk from service. These documents are distinct since they apply to different engine models.

- GE90-100 Service Bulletin 72-0893 R01, dated November 30, 2021.
- GE90-100 Service Bulletin 72-0899 R00, dated April 29, 2022.

The FAA also reviewed GE90-100 Service Bulletin 72-0897 R00, dated February 23, 2022. This service information specifies procedures for removing the affected stages 7-9 compressor rotor spool from service. The FAA also reviewed GE90 Service Bulletin 72-1214 R00, dated April 29, 2022. This service information specifies procedures for removing the affected HPT stage 1 disk and HPT stage 2 disk from service.

**Costs of Compliance**

The FAA estimates that this AD affects 1 engine installed on airplanes of U.S. registry. The FAA estimates that 0 engines installed on airplanes of U.S. registry require replacement of the HPT stage 1 disk or stages 7-9 compressor rotor spool.

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 HPT stage 2 disk	8 work-hours × \$85 per hour = \$680 .....	\$459,473 (pro-rated) .....	\$460,153	\$460,153
Replace HPT stage 1 disk	8 work-hours × \$85 per hour = \$680 .....	\$867,041 (pro-rated) .....	867,721	0
Replace stages 7-9 compressor rotor spool.	8 work-hours × \$85 per hour = \$680 .....	\$442,204 (pro-rated) .....	442,884	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,
- (2) Will not affect intrastate aviation in Alaska, 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.

**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:

**2022–23–09 General Electric Company:**  
Amendment 39–22236; Docket No. FAA–2022–0989; Project Identifier AD–2022–00468–E.

**(a) Effective Date**

This airworthiness directive (AD) is effective January 17, 2023.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to General Electric Company GE90–90B, GE90–94B, GE90–110B1, and GE90–115B model turbofan engines with an installed high-pressure turbine (HPT) stage 1 disk, HPT stage 2 disk, or stages 7–9 compressor rotor spool with a part number (P/N) and serial number (S/N) identified in Table 1 to paragraph (c) of this AD.

TABLE 1 TO PARAGRAPH (c)—AFFECTED HPT STAGE 1 DISKS, HPT STAGE 2 DISKS, AND STAGES 7–9 COMPRESSOR ROTOR SPOOLS

Part name	P/N	S/N
HPT stage 1 disk .....	1847M95G04	GWN0R5K4
HPT stage 2 disk .....	1711M47G13	TMT5N068
HPT stage 2 disk .....	1865M14P04	TMT5P744
		TMT5P745
		TMT5P749
		TMT5P755
		TMT5P762
Stages 7–9 compressor rotor spool .....	2032M23G02	GWN0R5M5

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section; 7250, Turbine Section.

**(e) Unsafe Condition**

This AD was prompted by a manufacturer investigation that revealed that certain HPT stage 1 disks, HPT stage 2 disks, and stages 7–9 compressor rotor spools were manufactured from powder metal material suspected to contain iron inclusion. The FAA is issuing this AD to prevent fracture and potential uncontained failure of certain HPT stage 1 disks, HPT stage 2 disks, and stages 7–9 compressor rotor spools. The unsafe condition, if not addressed, could result in uncontained debris release, damage to the engine, and damage to the aircraft.

**(f) Compliance**

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

**(g) Required Actions**

(1) Before exceeding 400 flight cycles after the effective date of this AD, remove the affected HPT stage 1 disk, HPT stage 2 disk, and stages 7–9 compressor rotor spool from service and replace with a part eligible for installation.

(2) For affected engines not in service, before further flight, remove the affected HPT stage 1 disk, HPT stage 2 disk, and stages 7–9 compressor rotor spool and replace with a part eligible for installation.

**(h) Definitions**

(1) For the purpose of this AD, a “part eligible for installation” is any HPT stage 1 disk, HPT stage 2 disk, or stages 7–9 compressor rotor spool with a P/N and S/N not identified in Table 1 to paragraph (c) of this AD.

(2) For the purpose of this AD, “affected engines not in service” are affected engines that are in long-term or short-term storage as of the effective date of this AD.

**(i) Installation Prohibition**

After the effective date of this AD, do not install an HPT stage 1 disk, HPT stage 2 disk, or stages 7–9 compressor rotor spool with a P/N and S/N identified in Table 1 to paragraph (c) of this AD onto any engine.

**(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 and email 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 Alexei Marqueen, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238–7178; email: Alexei.T.Marqueen@faa.gov.

**(l) Material Incorporated by Reference**

None.

Issued on November 1, 2022.

**Christina Underwood,**

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

[FR Doc. 2022–26831 Filed 12–9–22; 8:45 am]

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 71**

[Docket No. FAA–2022–0712; Airspace Docket No. 22–ACE–1]

RIN 2120–AA66

**Amendment and Revocation of Multiple Air Traffic Service (ATS) Routes; Establishment of Area Navigation (RNAV) Route; and Revocation of the Pawnee City, NE, Low Altitude Reporting Point in the Vicinity of Pawnee City, NE**

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

**ACTION:** Final rule.

**SUMMARY:** This action amends Jet Route J–64, VHF Omnidirectional Range (VOR) Federal airways V–50, V–71, V–216, and V–307, and Area Navigation (RNAV) route T–286; establishes RNAV route T–468; and revokes J–130, J–192, V–553, and the Pawnee City, NE, low altitude reporting point. The FAA is taking this action due to the planned decommissioning of the VOR portion of the Pawnee City, NE, VOR/Tactical Air Navigation (VORTAC) navigational aid