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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2013-0447; Directorate Identifier 2013-NE-17-AD; Amendment 39-17536; AD 2013-15-20]**

**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 superseding emergency airworthiness directive (AD) 2013-14-51 for General Electric Company (GE) GE90-110B1 and GE90-115B turbofan engines with affected transfer gearbox assembly (TGB) radial gearshafts installed. AD 2013-14-51 was sent previously to all known U.S. owners and operators of GE90-110B1 and GE90-115B turbofan engines. AD 2013-14-51 prohibited operation of an airplane if more than one installed engine has an affected TGB radial gearshaft. This AD contains the same prohibition as AD 2013-14-51 and also prohibits operation of any airplane 60 days after the effective date of this new AD if any installed engine has an affected TGB radial gearshaft. This new AD also revises the applicability by adding GE90-76B, GE90-77B, GE90-85B, GE90-90B, GE90-94B, and GE90-113B turbofan engine models and adds a mandatory terminating action. This new AD was prompted by reports of three failures of TGB radial gearshafts which resulted in in-flight shutdowns (IFSDs). We are issuing this new AD to prevent failure of the TGB radial gearshaft, which could result in IFSD of one or more engines, loss of thrust control, and damage to the airplane.

**DATES:** This AD is effective August 21, 2013.

We must receive any comments on this AD by September 20, 2013.

**ADDRESSES:** You may send comments 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 AD, contact General Electric Company, One Neumann Way, Room 285, Cincinnati, OH; phone: 513-552-3272; email: geae.aoc@ge.com. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Carlos Fernandes, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7189; fax: 781-238-7199; email: carlos.fernandes@faa.gov.

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

On May 16, 2013, we issued emergency AD 2013-10-52 (issued on June 16, 2013, as a Final Rule, Request for Comments (78 FR 38195, June 26, 2013)), which was immediately effective to owners and operators of GE GE90-110B1 and GE90-115B turbofan engines. That AD resulted from reports of two failures of TGB radial gearshafts that resulted in IFSDs. That AD prohibited operation of an airplane with affected TGBs installed on both engines.

On July 12, 2013, we issued emergency AD 2013-14-51, superseding AD 2013-10-52 (78 FR 38195, June 26, 2013). AD 2013-14-51 also prohibits operation of an airplane with affected TGB radial gearshafts installed on both engines. AD 2013-14-51 resulted from a report of an additional failure of a TGB radial gearshaft, outside the population identified in AD 2013-10-52. We issued ADs 2013-10-52 and 2013-14-51 to prevent failure and separation of the TGB radial gearshaft, which could result in IFSD of one or more engines, loss of thrust control, and damage to the airplane.

#### **Actions Since AD 2013-14-51 Was Issued**

Since we issued emergency AD 2013-14-51, dated July 12, 2013, we determined that airplanes with an installed engine with an affected TGB radial gearshaft should not be allowed to operate more than 60 days after the effective date of this new AD. We also revised the Applicability of this new AD since we determined that the affected TGB radial gearshafts are installed on additional GE90 engine models besides the GE90-110B1 and GE90-115B. We also determined the need to add a mandatory terminating action.

#### **Relevant Service Information**

We reviewed GE GE90-100 Series Alert Service Bulletin (ASB) No. GE90-100 S/B 72-A0568, dated July 10, 2013; GE GE90-100 Series Service Bulletin (SB) No. GE90-100 S/B 72-0569, Revision 0, dated July 19, 2013; and GE GE90 SB No. GE90 S/B 72-1091, Revision 0, dated June 11, 2013, which provide additional information regarding the affected TGB radial gearshafts. We

also reviewed GE GE90-100 Series SB No. GE90-100 S/B 72-0563, Revision 0, dated June 21, 2013, and Revision 1, dated July 10, 2013; and GE GE90 SB No. GE90 S/B 72-1066, Revision 0, dated June 21, 2013; which provide information regarding the mandatory terminating action.

### **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 prohibits operation of an airplane with affected TGB radial gearshafts installed on both engines after the effective date of this AD. This AD also prohibits operation of an airplane with affected TGB radial gearshafts installed on any engine 60 days after the effective date of this AD. This AD also adds a mandatory terminating action, namely, to install a TGB radial gearshaft that is eligible for installation.

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

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because of the before further flight compliance time. Therefore, we find that notice and opportunity for prior public comment are impracticable and 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 we did not provide you with notice and an opportunity to provide your comments before it becomes effective. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2013-0447 and directorate identifier 2013-NE-17-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD 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 AD.

### **Costs of Compliance**

We estimate that this AD will affect about 16 GE90 engines installed on airplanes of U.S. registry. We also estimate that it will take about eight hours per engine to replace the TGB radial gearshaft. The average labor rate is \$85 per hour. The cost of this part is about \$16,700. Based on these figures, we estimate the total cost of this AD to U.S. operators to be \$278,080.

### **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 part 39 of the Federal Aviation Regulations (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:
  - a. Removing AD 2013-10-52 (78 FR 38195, June 26, 2013); and
  - b. Adding the following new AD:



**2013-15-20:** Amendment 39-17536; Docket No. FAA-2013-0447; Directorate Identifier 2013-NE-17-AD.

**(a) Effective Date**

This AD is effective August 21, 2013.

**(b) Affected ADs**

This AD supersedes Emergency AD 2013-14-51, Directorate ID 2013-NE-17-AD, dated July 12, 2013. This AD also removes AD 2013-10-52 (78 FR 38195, June 26, 2013) from the Code of Federal Regulations.

**(c) Applicability**

General Electric Company (GE) GE90-76B, GE90-77B, GE90-85B, GE90-90B, GE90-94B, GE90-110B1, GE90-113B and GE90-115B turbofan engines with a transfer gearbox assembly (TGB) radial gearshaft, part number (P/N) 1995M24P02, serial number (S/N) listed in Figure 1 to paragraph (c) of this AD, installed.

**Figure 1 to Paragraph (c)–TGB Radial Gearshaft P/N 1995M24P02 S/N's**

FIA0KCYG	FIA0JETA	FIA0H0VJ	FIA0HL0C
FIA0K63F	FIA0J7V2	FIA0K62R	FIA0HLY9
FIA0K3A3	FIA0KCYM	FIA0K63C	FIA0HL0E
FIA0JVRE	FIA0JJ6E	FIA0K89H	FIA0HL0F
FIA0H0VM	FIA0JNJH	FIA0KCYK	FIA0HL0G
FIA0K3A4	FIA0K62W	FIA0K3A5	FIA0HLY7
FIA0K62T	FIA0K89P	FIA0HWKA	FIA0HJTE
FIA0JJ53	FIA0JJ57	FIA0KCYR	FIA0HJTJ
FIA0K89W	FIA0JJ56	FIA0HWKE	FIA0HJTG
FIA0KCW8	FIA0KH9Y	FIA0J7WH	FIA0HJTC
FIA0K3A6	FIA0KCYP	FIA0JER9	FIA0HJTF
FIA0HY8C	FIA0JJ55	FIA0JNJJ	FIA0HJTH
FIA0K3AP	FIA0KH9G	FIA0JVRR	FIA0HJTA
FIA0J7WG	FIA0KH9H	FIA0JNJM	FIA0HJR9
FIA0JVRL	FIA0KH9K	FIA0KH9R	FIA0HWJ7

FIA0J7V1	FIA0KH9C	FIA0KH9P	FIA0HY76
FIA0JVRM	FIA0K63H	FIA0K89C	FIA0HY8F
FIA0K3AV	FIA0K63M	FIA0JVRH	FIA0H0VK
FIA0J7V8	FIA0K62Y	FIA0K89L	FIA0J7VR
FIA0J7WE	FIA0JVP9	FIA0JER6	FIA0JJ58
FIA0K3A2	FIA0K63E	FIA0JETH	FIA0JJ6C
FIA0K3A1	FIA0K3AY	FIA0H0VC	FIA0JNJF
FIA0K3AN	FIA0JVRT	FIA0K3AL	FIA0JNJK
FIA0JV RP	FIA0HY8E	FIA0J7VV	FIA0JVRC
FIA0JJ6F	FIA0HY8N	FIA0J7VP	FIA0J7V4
FIA0JJ6J	FIA0J7V0	FIA0J7V9	FIA0JETF
FIA0JV RV	FIA0J7V3	FIA0HWJ8	FIA0HEG4
FIA0H0VL	FIA0J7V5	FIA0H0VA	FIA0HWJ9
FIA0K89T	FIA0HY8H	FIA0KCYL	FIA0HWJ5
FIA0K89Y	FIA0HEG2	FIA0HY79	FIA0HWJ6
FIA0JETL	FIA0K62V	FIA0KH9J	FIA0J7VW
FIA0JER8	FIA0HEGY	FIA0HY8G	FIA0J7VY
FIA0J7WC	FIA0HWKC	FIA0HY8M	FIA0J7VT
FIA0JETE	FIA0K3A0	FIA0HY8A	FIA0J7WF
FIA0K3AT	FIA0JVRJ	FIA0H0VG	FIA0J7V6
FIA0JJ59	FIA0K8AA	FIA0K3AR	FIA0K89G
FIA0K3AW	FIA0KCYT	FIA0JETC	FIA0K89K
FIA0JV RN	FIA0KH9T	FIA0KH9W	FIA0K89R
FIA0JNH8	FIA0HEG1	FIA0JNJC	FIA0KCYJ
FIA0JETN	FIA0HEG3	FIA0K63L	FIA0JJ6G
FIA0HY78	FIA0J7WJ	FIA0KCYN	FIA0JJ6A
FIA0HY75	FIA0JER7	FIA0JV RG	FIA0HY8K
FIA0HEG0	FIA0JV RF	FIA0HY8L	FIA0HLY6
FIA0KH9E	FIA0K63K	FIA0HY8J	FIA0HLY0
FIA0KH9F	FIA0J7WK	FIA0H0VH	FIA0HLY1
FIA0H0T9	FIA0JER5	FIA0H0VF	FIA0HLY4
FIA0HLY3	FIA0JETM		

#### **(d) Unsafe Condition**

This AD was prompted by reports of three failures of TGB radial gearshafts which resulted in in-flight shutdowns (IFSDs). We are issuing this AD to prevent failure of the TGB radial gearshaft, which could result in IFSD of one or more engines, loss of thrust control, and damage to the airplane.

#### **(e) Compliance**

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

(2) Before further flight after the effective date of this AD, do not operate the airplane if more than one installed engine has a TGB radial gearshaft P/N and S/N listed in Figure 1 to paragraph (c) of this AD.

#### **(f) Mandatory Terminating Action**

No later than 60 days after the effective date of this AD, as terminating action to the requirements of paragraph (e) of this AD, replace all TGB radial gearshafts identified in Figure 1 to paragraph (c) of this AD that are installed on an airplane with TGB radial gearshafts that are eligible for installation.

#### **(g) Prohibition on Operation**

Sixty days after the effective date of this AD, do not operate any airplane that has an engine installed that has a TGB radial gearshaft P/N and S/N listed in Figure 1 to paragraph (c) of this AD.

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

For the purposes of this AD, a TGB radial gearshaft eligible for installation is:

(1) A TGB radial gearshaft P/N and S/N, not listed in this AD or

(2) A TGB radial gearshaft with an S/N listed in paragraph (c) of this AD with part number 1995M24P04, 2205M61P01 or 2205M61P02.

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

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures in 14 CFR 39.19 to make your request.

#### **(j) Related Information**

(1) For more information about this AD, contact Carlos Fernandes, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7189; fax: 781-238-7199; email: carlos.fernandes@faa.gov.

(2) GE GE90-100 Series Alert Service Bulletin No. GE90-100 S/B 72-A0568, Revision 0, dated July 10, 2013; GE GE90-100 Series Service Bulletin (SB) No. GE90-100 S/B 72-0569, Revision 0, dated July 19, 2013; GE GE90-100 Series SB No. GE90-100 S/B 72-0563, Revision 0, dated June 21, 2013, and Revision 1, dated July 10, 2013; GE GE90 SB No. GE90 S/B 72-1066, Revision 0, dated June 21, 2013; and GE GE90 SB No. GE90 S/B 72-1091, Revision 0, dated June 11, 2013, can be obtained from GE using the contact information in paragraph (j)(3) of this AD.

(3) For service information identified in this AD, contact General Electric Company, One Neumann Way, Room 285, Cincinnati, OH; phone: 513-552-3272; email: geae.aoc@ge.com.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

**(k) Material Incorporated by Reference**

None.

Issued in Burlington, Massachusetts, on July 25, 2013.  
Frank P. Paskiewicz,  
Acting Director,  
Aircraft Certification Service.