DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 98–ANE–17–AD; Amendment 39–12622; AD 2002–01–27]

RIN 2120–AA64

Airworthiness Directives; General Electric Company GE90 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), that is applicable to General Electric Company (GE) GE90–76B, –77B, –85B, –90B, and –92B model turbofan engines. That AD currently requires initial and repetitive eddy current inspections (ECI) for cracks in the high pressure compressor (HPC) stage 2–6 spool, and, if necessary, replacement with serviceable parts. That amendment was prompted by reports of cracks in the stage 3–4 and stage 4–5 interstage seal teeth and spacer arms. This amendment deletes reference to the GE90–92B engine model, deletes reference to HPC spool part number (P/N) 350–005–769–0 and directs the removal from service of affected part number spools by either engine cycles or calendar date, whichever occurs first. This amendment is prompted by the introduction of a new design HPC stage 2–6 spool and four additional HPC stage 2–6 spool P/N's that are terminating action for the repetitive inspection requirements for certain P/N spools. The actions specified by this AD are intended to prevent failure of the HPC stage 2–6 spool due to cracks, which could result in an uncontained engine failure and damage to the airplane.

DATES: Effective February 14, 2002. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of February 14, 2002.

Comments for inclusion in the Rules Docket must be received on or before April 1, 2002.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 98–ANE–17–AD, 12 New England Executive Park, Burlington, MA 01803–5299. Comments may be inspected at this location, by appointment, between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. Comments may also be sent via the Internet using the following address: ''9-ane-adcomment@faa.gov''. Comments sent via the Internet must contain the docket number in the subject line.

The service information referenced in this AD may be obtained from General Electric Technical Services, Attention: Leader for distribution/microfilm, 10525 Chester Road, Cincinnati, OH 45215; telephone (513) 672–8400 Ext. 130, fax (513) 672–8422. This information may be examined, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803–5299; telephone (781) 238–7178, fax (781) 238–7199.

SUPPLEMENTARY INFORMATION: On July 6, 1998, the Federal Aviation Administration (FAA) issued airworthiness directive (AD) 98–15–03, Amendment 39–10654 (63 FR 37761, July 14, 1998), to require:

- Initial and repetitive eddy current inspection (ECI) for cracks in the high pressure compressor (HPC) stage 2–6 spool spacer arms, forward and aft of the stage 3–4 and stage 4–5 interstage seal teeth, and, if necessary, replacement with serviceable parts.
- A shop level ECI for cracks in the HPC stage 2–6 spool interstage seal teeth, and, if necessary, replacement with serviceable parts.

That action was prompted by reports of cracked HPC stage 2–6 spools installed on General Electric Company (GE) GE90–76B, –77B, –85B, –90B, and –92B model turbofan engines. That condition, if not corrected, could result in failure of the HPC stage 2–6 spool due to cracks, which could result in an uncontained engine failure and damage to the airplane.

Since that AD was issued, the FAA has determined that either of the inspection methods required by the current AD may be used to satisfy either inspection requirement if done in accordance with the applicable Service Bulletins. Furthermore, certain spools have been approved as terminating the need for continuing inspections. Lastly, the FAA has determined that the affected spools are required to be removed from service no later than a specified number of engine cycles or by June 30, 2005, whichever occurs first.

The manufacturer has confirmed the design integrity of two of the spools affected by the current AD, P/N 350–005–770–0 (except for SN LAO37677) and P/N 350–005–771–0. Based on additional test and analysis, these spools need no further inspection. In addition, the manufacturer has introduced a new design HPC stage 2–6 spool, P/N 350–005–780–0 and a repair procedure which creates two other spools part numbers, P/N 350–005–775–0 and P/N 350–005–776–0. With spools having any of these five part numbers installed, this AD will no longer apply to the engine, terminating the requirement for additional inspections. Also, reference to the GE90–92B model is removed from the AD applicability because the manufacturer has informed the FAA that no engines of that model were produced and has requested the FAA remove this model designation from the GE90 Type Certificate. In addition, HPC spool P/N 350–005–769–0 is deleted since the manufacturer has informed the FAA that this P/N spool has never been produced and will not be produced.

Manufacturer's Service Information

The FAA has reviewed and approved the technical contents of GE Service Bulletin No. GE90 S/B 72–0352, Revision 4, dated July 31, 2000, that describes ECI procedures for cracks in the HPC stage 2–6 spool interstage seal teeth, and GE Alert Service Bulletin (ASB) No. GE90 72–A0357, Revision 4, dated July 31, 2000, that describes procedures for ECI for cracks in the HPC stage 2–6 spool spacer arm, forward and aft of the stage 3–4 and stage 4–5 interstage seal teeth. This ASB also removes the inspection requirement for HPC spools P/N 350–005–770–0 (except for S/N LAO37677) and P/N 350–005–771–0.

FAA's Determination of an Unsafe Condition and Required Actions

Although none of these affected engine models are used on any airplanes that are registered in the United States, the possibility exists that the engine models could be used on airplanes that are registered in the United States in the future. Since an unsafe condition has been identified that is likely to exist or develop on other GE90 series turbofan engines of this same type design, this AD is being issued to prevent failure of the HPC stage 2–6 spool due to cracks, which could result in an uncontained engine failure and damage to the airplane. This AD requires:

- Initial and repetitive ECI for cracks in the HPC stage 2–6 spool spacer arms, forward and aft of the stage 3–4 and

stage 4–5 interstage seal teeth, and, if necessary, replacement with a serviceable part.

• A shop level ECI for cracks in the HPC stage 2–6 spool interstage seal teeth, and, if necessary, replacement with serviceable parts.

• Removal of affected part number HPC stage 2–6 spools from service based on either engine cycles or calendar date, whichever occurs first.

The actions must be done in accordance with the service bulletins described previously.

Immediate Adoption of This AD

Since there are currently no domestic operators of these engine models, notice and opportunity for prior public comment are unnecessary. Therefore, a situation exists that allows the immediate adoption of this regulation.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption **ADDRESSES**. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this action must submit a self-addressed, stamped postcard on which the following statement is made: ''Comments to Docket Number 98–ANE–17–AD.'' The postcard will be date stamped and returned to the commenter.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would 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. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (1) is not a ''significant regulatory action'' under Executive Order 12866; (2) is not a ''significant rule'' under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES**.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration 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. Section 39.13 is amended by removing Amendment 39–10654 (63 FR 37761, July 14, 1998), and by adding a new airworthiness directive, Amendment 39–12622, to read as follows:

2002–01–27 General Electric Company (GE): Amendment 39–12622. Docket No. 98–ANE–17–AD. Supersedes AD 98–15–03, Amendment 39–10654.

Applicability. This airworthiness directive (AD) is applicable to General Electric Company (GE) GE90–76B, –77B, —85B, and –90B turbofan engines, with high pressure compressor (HPC) stage 2–6 spools, part numbers (P/N's) 350–005–761–0, 350–005–765–0, and 350–005–770–0 (serial number (SN) LAO37677 only), installed. These engines are installed on, but not limited to, Boeing 777 airplanes.

Note 1: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance. Compliance with this AD is required as indicated, unless already done.

To prevent failure of the HPC stage 2–6 spool due to cracks, which could result in an uncontained engine failure and damage to the airplane, do the following:

(a) Perform initial and repetitive eddy current inspections (ECI) of the spacer arm, forward and aft of the stage 3–4 and 4–5 seal teeth, for cracks in accordance with the Accomplishment Instructions of GE Alert Service Bulletin (ASB) No. GE90 72–A0357, Revision 4, dated July 31, 2000, as follows:

(1) Perform the initial inspection before exceeding 500 cycles-since-new (CSN).

(2) Thereafter, inspect at intervals not to exceed 250 cycles-in-service since last inspection.

(3) Remove the spool from the engine if the ECI reveals a crack indication and replace with a serviceable spool before returning the engine to service.

(4) Inspections required by this paragraph may be performed using an ECI for cracks in the HPC stage 2–6 spool interstage seal teeth in accordance with GE Service Bulletin (SB) No. GE90 S/B 72–0352, Revision 4, dated July 31, 2000.

(b) At each shop visit as defined in paragraph (e) of this AD, perform ECI for cracks in the HPC stage 2–6 spool interstage seal teeth in accordance with the Accomplishment Instructions of GE SB No. GE90 S/B 72–0352, Revision 4, dated July 31, 2000.

(1) Replace spools with a crack indication with a serviceable spool before returning the engine to service.

(2) If the HPC stage 2–6 spool is not exposed, the inspection required by this paragraph may be performed using an ECI for cracks in the HPC spacer arm, forward and aft of the stage 3–4 and 4–5 seal teeth, in accordance with the Accomplishment Instructions of GE ASB No. GE90 72–A0357, Revision 4, dated July 31, 2000.

(c) Remove from service HPC stage 2–6 spools, P/N 350–005–761–0, 350–005–765–0 and 350–005–770–0 (SN LAO37677 only), before accumulating 4,800 CSN for spools on the GE90–76B and –77B engine models and 4,600 CSN for spools on the GE90–85B and the –90B engine models, or by June 30, 2005, whichever occurs first.

Credit for Previous Inspections

(d) Inspections performed before the effective date of this AD using the following SB's may be counted toward satisfying the initial and repetitive inspection requirements of paragraph (a) of this AD:

(1) Inspections completed using GE ASB No. GE90 72–A0357, Revision 2, dated April 21, 1998; or Revision 3, dated October 27, 1999.

(2) Inspections completed during shop visits using GE SB No. GE90 S/B 72–0352, Revision 2, dated March 31, 1998; or Revision 3, dated July 12, 1999.

Definitions

(e) For the purpose of this AD, an engine shop visit is defined as any time an engine has maintenance performed that involves separation of a major engine flange (such as removal of a low pressure turbine module or HPC ''top case''). However, the replacement of the stage 3 and 4 variable stator vane bushings and sealing flanges using GE SB No. GE90 S/B 72–0537, dated June 22, 2001 is not considered a shop visit.

Alternative Methods of Compliance

(f) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office (ECO). Operators must submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

Special Flight Permits

(g) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be done.

Documents That Have Been Incorporated By Reference

(h) The inspection must be done in accordance with the following General Electric Company GE90 Service Bulletin (SB) and Alert Service Bulletin (ASB):

Document No.	Pages	Revision	Date
SB GE90 S/B 72–0352 ..... Total pages: 33	All	4	July 31, 2000.
ASB GE90 72–A0357 ..... Total pages: 30	All	4	July 31, 2000.

These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from General Electric Technical Services, Attention: Leader for distribution/microfilm, 10525 Chester Road, Cincinnati, OH 45215; telephone (513) 672–8400 Ext. 130, fax (513) 672–8422. Copies may be inspected, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(i) This amendment becomes effective on February 14, 2002.

Issued in Burlington, Massachusetts, on January 18, 2002.

Thomas A. Boudreau,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 02–1984 Filed 1–29–02; 8:45 am]

BILLING CODE 4910–13–U

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001–NE–50–AD; Amendment 39–12623; AD 2002–01–28]

RIN 2120–AA64

Airworthiness Directives; Dowty Aerospace Propellers Type R334/4–82–F/13 Propeller Assemblies

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to Dowty Aerospace Propellers Type R334/4–82–F/13 with propeller hub assemblies, part number (P/N) 660709201. This action requires a one-time ultrasonic inspection of the propeller hub for cracks. This amendment is prompted by a report of an in-flight loss of a propeller. The actions specified in this AD are intended to prevent propeller hub failure due to cracks in the hub, which could result in loss of control of the airplane.

DATES: Effective February 14, 2002. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of February 14, 2002.

Comments for inclusion in the Rules Docket must be received on or before April 1, 2002.

ADDRESSES: Submit comments to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2001–NE–50–AD, 12 New England Executive Park, Burlington, MA 01803–5299. Comments may be inspected at this location, by appointment, between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. Comments may also be sent via the Internet using the following address: ''*9-ane-adcomment@faa.gov*''.

The service information referenced in this AD may be obtained from Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL2 9QN, UK; telephone 44 (0) 1452 716000; fax 44 (0) 1452 716001. This information may be examined, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Frank Walsh, Aerospace Engineer, Boston Aircraft Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803–5299; telephone (781) 238–7158; fax (781) 238–7199.

SUPPLEMENTARY INFORMATION: The Civil Aviation Authority (CAA), which is the airworthiness authority for the United Kingdom (UK), recently notified the FAA that an unsafe condition may exist on Dowty Aerospace Propellers Type R334/4–82–F/13 with propeller hub assemblies, P/N 660709201. On September 23, 2001, a complete R334/4–82–F/13 propeller separated from the engine flange on a Construcciones Aeronauticas, S.A. (CASA) 212 airplane. Laboratory analysis of the retained portion of the hub indicated that fatigue cracks had emanated from multiple origins in five of the eight insert bolt hole locations of the rear half of the hub wall. These fatigue cracks propagated outward in a radial direction relative to the axis of the threaded insert. The fatigue cracks then intersected the spigot diameter and the center bore hole of the hub. The remainder of the hub fracture resulted from fatigue cracks