

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 99-NE-62-AD; Amendment 39-12473; AD 2001-21-03]

RIN 2120-AA64

Airworthiness Directives; General Electric Company GE90 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain General Electric Company (GE) GE90 series turbofan engines. That AD currently requires inspecting and purging the P3B and Ps3 lines and associated fittings and ports of moisture. This amendment will allow the installation of improved hardware as terminating action to requirements of the AD, and remove the GE90-92B engine model from the AD applicability. This amendment is prompted by the recent FAA approval of redesigned P3B and Ps3 sense lines, and the removal of the GE90-92B engine from the applicability. The actions specified in this AD are intended to prevent corruption of Ps3 signals, which could result in simultaneous loss of thrust control of both engines.

DATES: Effective date November 26, 2001. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of November 26, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from General Electric Company via Lockheed Martin Technology Services, 10525 Chester Road, Suite C, Cincinnati, OH 45215; telephone: (513) 672-8400, fax: (513) 672-8422. This information may be examined at the Federal Aviation Administration (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: John E. Golinski, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone: (781) 238-7135; fax: (781) 238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 99-27-15, Amendment 39-11496 (65 FR 692, January 6, 2000), which is applicable to General Electric Company (GE) models GE90-76B, -77B, -85B, and -90B turbofan engines was published in the Federal Register on June 12, 2001 (66 FR 31569). That action proposed to allow the installation of improved hardware in accordance with the Accomplishment Instructions, Section 3 of GE Alert Service Bulletin (ASB) No. GE90 73-A0060, Revision 3, dated September 14, 2000 as terminating action to requirements of the AD. That action also proposed to remove the GE90-92B engine model from the AD applicability. Also, that action proposed an installation deadline for the improved hardware of October 31, 2001. The deadline is changed for this final rule to December 31, 2001, to support the timing for when the final rule is published in the Federal Register. In doing this, no additional risk to the fleet will incur, based on information from GE that in response to the proposal, all remaining engines are now retrofitted with redesigned hardware.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Remove Reference to P3B Signal Blockage From Unsafe Condition Description

One comment from the manufacturer requests that the unsafe condition statement in the AD be revised to remove P3B signal blockage and partial blockage as some of the causes of loss of engine thrust control. Blockage and partial blockage of the P3B signal could result in a change to the engine acceleration schedule, and possibly a reduction in compressor stall margin, but a loss of thrust control would not occur. The FAA agrees. Reference to P3B signal blockage and partial blockage is removed from the unsafe condition statement in this AD.

Delete Certain Hardware From the Old Configuration Table

Another comment from the manufacturer requests that three hardware items in the paragraph (k) Old Configuration Table be deleted to avoid confusion, because these items may be used in other locations on the engine. The FAA agrees. The hardware items which are a single tube clamp, double tube clamp, and bracket assembly, are deleted from the Old Configuration Table in this AD.

Delete Last Phrase of Unsafe Condition Description

One commenter requests the deletion of the last phrase of the unsafe condition description, "which if it occurs in a critical phase of flight, could result in loss of airplane control." The commenter did not provide a reason or justification for the request. The FAA partially agrees. As stated in the original AD, the FAA is especially concerned about the possibility of simultaneous loss of thrust control on both engines due to ice blockage of each engine's Ps3 pressure sensing system under certain atmospheric conditions. Corruption of Ps3 signals could result in simultaneous loss of thrust control of both engines. The unsafe condition description is rewritten for clarification as follows: "The actions specified in this AD are intended to prevent corruption of Ps3 signals, which could result in simultaneous loss of thrust control of both engines."

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Economic Analysis

There are about 208 engines of the affected design in the worldwide fleet. The FAA estimates that 28 engines installed on aircraft of U.S. registry would be affected by this AD, that it would take about one work hour per engine to do the inspection and purging, and that the average labor rate is \$60 per work hour. Based on these figures, the total AD cost effect on U.S. operators for one inspection is estimated to be \$1,680. The FAA also estimates that it would take about four work hours per engine to do the proposed P3B/Ps3 sense line replacement, and that the average labor rate is \$60 per work hour. The manufacturer has stated that it may provide the redesigned hardware at no cost to operators. Based on this information, the total AD cost effect on U.S. operators for sense line replacement is estimated to be \$6,720.

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 effect, 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.

Sec. 39.13 [Amended]

2. Section 39.13 is amended by removing Amendment 39-11496 (65 FR 692, January 6, 2000) and by adding a new airworthiness directive, Amendment 39-12473, to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-21-03 General Electric Company: Amendment 39-12473. Docket No. 99-NE-62-AD.
Supersedes AD 99-27-15, Amendment 39-11496.

Applicability: General Electric Company (GE) Models GE90-76B, -77B, -85B, and -90B turbofan engines. These engines are installed on, but not limited to Boeing 777 series airplanes.

Note 1: This airworthiness directive (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 (m) 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 the requirements of this AD is required as indicated, unless already done.

To prevent corruption of Ps3 signals, which could result in simultaneous loss of thrust control of both engines, do the following:

Determination of Further Action

(a) If the engine has been configured as specified in one of the following service bulletins (SB's), or has one of the following serial numbers (SN's), no further action is required.

- (1) SB GE90 S/B 75-0031, Revision 1, dated August 29, 2000.
- (2) SB GE90 S/B 75-0031, Revision 2, dated September 14, 2000.
- (3) SB GE90 S/B 75-0031, Revision 3, dated March 30, 2001.
- (4) Engine SN is 900-326, 900-328, 900-332, 900-333, 900-334, or higher.

Initial Inspection, Cleaning, Moisture Purging, and Blending

(b) For engines that are not configured or listed by SN as specified in paragraph (a) of this AD, do the following:

(1) Inspect, clean, moisture purge, and if necessary, blend any high metal, nicks, or burrs on fitting threads, on one engine installed on Boeing 777 series aircraft, within 10 cycles-in-service (CIS) after the effective date of this AD in accordance with the Accomplishment Instructions, Section 3 of GE Alert Service Bulletin (ASB) No. GE90 73-A0060, Revision 3, dated September 14, 2000.

(2) Inspect, clean, moisture purge, and if necessary, blend any high metal, nicks, or burrs on fitting threads, on the other engine installed on the Boeing 777 series aircraft, within 20 CIS after the effective date of this AD in accordance with the Accomplishment Instructions, Section 3 of GE ASB No. GE90 73-A0060, Revision 3, dated September 14, 2000.

Credit for Previous Inspections, Cleaning, and Moisture Purging

(c) For engines that have complied with the initial and repetitive inspections of AD 99-27-15, GE ASB No. GE90 73-A0060, Revision 1, dated March 1, 2000; GE ASB No. GE90 73-A0060, Revision 2, dated May 12, 2000; GE ASB No. GE90 73-A0060, Revision 3, dated September 14, 2000; or with an FAA approved alternative method of compliance, perform repetitive inspections as specified in paragraph (d) of this AD.

Repetitive Inspections

(d) Thereafter, inspect, clean, and moisture purge, and if necessary, blend any high metal, nicks, or burrs on fitting threads of each engine in accordance with the Accomplishment Instructions, Section 3, of GE ASB No. GE90 73-A0060, Revision 3, dated September 14, 2000, within:

- (1) 30 CIS since-last-inspection, OR,
- (2) If applicable, 125 CIS since-last-inspection for one-engine-only per airplane.

Replacement Engines

(e) For replacement engines, perform the initial inspection, cleaning, and moisture purging, and if necessary, blend any high metal, nicks, or burrs on fitting threads as specified in paragraph (b) of this AD, except perform initial inspection before accumulating 30 CIS or 125 CIS, depending on the existing inspection interval for the engine that was replaced.

Idle Leak Check or Dual Signoff Procedure Check

(f) After accomplishing the inspection and maintenance actions specified in paragraphs (b) through (e) of this AD, and before entry into service, do EITHER of the following:

(1) Perform an idle leak check to confirm no P3B or Ps3 sense system faults in accordance with Accomplishment Instructions, Section 3, paragraph (15), of GE ASB No. GE90 73-A0060, Revision 3, dated September 14, 2000. OR,

(2) Perform a dual signoff procedure check to confirm there are no loose fittings that could cause P3B and Ps3 sense system faults, in accordance with Accomplishment Instructions, Section 3, paragraph (15), of GE ASB No. GE90 73-A0060, Revision 3, dated September 14, 2000. Idle leak checks that were performed using GE ASB No. GE90 73-A0060, dated December 23, 1999, and idle leak checks or dual signoff procedure checks that were performed using GE ASB No. GE90 73-A0060, Revision 1, dated March 1, 2000, or GE ASB No. GE90 73-A0060, Revision 2, dated May 12, 2000, may be considered as alternative methods of compliance for this requirement.

Installation of Redesigned Hardware

(g) At the next engine shop visit after the effective date of this AD, but not later than December 31, 2001, install the redesigned P3B and Ps3 tubes, hoses, clamps, and bracket assembly in accordance with Accomplishment Instructions, Section 3.A. through 3.H. of GE ASB No. GE90 S/B 75-0031, Revision 3, dated March 30, 2001.

Definition

(h) For the purposes of this AD, an engine shop visit is defined as any time an engine has maintenance performed that involves separation of a major flange, such as removal of the low pressure turbine module, or high pressure compressor top case half.

Credit for Installation of Redesigned Hardware

(i) Hardware installation that was performed using GE ASB No. GE90 S/B 75-0031, Revision 2, dated September 14, 2000; or GE ASB No. GE90 S/B 75-0031, Revision 1, dated August 29, 2000, may be considered as alternative methods of compliance for this requirement.

No Simultaneous Actions

(j) Do not perform the actions required by this AD concurrently on both engines installed on Boeing 777 series aircraft.

Old Configuration Hardware

(k) After the effective date of this AD, do not install any of the old configuration hardware listed in the following table.

Old Configuration Hardware Not To Be Installed	
Part	Part No.
Ps3 Tube.....	350-151-505-0
	350-184-806-0
	350-114-005-0
Ps3 Hose.....	649-794-573-0
P3B Tube.....	350-151-604-0
	350-184-904-0
	350-114-105-0
P3B Hose.....	649-794-572-0

Terminating Action

(l) Installation of redesigned hardware as specified in paragraph (g) of this AD constitutes terminating action for requirements of paragraph (d) and paragraph (e) of this AD.

Alternative Methods of Compliance

(m) 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

(n) Special flight permits may be issued in accordance with sections 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 accomplished.

Documents That Have Been Incorporated By Reference

(o) The inspections and installation of redesigned hardware must be done in accordance with the following General Electric alert service bulletins (ASB's):

Document No.	Pages	Revision	Date
ASB No. GE90 73-A0060.....	1-8 Total pages: 8	3	September 14, 2000.
ASB No. GE90 S/B 75-0031.....	1-36 Total pages: 36	3	March 30, 2001.

This incorporation by reference was 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 Company via Lockheed Martin Technology Services, 10525 Chester Road, Suite C, Cincinnati, OH 45215; telephone: (513) 672-8400, fax: (513) 672-8422. Copies may be inspected 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 of This AD

(p) This amendment becomes effective on November 26, 2001.

Issued in Burlington, Massachusetts, on October 10, 2001.

Donald E. Plouffe,

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

[FR Doc. 01-26324 Filed 10-19-01; 8:45 am]

BILLING CODE 4910-13-U