

Docket Number 97-ANE-21-AD." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from 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 adding the following new airworthiness directive:

##### 97-25-08 General Electric Company:

Amendment 39-10232. Docket 97-ANE-21-AD.

**Applicability:** General Electric Company (GE) CJ610 series turbojet and CF700 series turbofan engines, with turbine torque rings and compressor drive shafts identified in GE CF700 Service Bulletin (SB) No. A72-155, dated May 22, 1997, and GE CJ610 SB No. A72-147, dated May 22, 1997. These engines are installed on but not limited to the

following aircraft: Learjet 20 series, Israel Aircraft Industries Westwind series, Hansa Jet, Aero Commander Jet Commander, Dassault Falcon 20 series, Sabreliner 265 series.

**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 (d) 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:** Required as indicated, unless accomplished previously.

To prevent turbine torque ring or compressor drive shaft failure due to a manufacturing defect, which could result in an uncontained engine failure, accomplish the following:

(a) For GE CF700 series turbofan engines, accomplish the following in accordance with GE CF700 SB No. A72-155, dated May 22, 1997:

(1) Remove from service affected turbine torque rings, listed by serial number (S/N) in paragraph 1. A.(3a) of GE CF700 SB No. A72-155, dated May 22, 1997, and replace with serviceable parts, within 50 hours time in service (TIS), or 60 days after the effective date of this AD, whichever occurs first.

(2) Remove from service affected turbine torque rings and compressor drive shafts, listed by S/N in GE paragraph 1.A.(3b) of GE CF700 SB No. A72-155, dated May 22, 1997, and replace with serviceable parts, within 300 hours TIS, or 12 months after the effective date of this AD, whichever occurs first.

(b) For GE CJ610 series turbojet engines, accomplish the following in accordance with GE CJ610 SB No. A72-147, dated May 22, 1997:

(1) Remove from service affected turbine torque rings, listed by S/N in paragraph 1.A.(3a) of GE CJ610 SB No. A72-147, dated May 22, 1997, and replace with serviceable parts, within 50 hours TIS, or 60 days after the effective date of this AD, whichever occurs first.

(2) Remove from service affected turbine torque rings and compressor drive shafts, listed by S/N in paragraph 1.A.(3b) of GE CJ610 SB No. A72-147, dated May 22, 1997, and replace with serviceable parts, within 300 hours TIS, or 12 months after the effective date of this AD, whichever occurs first.

(c) After the effective date of this AD, installation of uninstalled affected parts identified by S/N in the SBs referenced in paragraphs (a) and (b) of this AD is prohibited.

(d) 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. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Engine Certification Office.

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

(e) 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.

(f) The actions required by this AD shall be done in accordance with the following GE service documents:

Document No.	Pages	Date
CF700 SB No. A72-155	1-9	May 22, 1997.
Total Pages: 9.		
CJ610 SB No. A72-147	1-9	May 22, 1997.
Total Pages: 9.		

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 GE Aircraft Engines, 1000 Western Ave., Lynn, MA 01910; telephone (781) 594-3140, fax (781) 594-4805. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief 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.

(g) This amendment becomes effective on January 2, 1998.

Issued in Burlington, Massachusetts, on November 26, 1997.

**Jay J. Pardee,**

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 97-31862 Filed 12-5-97; 8:45 am]

BILLING CODE 4910-13-U

#### DEPARTMENT OF TRANSPORTATION

#### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 97-ANE-04; Amendment 39-10234; AD 97-25-10]

RIN 2120-AA64

#### Airworthiness Directives; Pratt & Whitney JT9D Series Turbofan Engines

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment supersedes an existing airworthiness directive (AD), applicable to certain Pratt & Whitney JT9D series turbofan engines, that currently requires initial and repetitive eddy current inspection (ECI) or fluorescent penetrant inspection (FPI) for cracks in first stage high pressure turbine (HPT) disk cooling air holes. This amendment requires initial and repetitive FPI for cracks in cooling air holes of additional first stage HPT disks, and replacement with serviceable parts. In addition, this amendment requires initial and repetitive FPI for cracks in tie bolt holes of certain other affected second stage HPT disks installed in PW JT9D series turbofan engines. This amendment is prompted by reports of a cracked cooling air hole on one first stage HPT disk, and a cracked tie bolt hole on one second stage HPT disk. The actions specified by this AD are intended to prevent turbine disk failure due to cooling air hole or tie bolt hole cracking, which could result in an uncontained engine failure and damage to the aircraft.

**DATES:** Effective January 12, 1998.

**ADDRESSES:** The service information referenced in this AD may be obtained from Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-6600, fax (860) 565-4503. This information may be examined at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA. This information may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA 01803-5299; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Tara Goodman, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7130, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding airworthiness directive (AD) 91-04-10, Amendment 39-6859 (56 FR 5343, February 11, 1991), applicable to Pratt & Whitney (PW) JT9D series turbofan engines, was published in the **Federal Register** on March 19, 1997 (62 FR 12979). That action proposed to require initial and repetitive fluorescent penetrant inspections (FPI) for cracks in cooling air holes of affected first stage high pressure turbine (HPT) disks, and, if

necessary, replacement with serviceable parts. In addition, the action proposed to require initial and repetitive FPI for cracks in tie bolt holes of all affected second stage HPT disks. Finally, that action proposed to require reporting findings of cracked turbine disks.

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

One commenter states that since the root cause of the crack which was found on the cooling hole of the improved disk, part number (P/N) 840301, was caused by improper tooling application (use of reamer instead of a carbide insert) at the specified supplier, only the suspect supplier and lots should be affected by the AD. The commenter maintains that if the FAA suspects PW's qualified carbide insert machining process, every maintenance process requiring the manufacturer's qualification should always require FAA qualification in future. The Federal Aviation Administration (FAA) does not concur. The improved disk, P/N 840301, is manufactured with the new reamer tooling method; however, a disk of this P/N was found with cooling hole cracking. The reamer method was introduced by manufacturers to preclude abusive machining that was found using the carbide insert method. Investigation has shown that both the carbide insert method and the reamer method are subject to the same abusive machining phenomenon. The FAA approves manufacturing and maintenance processes, which are updated as necessary.

The same commenter requests that the FAA and PW develop an inspection procedure that can detect not only a crack but detect whether a severely worked layer of material exists or not, so that unnecessary repetitive inspections can be minimized by removing those disks. The FAA does not concur. It is not possible to detect 100% of the possible cracking conditions in the field using current inspection methods. Therefore, repetitive inspections are necessary for disks that are in service because cracking can propagate in fatigue from a layer of severely worked material resulting from the manufacturing process.

The same commenter requests the FAA extend the initial inspection requirement for disks that have been previously inspected, noting that the AD as proposed would allow 1,500 cycles in service (CIS) before initial inspection for disks never inspected while only 250 CIS for disks that have been inspected but that have accumulated more than

3,500 CIS since last inspection. The FAA does not concur. The current AD, effective in 1991, requires repetitive inspections of disks installed in JT9D-59A, -70A, -7Q, and -7Q3 engines at intervals not to exceed 3,500 CIS. Therefore, the example cited by the commenter should not occur, as disks installed in JT9D-59A or -7Q engines should never exceed 3,500 CIS since last inspection. Only if a disk installed in a JT9D-7R4 engine had exceeded 3,500 CIS since last inspection would the requirement to inspect no later than 250 CIS after the effective date of this AD apply. This inspection requirement was considered in the risk analysis and the FAA has determined that it is necessary. The commenter does not indicate how many JT9D-7R4 engines might be affected by the 250 CIS initial inspection requirement. Individual operators can apply for an adjustment to that compliance time under paragraph (d) of the AD.

One commenter states that the mandated use of FPI does not provide all possible assurance that defective HPT disks will be removed from service. The commenter believes that eddy current inspection, or a combination of the two methods, would clearly provide a greater probability of crack detection. The FAA does not concur. The first stage turbine cooling air holes and second stage tie bolt holes have low aspect ratios. The FAA has determined that FPI of low aspect ratio holes is adequate for detecting cracks in these locations.

One commenter states that there appears to be anomalies in the requirements for disks that have been in service for over 6,000 cycles since new (CSN), as stated in paragraph (b)(1)(i) of the compliance section. The commenter maintains that as the paragraph reads in the proposed rule, this inspection will always occur later than accumulating 8,000 CSN if CSN is greater than 6,000 on the effective date of the AD. The FAA concurs and has changed this paragraph to require inspection within 2,000 CIS if a disk has over 6,000 CSN on the effective date of the AD.

The same commenter suggests that at next engine shop visit would be sufficient as an interval for cooling hole and tie bolt hole inspections. The FAA does not concur. Since the timing of engine shop visits varies widely between operators, the use of shop visits to define inspection intervals in ADs does not provide adequate objectivity on which to assess the effectiveness of the required actions in addressing the unsafe condition. The FAA has determined that a maximum of 2,000 CIS interval is required.

Subsequent to the publication of the proposed rule, two JT9D-7R4D/E operators indicated that the 6,000 CIS re-inspection interval for second stage turbine hub tie bolt hole mismachining would require them to remove engines prematurely due to their high cycle utilization rate. The FAA has determined through a review of risk analysis that the additional risk involved in extending the re-inspection interval from 6,000 CIS to 8,000 CIS is sufficiently low and has changed the re-inspection interval accordingly.

In addition, the manufacturer has recommended that Special Process Operation Procedure (SPOP) 70 be used in lieu of SPOP 84 in order to permit the inspection of the second stage turbine hub tie bolt holes when the second stage turbine rotor is removed from the HPT module assembly without necessitating the removal of the second stage turbine blades. The FAA concurs and has changed the reference to the inspection procedure accordingly.

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.

The regulations adopted herein will not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

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 DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from 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 39-6859 (56 FR 5343, February 11, 1991) and by adding a new airworthiness directive, Amendment 39-10234, to read as follows:

**97-25-10 Pratt & Whitney:** Amendment 39-10234. Docket 97-ANE-04 Supersedes airworthiness directive (AD) 91-04-10, Amendment 39-6859.

**Applicability:** Pratt & Whitney (PW) JT9D-59A, -70A, -7Q, -7Q3, -7R4D, -7R4D1, -7R4E, and -7R4E1 (AI-500) series turbofan engines, installed on but not limited to Airbus Industrie A300 and A310, Boeing 747 and 767, and McDonnell Douglas DC-10 series aircraft.

**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 (d) 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:** Required as indicated, unless accomplished previously.

To prevent turbine disk failure due to cooling hole or tie bolt hole cracking, which could result in an uncontained engine failure and damage to the aircraft, accomplish the following:

(a) For first stage high pressure turbine (HPT) disks, part numbers (P/Ns) 768001, 792701, 812901, 819801, 840501, 840401, 840701, 840601, and 840301, installed in PW JT9D-59A, -70A, -7Q, and -7Q3 engines, accomplish the following:

(1) Disks that have not been fluorescent penetrant inspected or eddy current inspected since introduction into service, perform an initial fluorescent penetrant

inspection (FPI) for cracks in all 40 cooling air holes in accordance with PW Turbojet Engine Standard Practices Manual, P/N 585005, Chapter/Section 70-33, Special Process Operation Procedure (SPOP) 84, as follows:

(i) Disks with 3,500 cycles since new (CSN) or more on the effective date of this AD, inspect prior to accumulating 5,000 CSN, or within 1,500 cycles in service (CIS) after the effective date of this AD, whichever occurs later.

(ii) Disks with less than 3,500 CSN on the effective date of this AD, inspect prior to accumulating 5,000 CSN.

(2) Disks that have been reoperated in accordance with PW Service Bulletin (SB) No. 5815, Revision 2, dated July 31, 1992, or prior revisions, that have not been fluorescent penetrant inspected or eddy current inspected since reoperation, perform an initial FPI for cracks in all 40 cooling air holes in accordance with PW Turbojet Engine Standard Practices Manual, P/N 585005, Chapter/Section 70-33, SPOP 84, as follows:

(i) Disks with 3,500 CIS or more since reoperation on the effective date of this AD, inspect prior to accumulating 5,000 CIS since reoperation, or within 1,500 CIS after the effective date of this AD, whichever occurs later.

(ii) Disks with less than 3,500 CIS since reoperation on the effective date of this AD, inspect prior to accumulating 5,000 CIS since reoperation.

(3) Disks that have been fluorescent penetrant inspected, or eddy current inspected, since introduction into service or since reoperation, in accordance with PW SB No. 5744, Revision 3, dated March 31, 1993, or prior revisions, or PW JT9D-7Q, -7Q3 Engine Manual, P/N 777210, 72-51-00, Inspection -03, or PW JT9D-59A, -70A Engine Manual, P/N 754459, 72-51-00, Heavy Maintenance Check -03, perform an FPI for cracks in all 40 cooling air holes, prior to accumulating 3,500 CIS since last FPI or ECI, or within 250 CIS after the effective date of this AD, whichever occurs later, in accordance with PW Turbojet Engine Standard Practices Manual, P/N 585005, Chapter/Section 70-33, SPOP 84.

(4) Thereafter, perform FPI for cracks in all 40 cooling air holes at intervals not to exceed 3,500 CIS since last FPI, in accordance with PW Turbojet Engine Standard Practices Manual, P/N 585005, Chapter/Section 70-33, SPOP 84.

(5) Prior to further flight, remove from service cracked disks, and replace with serviceable parts.

(b) For second stage HPT disks, P/N 5001802-01, installed in PW JT9D-7R4D, -7R4D1, -7R4E, and -7R4E1 (AI-500) engines, accomplish the following:

(1) Disks that **have not** been fluorescent penetrant inspected since introduction into service, perform an initial FPI for cracks in all 30 tie bolt holes in accordance with PW Turbojet Engine Standard Practices Manual, P/N 585005, Chapter/Section 70-33, SPOP 70, as follows:

(i) Disks with 6,000 CSN or more on the effective date of this AD, inspect within 2,000 CIS after the effective date of this AD.

(ii) Disks with less than 6,000 CSN on the effective date of this AD, inspect prior to accumulating 8,000 CSN.

(2) Disks that have been fluorescent penetrant inspected since introduction into service, perform an FPI for cracks in all 30 tie bolt holes, prior to accumulating 8,000 CIS since last FPI, or within 250 CIS after the effective date of this AD, whichever occurs later, in accordance with PW Turbojet Engine Standard Practices Manual, P/N 585005, Chapter/Section 70-33, SPOP 70.

(3) Thereafter, perform FPI for cracks in all 30 tie bolt holes at intervals not to exceed 8,000 CIS since last FPI, in accordance with PW Turbojet Engine Standard Practices Manual, P/N 585005, Chapter/Section 70-33, SPOP 70.

(4) Prior to further flight, remove from service cracked disks, and replace with serviceable parts.

(c) Report findings of cracked turbine disks within 48 hours after inspection to Tara Goodman, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7130, fax (781) 238-7199, Internet: "Tara.Goodman@faa.dot.gov". Reporting requirements have been approved by the Office of Management and Budget and assigned OMB control number 2120-0056.

(d) 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. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Engine Certification Office.

**Note 2:** Information concerning the existence of approved alternative method of compliance with this AD, if any, may be obtained from the Engine Certification Office.

(e) 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.

(f) This amendment becomes effective on January 12, 1998.

Issued in Burlington, Massachusetts, on November 28, 1997.

**Jay J. Pardee,**

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

[FR Doc. 97-31965 Filed 12-5-97; 8:45 am]

BILLING CODE 4910-13-U

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 97-ANE-31-AD; Amendment 39-10233; AD 97-25-09]

RIN 2120-AA64

#### Airworthiness Directives; Allison Engine Company Model 250-C40B Turboshaft Engines

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD) that is applicable to Allison Engine Company Model 250-C40B turboshaft engines. This action requires installation of a placard requiring pilots to record torque level and time in service operating above 86% engine torque until the defective parts have been replaced, no later than December 31, 2000, or when certain maintenance actions are accomplished, or when certain operational restrictions are exceeded, whichever occurs earliest. This amendment is prompted by a report from Allison Engine Company of a manufacturing defect in certain helical power takeoff gearshaft assemblies, identified by serial numbers. The actions specified in this AD are intended to prevent fatigue failure of the helical power takeoff gearshaft assembly, which could result in a loss of engine power and inflight engine shutdown.

**DATES:** Effective December 23, 1997.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of December 23, 1997.

Comments for inclusion in the Rules Docket must be received on or before February 6, 1998.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 97-ANE-31-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may also be sent via the Internet using the following address: "9-ad-engineprop@faa.dot.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 Allison Engine Company, P.O. Box 420, Speed Code U-15, Indianapolis, IN 46206-

0420; telephone: (317) 230-6674. This information may be examined 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:** John Tallarovic, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, ACE-118C, 2300 East Devon Avenue, Des Plaines, IL 60018; telephone (847) 294-8180, fax (847) 294-7834.

**SUPPLEMENTARY INFORMATION:** The Federal Aviation Administration (FAA) received a report from Allison Engine Company of a manufacturing defect discovered in certain helical power takeoff gearshaft assemblies, part number (P/N) 23056617, installed on Model 250-C40B turboshaft engines. The manufacturing defect was discovered while measuring the depth of the case hardening of the gear. The manufacturing defect was caused by excessive removal of case hardened material from the gear during manufacturing. This condition, if not corrected, could result in fatigue failure of the helical power takeoff gearshaft assembly, which could result in a loss of engine power and inflight engine shutdown.

The FAA has reviewed and approved the technical contents of Allison Alert Commercial Engine Bulletin (CEB) No. A-72-5009, dated May 21, 1997, that lists by serial number (S/N) 49 affected engines, gearboxes, and gears. This CEB also describes procedures for replacement of affected helical power takeoff gearshaft assemblies with serviceable parts.

Since an unsafe condition has been identified that is likely to exist or develop on other engines of the same type design, this AD is being issued to prevent a loss of engine power and inflight engine shutdown. This AD requires installation of a placard requiring pilots to record torque and time in service operating above 86% engine torque until replacement of defective helical power takeoff gearshaft assemblies with serviceable parts, and then the placard can be removed. The compliance times were determined based upon an analysis of the effect of gearbox assembly torque loading on component life. The actions are required to be accomplished in accordance with the CEB described previously.

The operational limitations imposed by this AD have been coordinated with the Rotorcraft Directorate.