

Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 98-ANE-31-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney JT9D Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain Pratt & Whitney (PW) JT9D series turbofan engines. This proposal would require initial and repetitive in-shop eddy current and on-wing ultrasonic inspections of the Combustion Chamber Outer Casing (CCOC) forward flange (L flange) fillet radius for cracking, and replacing cracked L flanges with serviceable parts. Replacement with an improved L flange constitutes terminating action to the repetitive inspections. This proposal is prompted by reports of CCOC rupture due to cracking in the L flange fillet radius. The actions specified by the proposed AD are intended to prevent CCOC rupture due to cracking, which could result in an uncontained engine failure and damage to the aircraft.

DATES: Comments must be received by February 19, 1999.

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-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.gov". Comments sent via the Internet must contain the docket number in the subject line. Comments may be inspected at this location between 8:00 a.m. and 4:30 p.m.,

Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule 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 Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT:

Peter White, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7128, fax (781) 238-7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed 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 above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed 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 summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 98-ANE-31-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, New England Region, Office of the

Regional Counsel, Attention: Rules Docket No. 98-ANE-31-AD, 12 New England Executive Park, Burlington, MA 01803-5299.

Discussion

The Federal Aviation Administration (FAA) has received seven reports of combustion chamber outer casing (CCOC) cracking in revenue service on certain Pratt & Whitney (PW) JT9D series turbofan engines. The investigation revealed that the first failure was associated with an under-minimum radius at the forward flange ("L" flange) fillet. A fleet-wide inspection campaign found no other discrepant CCOCs. Six subsequent forward flange cracks were found to have initiated and propagated in low cycle fatigue (LCF); 3 of these cracks transitioned to rapid tensile failure during takeoff, resulting in aborted takeoffs, stalls, inflight engine shutdowns or metal in the tailpipe. The FAA determined that these failures were not special cases, but were associated with the design of this part operated in this application. All reports of large cracking have been found to have initiated at the 4:00 position. This condition, if not corrected, could result in CCOC rupture due to cracking, which could result in an uncontained engine failure and damage to the aircraft.

The FAA has reviewed and approved the technical contents of PW Alert Service Bulletin (ASB) No. A6343 Revision 1, dated October 8, 1998, that describes procedures for initial and repetitive on-wing ultrasonic inspections of CCOC L flange fillet radius for cracking; JT9D Engine Manual (Part Number P/N 646028, P/N 770407, P/N 770408, as appropriate) Revision No. 104 (or Temporary Revision No. 72-6517, Temporary Revision No. 72-6334, or Temporary Revision No. 72-6206, which were superseded by manual Revision No. 104), that describes procedures for in-shop eddy current inspections of the L flange; and PW SB No. 4482, Revision 1, dated July 8, 1976, that describes procedures for installation of replacement L flanges.

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require initial and repetitive in-shop and on-wing inspections of the CCOC L flange fillet radius for cracking, and

replacement of cracked L flanges with serviceable parts. Installation of an improved L flange constitutes terminating action to the repetitive inspections. The actions would be required to be accomplished in accordance with the service documents described previously.

There are approximately 950 engines of the affected design in the worldwide fleet. The FAA estimates that 500 engines installed on aircraft of U.S. registry would be affected by this proposed AD, that it would take approximately 2 work hours to perform the inspection and 45.4 work hours per engine to replace the forward flange if cracked, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$6,376 per engine. Based on current usage rates, each engine should undergo approximately 1 inspection per year. To date, approximately 4% of cases have been found with cracking. Based on these figures, the total annual cost impact of the proposed on U.S. operators is estimated to be \$242,000.

The regulations proposed herein would 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 proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (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 copy of the draft regulatory evaluation prepared for this action 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, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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:

Pratt & Whitney: Docket No. 98-ANE-31-AD.

Applicability: Pratt & Whitney (PW) JT9D-3A, -7, -7H, 7A, -7AH, -7F, -7J, -20, and -20J series turbofan engines, with Combustion Chamber Outer Casing (CCOC), part numbers (P/Ns) 644801, 693294, 709016, 729237, 729238, and 729239, installed. These engines are installed on but not limited to certain models of Boeing 747, Airbus A300, and McDonnell Douglas DC-10 series aircraft.

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 (g) 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 CCOC rupture due to cracking, which could result in an uncontained engine failure and damage to the aircraft, accomplish the following:

(a) Perform initial on-wing ultrasonic inspections of the CCOC forward flange (L flange) fillet radius for cracking in accordance with PW Alert Service Bulletin (ASB) No. A6343 Revision 1, dated October 8, 1998, as follows:

(1) For engines that have not had the L Flange fillet radius eddy current inspected using the JT9D Engine Manual (P/N 646028, P/N 770407, P/N 770408, as appropriate) Revision No. 104; or Temporary Revision No. 72-6517, Temporary Revision No. 72-6334, or Temporary Revision No. 72-6206, all of which were superseded by manual Revision No. 104; at the last shop visit, inspect within 250 cycles in service (CIS) after the effective date of this AD, or the next shop visit, whichever occurs first.

(2) For engines that did have the L Flange fillet radius eddy current inspected using the JT9D Engine Manual (P/N 646028, P/N 770407, P/N 770408, as appropriate) Revision No. 104; or Temporary Revision No. 72-6517, Temporary Revision No. 72-6334, or

Temporary Revision No. 726206, all of which were superseded by manual Revision No. 104; at the last shop visit, inspect within 2,000 CIS, or the next shop visit after the effective date of this AD, whichever occurs first.

(b) Thereafter, ultrasonically inspect on-wing at intervals not to exceed 500 CIS since last on-wing inspection in accordance with PW Alert Service Bulletin (ASB) No. A6343 Revision 1, dated October 8, 1998, or 2000 cycles in service (CIS) since last in-shop ECI inspection, whichever occurs later.

(c) If a crack is found during on-wing inspection, remove the part from service, and replace with a serviceable part as follows:

(1) For cracks found to be over the inspection threshold limit, but less than 2 inches, remove within 5 CIS.

(2) For cracks found to be over the inspection threshold limit and equal to or greater than 2 inches, remove prior to further flight.

(d) If a crack in the L flange fillet radius of the CCOC is found during in-shop inspection, remove the CCOC and replace with a serviceable part, or replace the flange in accordance with PW SB No. 4482, Revision 1, dated July 8, 1976. Installation of an improved L flange in accordance with this SB constitutes terminating action to the repetitive inspection requirements of this AD.

(e) Inspect the CCOC L flange fillet radius during every CCOC shop visit in accordance JT9D Engine Manual (P/N 646028, P/N 770407, P/N 770408, as appropriate) Revision No. 104 (or Temporary Revision No. 72-6517, Temporary Revision No. 72-6334, or Temporary Revision No. 72-6206, which were superseded by manual Revision No. 104); that details eddy current inspection procedures for the L flange fillet radius.

(f) For the purpose of this AD, a shop visit is defined as anytime the L flange is separated in the process of performing engine repair.

(g) 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 request 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.

(h) 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.

Issued in Burlington, Massachusetts, on December 15, 1998.

David A. Downey,

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

[FR Doc. 98-33747 Filed 12-18-98; 8:45 am]

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