

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. 96-ANE-32]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney JT8D 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 Pratt & Whitney JT8D-1, -1A, -1B, -7, -7A, -7B, -9, -9A, -11, -15, -17, and -17R series turbofan engines. This proposal would require initial and repetitive fluorescent penetrant and eddy current inspections of 4th stage low pressure turbine (LPT) hubs for cracks, and, if necessary, replacement with serviceable parts. This proposal is prompted by a report of an uncontained 4th stage LPT blade release. The actions specified by the proposed AD are intended to prevent a 4th stage LPT blade release due to hub cracking, which can result in an uncontained engine failure and damage to the aircraft.

DATES: Comments must be received by March 10, 1997.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 96-ANE-32, 12 New England Executive Park, Burlington, MA 01803-5299. 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, Publication Department, Supervisor Technical Publications Distribution, M/S 132-30, 400 Main St., East Hartford, CT 06108;

telephone (860) 565-7700, 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.

FOR FURTHER INFORMATION CONTACT:

Diane Cook, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (617) 238-7134, fax (617) 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 96-ANE-32." 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 Assistant Chief Counsel, Attention: Rules Docket No. 96-ANE-32, 12 New England Executive Park, Burlington, MA 01803-5299.

Discussion

The Federal Aviation Administration (FAA) has received a report of an uncontained engine failure on a Pratt & Whitney (PW) JT8D-15 turbofan engine. On January 30, 1996, this engine, installed on a Boeing Model 727-200 aircraft, experienced an uncontained 4th stage low pressure turbine (LPT) blade release during takeoff roll. The aircraft sustained damage to the vertical stabilizer and the engine cowling. Inspection of the engine revealed that the LPT blade release resulted from a radial fracture of the 4th stage LPT hub. The investigation determined that the failure was due to a crack which initiated in and propagated in low cycle fatigue from an inclusion located in the hub bore. This condition, if not corrected, could result in a 4th stage LPT blade release due to hub cracking, which can result in an uncontained engine failure and damage to the aircraft.

Further investigation revealed that a certain population of PW JT8D 4th stage LPT hubs may contain inclusions of aluminum/titanium carbonitrides rich in cerium and lanthanum in the hub bore that may initiate a crack in the bore, and if undetected, may propagate, resulting in a hub fracture and LPT blade release. The cause of the inclusion occurred during the material melting process where a small amount of slag created during the desulfurization/deoxidization process of the vacuum induction melt survived a subsequent melt and was not detected by the required nondestructive test inspections for this material/part. The FAA has determined that material produced prior to April 31, 1983, has more susceptibility to inclusions, whereas subsequent to that date process improvements have been implemented to produce material that is less susceptible to inclusions. Due to these process improvements, the FAA has identified certain 4th stage LPT hubs produced prior to April 1983 that have a greater potential for contamination. Prior to the uncontained engine failure on January 30, 1996, the FAA received reports of two previous incidents of cracks in the 4th stage LPT hub due to inclusions that were discovered during routine shop visits.

The FAA has reviewed and approved the technical contents of PW Alert Service Bulletin (ASB) No. A6274,

Revision 1, dated December 9, 1996, that identifies by serial number (S/N) affected 4th stage LPT hubs, and describes procedures for fluorescent penetrant inspection (FPI) and eddy current inspection (ECI) of 4th stage LPT hubs for cracks.

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 FPI and ECI of affected 4th stage LPT hubs for cracks, and, if necessary, replacement with serviceable parts. The actions would be required to be accomplished in accordance with the ASB described previously.

The FAA estimates that 381 engines installed on aircraft of U.S. registry would be affected by this proposed AD, that it would take approximately 6 work hours per engine to accomplish the proposed actions, and that the average labor rate is \$60 per work hour. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be \$137,160.

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 USC 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

Pratt & Whitney: Docket No. 96-ANE-32.

Applicability: Pratt & Whitney (PW) Models JT8D-1, -1A, -1B, -7, -7A, -7B, 9, -9A, -11, -15, -17, and -17R turbofan engines, with 4th stage low pressure turbine (LPT) hubs identified by serial number (S/N) in Table A of PW Alert Service Bulletin (ASB) No. A6274, Revision 1, dated December 97, 1996. These engines are installed on but not limited to Boeing 727 and 737 series, and McDonnell Douglas DC-9 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 (b) 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 4th stage LPT blade failure due to hub cracking, which can result in an uncontained engine failure and damage to the aircraft, accomplish the following:

(a) Perform fluorescent penetrant inspection (FPI) and eddy current inspection (ECI) of affected 4th stage LPT hubs for cracks, in accordance with Paragraph 2A of PW ASB No. A6274, Revision 1, dated December 9, 1996, as follows:

(1) Inspect at the next time after the effective date of this AD that the hub is removed from the module and has been debladed.

(2) Thereafter, inspect each time the hub is removed from the module and has been debladed.

(3) Remove from service any cracked 4th stage LPT hub and replace with a serviceable part.

(b) 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. The request should be forwarded 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.

Issued in Burlington, Massachusetts, on January 2, 1997.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 97-469 Filed 1-8-97; 8:45 am]

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14 CFR Part 39

[Docket No. 96-ANE-35]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney JT8D-200 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the superseding of an existing airworthiness directive (AD), applicable to Pratt & Whitney (PW) JT8D-200 series turbofan engines, that currently requires installation and periodic inspection of temperature indicators installed on the No. 4 and 5 bearing compartment scavenge oil tube and performance of any necessary corrective action. This action would require the installation and periodic inspection of temperature indicators to all PW JT8D-200 series engines, including those incorporating the containment hardware specified in with AD 93-23-10. This proposal is prompted by report of an uncontained turbine failure due to a high pressure turbine (HPT) shaft fracture on an engine that had the containment hardware installed. The actions specified by the proposed AD are intended to prevent fracture of the HPT shaft, which can result in uncontained release of engine fragments, engine fire, inflight engine shutdown, or possible aircraft damage.

DATE: Comments must be received by March 10, 1997.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 96-ANE-35, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may be inspected at this location between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.