[Federal Register: March 13, 2003 (Volume 68, Number 49)]
[Rules and Regulations]
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[DOCID:fr13mr03-3]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NE-27-AD; Amendment 39-13083; AD 2003-05-07]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney JT8D-1, -1A, -1B, -7, -7A, -7B, -9, -9A, -11, -15, -15A, -17, -17A, -17R, and -17AR Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), that is applicable to Pratt & Whitney (PW) JT8D-1, -1A, -1B, -7, -7A, -7B, -9, -9A, -11, -15, -15A, -17, -17A, -17R, and -17AR turbofan engines. This amendment requires removal from service of certain part number (P/N) 3rd-4th and 4th-5th stage compressor rotor spacer assemblies and incorporation of a new tierod retention configuration. This amendment is prompted by two reports of uncontained failure of JT8D turbofan engines, caused by turbine rotor overspeed resulting from first and second stage fan section separation from the low pressure compressor (LPC). The actions specified by this AD are intended to prevent first and second stage fan section separation from the LPC, resulting in turbine rotor overspeed, uncontained engine failure, and damage to the airplane.

DATES: Effective April 17, 2003. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of April 17, 2003.

ADDRESSES: The service information referenced in this AD may be obtained from Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-8770; fax (860) 565-4503. This information may be examined, by appointment, 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: Christopher Spinney, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7175; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that is applicable to PW JT8D-1, -1A, -1B, -7, -7A, -7B, -9, -9A, -11, -15, -15A, -17, -17A, -17R, and -17AR turbofan engines was published in the Federal Register on November 15, 2002, (67 FR 69152). That action proposed to require removal from service of certain P/N 3rd-4th and 4th-5th stage compressor rotor spacer assemblies and incorporation of a new tierod retention configuration in accordance with PW Service Bulletin (SB) No. JT8D 6429, dated August 23, 2002.

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.

Agreement With Proposal as Written

The National Transportation Safety Board and one other commenter agree with the proposal as written.

Compliance With Referenced Service Bulletins

One commenter states that compliance with PW SBs 5408, 5719, and 5734 should be considered direct compliance to the proposed rule in place of PW SB 6429, dated August 23, 2002. The commenter believes that these three service bulletins offer an equivalent level of safety to that of PW SB 6429. Further, the commenter is concerned that the new PW SB 6429 may introduce new failure modes.

The FAA does not agree. The proposed rule is worded such that the intents of SBs 5409, 5719, and 5734 are contained in paragraph (a) of the final rule. This wording was chosen at the request of the Air Transport Association (ATA) to facilitate easier compliance by operators. However, while the modifications identified by these bulletins reduce the probability of encountering a tierod fracture and some operators may not have experienced one since incorporating the bulletins, they do not prevent the fractures completely. The FAA has received reports from PW of tierod fractures occurring after incorporating SBs 5409, 5719, and 5734. Accordingly, PW has issued SB JT8D 6429, dated August 23, 2002, which adds a tierod retention feature to prevent the escape of the fractured end of the tierod which can lead to separation of the first and second stage fan sections from the rear stages of the LPC and a subsequent uncontained engine failure. Further, the new design features in question have been used on other engines with similar tierod configurations. The new tierods meet all of the airworthiness standards required for certification. Proven design standards used for the new retention feature have demonstrated to the FAA that no new failure modes will be introduced into the field.

Lack of Enforcement of Acceptable Maintenance Practices and Financial Burden

One commenter states that the rule ignores enforcement of acceptable, pertinent maintenance practices and adds monetary burden to all operators, without regard to disciplined adherence to PW's or operator's approved maintenance program.

The FAA does not agree. The FAA has identified an unsafe condition that exists on a type certified product. The actions identified to correct that condition are manufacturer's maintenance recommendations. The FAA is required to mandate these recommendations in order to correct the unsafe condition. Operators are still afforded the opportunity to develop an alternative plan to correct the unsafe condition under the provisions of paragraph (d) of this AD. Many operators already incorporate the requirements in this AD under their approved maintenance program, therefore their monetary burden should be minimal.

Request for Alternate Compliance Time and Eliminate Time Restrictions

One commenter asks that the AD be written to allow AD compliance during LPC module heavy maintenance, when at piece-part level, without time restrictions.

The FAA does not agree. The proposal currently requires the compliance at LPC accessibility which is defined as removal of the affected parts at the piece-part level. No time restrictions are included in the AD. If there are specific aspects of an operator's maintenance plan that make this definition an unusual burden, the operator should propose an alternative incorporation plan under the provisions of paragraph (d) of the AD.

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 as proposed.

Economic Analysis

There are approximately 4,180 PW JT8D-1, -1A, -1B, -7, -7A, -7B, -9, -9A, -11, -15, -15A, -17, -17A, -17R, and -17AR turbofan engines of the affected design in the worldwide fleet. The FAA estimates that 1,800 engines installed on aircraft of U.S. registry will be affected by this AD, that it will take approximately 41 work hours per engine to perform the required actions, and that the average labor rate is $60 per work hour. Required parts will cost approximately $3,600 per engine. Based on these figures, the total cost of the AD to U.S. operators is estimated to be $10,908,000.

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) 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 adding a new airworthiness directive 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 "www.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).

2003-05-07 Pratt & Whitney: Amendment 39-13083. Docket No. 2002-NE-27-AD.

Applicability: This airworthiness directive (AD) is applicable to Pratt & Whitney (PW) JT8D-1, -1A, -1B, -7, -7A, -7B, -9, -9A, -11, -15, -15A, -17, -17A, -17R, and -17AR turbofan engines. These engines are installed on, but not limited to Boeing 727 and 737 series, and McDonnell Douglas DC-9 series 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 (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: Compliance with this AD is required as indicated, unless already done.

To prevent first and second stage fan section separation from the low pressure compressor (LPC), resulting in turbine rotor overspeed, uncontained engine failure, and damage to the airplane, do the following:

(a) At the next accessibility of the LPC, do the following:

(1) Remove from service 3rd-4th stage compressor rotor spacer assemblies part numbers (P/Ns) 479927, 522194, 583385, 656814, 656815, 660649, 660655, 716851, 716853, 716854, 762140, 762145, 762271, 762468, 789554, and 789752 and replace with a serviceable part.

(2) Remove from service 4th-5th stage compressor rotor spacer assemblies P/Ns 479929, 522196, 656816, 656817, 660650, 660656, 716855, 762138, and 762142 and replace with a serviceable part.

(3) Remove from service 4th-5th stage compressor rotor spacer assemblies P/N 628778 that do not incorporate service bulletin (SB) 5409, and replace with a serviceable part.

Note 2: Information on modifying parts listed in paragraphs (a)(1), (a)(2), and (a)(3) of this AD into servicable parts is contained in PW SBs No. 5409, SB No. 5716, and SB No. 5734.

(4) Incorporate new tierods, retaining rings, 2nd stage compressor air seal or spacer assembly, flat washers and tierod nuts in the LPC in accordance with the Accomplishment Instructions of PW SB JT8D 6429, dated August 23, 2002.

(b) After the effective date of this AD, do not install 3rd-4th or 4th-5th stage compressor rotor spacer assemblies listed in paragraphs (a)(1), (a)(2), and (a)(3) of this AD into any engine.

Definition

(c) For the purpose of this AD, accessibility means removal of the LPC from the engine and disassembly that provides piece-part exposure to the parts listed in paragraph (a) of this AD.

Alternative Methods of Compliance

(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 (ECO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

Note 3: 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

(e) 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 airplane to a location where the requirements of this AD can be done.

Documents That Have Been Incorporated By Reference

(f) The actions must be done in accordance with Pratt & Whitney Service Bulletin JT8D 6429, dated August 23, 2002. 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 Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-8770; fax (860) 565-4503. 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

(g) This amendment becomes effective on April 17, 2003.

Issued in Burlington, Massachusetts, on March 4, 2003.
Jay J. Pardee,
Manager, Engine and Propeller Directorate, Aircraft Certification Service.
[FR Doc. 03-5692 Filed 3-12-03; 8:45 am]
BILLING CODE 4910-13-P