

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [64 FR 72916 12/29/99]

[Docket No. 98-ANE-80-AD; Amendment 39-11482; AD 99-27-01]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney JT8D-209, -217, -217A, -217C, and -219 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to Pratt & Whitney (PW) JT8D-209, -217, -217A, -217C, and -219 series turbofan engines, that requires inspection of the 3rd stage and 4th stage low pressure turbine (LPT) blades for shroud notch wear and replacement of the blade if wear limits are exceeded. This amendment is prompted by a report of an uncontained blade failure. The actions specified by this AD are intended to prevent an uncontained blade failure that could result in damage to the airplane.

DATES: Effective February 2, 2000.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 2, 2000.

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 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 airworthiness directive (AD) that is applicable to Pratt & Whitney (PW) JT8D-209, -217, -217A, -217C, and -219 series turbofan engines was published in the **Federal Register** on September 23, 1999 (64 FR 51484). That action proposed to require inspection of the 3rd stage and 4th stage low pressure turbine (LPT) blades for shroud notch wear and replacement of the blade if wear limits are exceeded in accordance with PW

Service Bulletin (SB) No. 6224, Revision 2, dated August 27, 1998. That action was prompted by a report of an uncontained blade failure. That condition, if not corrected, could result in an uncontained blade failure that could result in damage to the airplane.

Comments Received

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

From Earlier to Later

One commenter wants to change the cyclic and hourly time limits from whichever occurs first to whichever occurs later. The commenter believes that the later of the cyclic or hourly limits provides an adequate level of safety. The Federal Aviation Administration (FAA) does not concur. The commenter does not provide the substantiating data required to support such a claim. The FAA recognizes that many operators manage their engine fleet safely with alternate inspection techniques and intervals. The FAA is prepared to grant alternative methods of compliance (AMOC) to those operators who submit a request with data substantiating that an acceptable level of safety is maintained using their program through the AMOC provisions of paragraph (d) of this final rule.

SB Publication Date vs. Effective Date of this AD

The same commenter expresses confusion as to how to compute the compliance intervals of this AD; specifically, if the effective date of the AD should be used vs. the publication date of the SB for a compliance baseline. The FAA concurs. For the purpose of this AD, all baseline compliance times should be calculated based upon the effective date of this AD. The FAA has added an explanatory paragraph (c) to this final rule to clarify this issue.

Economic Impact Understated

The same commenter believes that the economic impact of the AD is understated as based upon the numbers presented in the economic analysis of the proposal. Specifically, the commenter believes that the cost effect of hardware removals after failing an inspection should be considered. The FAA concurs and has revised the economic analysis to include an estimated cost of the hardware replacement. The addition of the costs of blade replacement and removals adds an additional \$4, 720, 640 per year to the economic impact of the AD.

Request for Terminating Action:

Two commenters, including the manufacturer, request that the installation of stronger LPT flange bolts be viewed as terminating action for the inspections required by this AD. The commenters point to a similar terminating action for an inspection requirement for JT8D-1 through -17AR engines, also intended to address a containment issue. The FAA does not concur. While installation of improved LPT bolts will provide some increase in containment capability, the improved bolts alone are not equivalent to the required inspections for preventing an uncontained blade failure in the JT8D-200 series engines. The containment issue for the JT8D-1 through -17AR engines was addressed through installation of improved bolts and a containment shield. At present, there is no similar containment shield available for the

JT8D-200 series engines. In addition, the installation of improved LPT bolts is already mandated by AD 99-22-14. The FAA has determined that for the JT8D-200 series engines, an uncontained LPT blade failure must be addressed through both the installation of improved LPT flange bolts and the inspections required by this AD.

Conclusion

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 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 approximately 2,631 engines of the affected design in the worldwide fleet. The FAA estimates that 1,279 engines installed on aircraft of US registry will be affected by this AD, that it will take approximately 1 work hour per engine per year to accomplish the required inspections, and that the average labor rate is \$60 per work hour. Based on these figures, the cost impact for the required inspections is estimated to be \$76,740 per year. It is estimated that 10% of the blade sets will fail the inspection per year and require replacement. The average cost for a new blade set is \$35,500. The new blades take approximately 23 work hours to install and the average labor rate is \$60 per work hour. Based on these figures, the annual replacement cost impact of the AD on US operators per year is \$4,720,640. Therefore the total annual cost impact of the AD on US operators is 4,797,380.

Regulatory Impact

The regulations adopted herein will 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order (EO) 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under EO 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 adding the following new airworthiness directive:

SUPERSEDED

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460



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

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).

99-27-01 Pratt & Whitney: Amendment 39-11482. Docket 98-ANE-80-AD. Issued December 20, 1999.

Applicability: Pratt & Whitney (PW) JT8D-209, -217, -217A, -217C, and -219 series turbofan engines, installed on, but not limited to, McDonnell Douglas MD-80 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 (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 an uncontained blade failure that could result in damage to the airplane, accomplish the following:

Inspection

(a) For JT8D-209, -217, and -217A engines, perform the 3rd and 4th stage low pressure turbine (LPT) blade torque inspections in accordance with the intervals and procedures described in PW Service Bulletin (SB) No. 6224, Revision 2, dated August 27, 1998, Accomplishment Instructions, Part 1, A(1) through B(3).

(b) For JT8D-217C and -219 engines, perform the 4th stage LPT blade torque inspection in accordance with the intervals and procedures described in PW SB No. 6224, Revision 2, dated August 27, 1998, Accomplishment Instructions, Part 2, C(1) through C(3).

Effective Date for Computing Compliance Intervals

(c) For the purpose of this AD, use the effective date of this AD for computing compliance intervals whenever PW SB No. 6224, Revision 2, dated August 27, 1998, refers to the publication date of the SB.

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. 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.

Ferry Flights

(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.

Incorporation by Reference

(f) The actions required by this AD shall be done in accordance with PW SB No. 6224, Revision 2, dated August 27, 1998. 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.

(g) This amendment becomes effective on February 2, 2000.

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.