DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 98–ANE–80–AD]

RIN 2120–AA64

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

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede an existing airworthiness directive (AD) for Pratt & Whitney (PW) JT8D–209, –217, –217A, –217C, and –219 series turbofan engines. That AD currently requires torque 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 proposed AD would require torque inspections at shorter inspection intervals of the refurbished 3rd stage and 4th stage LPT blades, but the same or longer inspection intervals of the new 3rd stage and 4th stage LPT blades, for shroud notch wear and replacement of the blade if wear limits are exceeded. This proposed AD would also require replacing LPT-to-exhaust case bolts and nuts with bolts and nuts made of Tinidur material. This proposed AD results from reports of 194 blade fractures since 1991, with 37 of those blade fractures resulting in LPT case separation, and three reports of uncontained 3rd stage and 4th stage LPT blade failures with cowl penetration. We are proposing this AD to prevent an uncontained blade failure that could result in damage to the airplane.

DATES: We must receive any comments on this proposed AD by October 15, 2004.

ADDRESSES: Use one of the following addresses to submit comments on this proposed AD:

- *By mail:* Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 98–ANE–80–AD, 12 New England Executive Park, Burlington, MA 01803–5299.
- *By fax:* (781) 238–7055.
- *By e-mail: 9-ane-adcomment@faa.gov*

You can get the service information identified in this proposed AD from Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565–8770, fax (860) 565–4503.

You may examine the AD docket at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Keith Lardie, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803–5299; telephone (781) 238–7189, fax (781) 238–7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to submit any written relevant data, views, or arguments regarding this proposal. Send your comments to an address listed under **ADDRESSES.** Include ''ADDocket No. 98–ANE–80–AD'' in the subject line of your comments. If you want us to acknowledge receipt of your mailed comments, send us a self-addressed, stamped postcard with the docket number written on it; we will date-stamp your postcard and mail it back to you. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the proposed AD. If a person contacts us verbally, and that contact relates to a substantive part of this proposed AD, we will summarize the contact and place the summary in the docket. We will consider all comments received by the closing date and may amend the proposed AD in light of those comments.

We are reviewing the writing style we currently use in regulatory documents. We are interested in your comments on whether the style of this document is clear, and your suggestions to improve the clarity of our communications that affect you. You may get more information about plain language at *http://www.faa.gov/language* and *http://www.plainlanguage.gov.*

Examining the AD Docket

You may examine the AD Docket (including any comments and service information), by appointment, between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. *See* **ADDRESSES** for the location.

Discussion

On December 20, 1999, the FAA issued AD 99–27–01, Amendment 39–11482 (64 FR 72916, December 29, 1999). That AD requires torque inspection of the 3rd stage and 4th stage LPT blades for shroud notch wear and replacement of the blade if wear limits are exceeded. That AD was the result of a report of an uncontained blade failure. That condition, if not corrected, could result in uncontained blade failure, leading to damage to the airplane. Also, on October 21,1999, we issued AD 99–22–14, Amendment 39–11392(64 FR 58328, October 29, 1999). That AD requires replacingLPT-to-exhaust case bolts and nuts with improved containment hardware. That AD was the result of reports of LPT flange separation resulting from LPT blade failures. That condition, if not corrected, could result in LPT flange separations resulting from LPT blade failures.

Actions Since We Issued AD 99–27–01 and AD 99–22–14

Since we issued AD 99–27–01, there have been two additional uncontained engine failures. The fracture rate of 3rd stage and 4th stage LPT blades remains unchanged, with about 12 to 18 fractures occurring per year. PW has determined that torque inspections of the 3rd stage and 4th stage LPT blades for shroud notch wear must be performed at shorter inspection intervals for refurbished blades, to prevent LPT blade failures. Also, since we issued AD 99–22–14, PW determined that the LPT-to-exhaust case bolts and nuts introduced by that AD have a higher failure rate than the previous interim nut and bolt configuration. We issued a Notice of Proposed Rulemaking (NPRM), Docket No. 92–ANE–15–AD, on July 7, 2004, to supersede AD 99–22–14. That NPRM proposes to no longer require replacing the LPT-to-exhaust case bolts and nuts.

Relevant Service Information

We have reviewed and approved the technical contents of PW Alert Service Bulletin (ASB) No. JT8D A6224, Revision 5, dated June 11, 2004, that describes procedures for initial and repetitive torque inspections of 3rd stage and 4th stage LPT blades for shroud notch wear at revised inspection thresholds and intervals.

FAA's Determination and Requirements of the Proposed AD

We have evaluated all pertinent information and identified an unsafe condition that is likely to exist or develop on other JT8D–209, –217, –217A, –217C, and –219 series turbofan engines of this same type design. We are proposing this AD, which would require initial and repetitive torque inspections of the 3rd stage and 4th stage LPT blades for shroud notch wear at the thresholds and intervals specified in the compliance section, and replacement of LPT-to-exhaust case bolts part number (P/N) ST1315–15 and nuts P/N 4023466 with bolts and nuts made of Tinidur

material. The proposed AD would require that you do the torque inspections using the service information described previously.

Interim Action

These actions are interim actions and we may take further rulemaking actions in the future.

Costs of Compliance

There are about 2,345 PW JT8D–200 series turbofan engines of the affected design in the worldwide fleet. We estimate that 1,143 engines installed on airplanes of U.S. registry would be affected by this proposed AD. We also estimate that it would take approximately 1 work hour per engine to perform a proposed torque inspection, and 1 work hour per engine to perform the proposed bolt and nut replacements. The average labor rate is $65 per work hour. Required parts would cost approximately $1,734 per engine. Based on these figures, we estimate the total cost of the proposed AD to U.S. operators to perform one torque inspection, and bolt and nut replacements to be $2,130,552.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD 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.

For the reasons discussed above, I certify that the 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. Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this proposal and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under **ADDRESSES**. Include ''AD Docket No. 98–ANE–80–AD'' in your request.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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. The FAA amends § 39.13 by removing Amendment 39–11482 (64 FR 72916, December 29, 1999) and by adding a new airworthiness directive to read as follows:

Pratt & Whitney: Docket No. 98–ANE–80–AD. Supersedes AD 99–27–01, Amendment 39–11482.

Comments Due Date

(a) The Federal Aviation Administration (FAA) must receive comments on this airworthiness directive (AD) action by October 15, 2004.

Affected ADs

(b) This AD supersedes AD 99–27–01, Amendment 39–11482.

Applicability

(c) This AD applies to Pratt & Whitney (PW) JT8D–209, –217, –217A, –217C, and –219 series turbofan engines. These engines are installed on, but not limited to, Boeing 727 series and MD–80 series airplanes.

Unsafe Condition

(d) This AD results from reports of 194 blade fractures since 1991, with 37 of those blade fractures resulting in LPT case separation, and three reports of uncontained 3rd stage and 4th stage LPT blade failures with cowl penetration. We are issuing this AD to prevent an uncontained blade failure that could result in damage to the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Initial Torque Inspection for JT8D–209, –217, and –217A Engines

(f) For JT8D–209, –217, and –217A engines, perform the initial torque inspection of 3rd and 4th stage LPT blades for shroud notch wear. Use the procedures described in Accomplishment Instructions, Part 1, Paragraphs 1. through 3. of PW Alert Service Bulletin (ASB) No. A6224, Revision 5, dated June 11, 2004, at the applicable threshold in the following Table 1:

TABLE 1.—INITIAL TORQUE INSPECTION THRESHOLD FOR JT8D–209, –217, AND –217A ENGINES

Blade type	Hours time-in-service (TIS)	Inspection threshold
(1) New pre-Service Bulletin (SB) No. 5867 (small notch) 3rd stage turbine blades.	Any number	Within 6,000 hours TIS.
(2) Refurbished pre-SB No. 5867 (small notch) 3rd stage turbine blades.	(i) Fewer than 3,000	Within 4,000 hours TIS.
	(ii) 3,000 or more	Within 6,000 hours TIS, or within 1,000 hours TIS after the effective date of this AD, whichever occurs first.
(3) New post-SB No. 5867 (large notch) 3rd stage turbine blades.	Any number	Within 10,000 hours TIS.
(4) Refurbished post-SB No. 5867 (large notch) 3rd stage turbine blades.	(i) Fewer than 6,000	Within 7,000 hours TIS.
	(ii) 6,000 or more	Within 8,000 hours TIS, or within 1,000 hours TIS after the effective date of this AD, whichever occurs first.
(5) New pre-SB No. 6029 (small notch) 4th stage turbine blades.	Any number	Within 6,000 hours TIS.
(6) Refurbished pre-SB No. 6029 (small notch) 4th stage turbine blades.	(i) Fewer than 3,000	Within 4,000 hours TIS.
	(ii) 3,000 or more	Within 6,000 hours TIS, or within 1,000 hours TIS after the effective date of this AD, whichever occurs first.
(7) New post-SB No. 6029 or new post-SB No. 6308 (large notch) 4th stage turbine blades.	Any number	Within 10,000 hours TIS.

TABLE 1.—INITIAL TORQUE INSPECTION THRESHOLD FOR JT8D–209, –217, AND –217A ENGINES—Continued

Blade type	Hours time-in-service (TIS)	Inspection threshold
(8) Refurbished post-SB No. 6029 or refurbished post-SB No. 6308 (large notch) 4th stage turbine blades.	(i) Fewer than 6,000	Within 7,000 hours TIS.
	(ii) 6,000 or more	Within 8,000 hours TIS, or within 1,000 hours TIS after the effective date of this AD, whichever occurs first.

Repetitive Torque Inspections for JT8D–209, –217, and –217A Engines

(g) For JT8D–209, –217, and –217A engines, perform repetitive torque inspections of 3rd and 4th stage LPT blades for shroud notch wear. Use the procedures described in Accomplishment Instructions, Part 1, Paragraph 1. of PW ASB No. A6224, Revision 5, dated June 11, 2004, at the applicable intervals in the following Table 2 and Table 3:

TABLE 2.—3RD STAGE REPETITIVE TORQUE INSPECTION INTERVALS FOR JT8D–209, –217, AND –217A ENGINES

Inspection torque readings	Number of readings	Disposition
Greater than or equal to 15 LB–IN (1.695 N.m)	All	Repeat torque inspection within 1,000 hours TIS since last inspection.
Less than or equal to 15 LB–IN (1.695 N.m) but greater than or equal to 10 LB–IN (1.130 N.m).	One or more	Repeat torque inspection within 500 hours TIS since last inspection.
Less than or equal to 10 LB–IN (1.130 N.m) but greater than or equal to 5 LB–IN (0.565 N.m).	One to three	Repeat torque inspection within 125 hours TIS since last inspection.
Less than or equal to 10 LB–IN (1.130 N.m) but greater than or equal to 5 LB–IN (0.565 N.m).	Four or more	Remove engine from service within 20 hours TIS since last inspection.
Less than 5 LB–IN (0.565 N.m)	One or more	Remove engine from service within 20 hours TIS since last inspection.

TABLE 3.—4TH STAGE REPETITIVE TORQUE INSPECTION INTERVALS FOR JT8D–209, –217, AND –217A ENGINES

Inspection torque readings	Number of readings	Disposition
Greater than or equal to 15 LB–IN (1.695 N.m)	All	Repeat torque inspection within 1,000 hours TIS since last inspection.
Less than or equal to 15 LB–IN (1.695 N.m) but greater than or equal to 10 LB–IN (1.130 N.m).	One or more	Repeat torque inspection within 500 hours TIS since last inspection.
Less than or equal to 10 LB–IN (1.130 N.m) but greater than or equal to 5 LB–IN (0.565 N.m).	One to six	Repeat torque inspection within 125 hours TIS since last inspection.
Less than or equal to 10 LB–IN (1.130 N.m) but greater than or equal to 5 LB–IN (0.565 N.m).	Seven or more	Remove engine from service within 20 hours TIS since last inspection.
Less than 5 LB–IN (0.565 N.m)	One or more	Remove engine from service within 20 hours TIS since last inspection.

(h) Subsequent repeat inspection intervals must not exceed the previous inspection interval.

JT8D–209, –217, and –217A Engines Removed From Service

(i) JT8D–209, –217, and –217A engines removed from service may be returned to service after a detailed inspection and repair or replacement for all blades that exceed Engine Manual limits is done, using procedures described in Accomplishment Instructions, Part 1, Paragraph 4, of PW ASB No. A6224, Revision 5, dated June 11, 2004. Information on repairing or replacing turbine blades can also be found in JT8D–200 Engine Manual, Part No. 773128.

Initial Inspection for JT8D–217C and –219 Engines

(j) For JT8D–217C and –219 engines, perform the initial torque inspection of 4th stage LPT blades for shroud notch wear. Use the procedures described in Accomplishment Instructions, Part 2, Paragraphs 1. through 3. of PW ASB No. A6224, Revision 5, dated June 11, 2004, at the applicable threshold in the following Table 4:

TABLE 4.—INITIAL TORQUE INSPECTION THRESHOLD FOR JT8D–217C AND –219 ENGINES

Blade type	TIS	Inspection threshold
(1) New pre-SB No. 6090 (small notch) 4th stage turbine blades.	Any number	Within 5,000 hours TIS.

TABLE 4.—INITIAL TORQUE INSPECTION THRESHOLD FOR JT8D–217C AND –219 ENGINES—Continued

Blade type	TIS	Inspection threshold
(2) Refurbished pre-SB No. 6090 (small notch) 4th stage turbine blades.	(i) Fewer than 3,000.	Within 4,000 hours TIS.
	(ii) 3,000 or more	Within 5,000 hours TIS, or within 1,000 hours TIS after the effective date of this AD, whichever occurs first.
(3) New post-SB No. 6090, new post-SB No. 6402, or new post-SB No. 6412 (large notch) 4th stage turbine blades.	Any number	Within 10,000 hours TIS.
(4) Refurbished ''As-Cast'' post-SB No. 6090, post-SB No. 6402, or post-SB No. 6412 (large notch) 4th stage turbine blades.	Any number	Within 7,000 hours TIS.
(5) Refurbished ''Modified'' post-SB No. 6090, post-SB No. 6402, or post-SB No. 6412 (large notch) 4th stage turbine blades.	(i) Fewer than 3,000	Within 4,000 hours TIS.
	(ii) 3,000 or more	Within 7,000 hours TIS, or within 1,000 hours TIS after the effective date of this AD, whichever occurs first.

Repetitive Torque Inspections for JT8D–217C and –219 Engines

(k) For JT8D–217C and –219 engines, perform repetitive torque inspections of 4th stage LPT blades for shroud notch wear. Use the procedures described in Accomplishment Instructions, Part 2, Paragraph 1. of PW ASB No. A6224, Revision 5, dated June 11, 2004, at the applicable intervals in the following Table 5:

TABLE 5.—REPETITIVE TORQUE INSPECTION INTERVALS FOR JT8D–217C AND –219 ENGINES

Inspection torque readings	Number of readings	Disposition
Greater than or equal to 15 LB–IN (1.695 N.m)	All	Repeat torque inspection within 1,000 hours TIS since last inspection.
Less than or equal to 15 LB–IN (1.695 N.m) but greater than or equal to 10 LB–IN (1.130 N.m).	One or more	Repeat torque inspection within 500 hours TIS since last inspection.
Less than or equal to 10 LB–IN (1.130 N.m) but greater than or equal to 5 LB–IN (0.565 N.m).	One to six	Repeat torque inspection within 125 hours TIS since last inspection.
Less than or equal to 10 LB–IN (1.130 N.m) but greater than or equal to 5 LB–IN (0.565 N.m).	Seven or more	Remove engine from service within 20 hours TIS since last inspection.
Less than 5 LB–IN (0.565 N.m)	One or more	Remove engine from service within 20 hours TIS since last inspection.

(l) Subsequent repeat inspection intervals must not exceed the previous inspection interval.

JT8D–217C and –219 Engines Removed From Service

(m) JT8D–217C and –219 engines removed from service may be returned to service after a detailed inspection and repair or replacement for all blades that exceed Engine Manual limits is done, using procedures described in Accomplishment Instructions, Part 2, Paragraph 4, of PW ASB No. A6224, Revision 5, dated June 11, 2004. Information on repairing or replacing turbine blades can also be found in JT8D–200 Engine Manual, Part No. 773128.

Other Criteria for All Engine Models Listed in This AD

(n) Whenever a refurbished or used blade is intermixed with new blades in a rotor, use the lowest initial inspection threshold that is applicable.

(o) The initial torque inspection or the repetitive inspection intervals should not be reset unless the blades are refurbished.

(p) Whenever a used (service run) blade is reinstalled in a rotor, the previous used time should be subtracted from the initial torque inspection threshold.

LPT-to-Exhaust Case Bolts and Nuts Replacement

(q) At next accessibility to the LPT-to-exhaust case bolts, part number (P/N) ST1315–15, and nuts, P/N 4023466, replace bolts and nuts with bolts and nuts made of Tinidur material. Information on replacing the bolts and nuts can be found in PW Service Bulletin No. 6455, dated January 15, 2004.

Definitions

(r) For the purpose of this AD, refurbishment is defined as restoration of either the shrouds or blade retwist or both, per the JT8D–200 Engine Manual, Part No. 773128.

(s) For the purpose of this AD, ''As-Cast'' refers to blades that were machined from new castings and ''Modified'' refers to blades that were derived from the pre-SB No. 6090 configuration.

Alternative Methods of Compliance

(t) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Material Incorporated by Reference

(u) None.

Related Information

(v) None.

Issued in Burlington, Massachusetts, on August 9, 2004.

Ann Mollica,

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

[FR Doc. 04–18644 Filed 8–13–04; 8:45 am]

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