[Federal Register: October 8, 2010 (Volume 75, Number 195)]
[Rules and Regulations]
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[DOCID:fr08oc10-1]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0514; Directorate Identifier 2010-NE-02-AD; Amendment 39-16477; AD 2010-21-17]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Pratt & Whitney (PW) JT8D-9, -9A, -11, -15, -17, and -17R turbofan engines. This AD requires overhauling fan blade leading edges at the first shop visit after 4,000 cycles-in-service (CIS) since the last total fan blade overhaul was performed. This AD results from reports of failed fan blades. We are issuing this AD to prevent high-cycle fatigue cracking at the blade root, which could result in uncontained failures of first stage fan blades and damage to the airplane.

DATES: This AD becomes effective November 12, 2010.

ADDRESSES: You can get the service information identified in this AD from Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-7700; fax (860) 565-1605.

The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

FOR FURTHER INFORMATION CONTACT: James Gray, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.e.gray@faa.gov; telephone (781) 238-7742; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to PW JT8D-9, -9A, -11, -15, -17, and -17R turbofan engines. We published the proposed AD in the Federal Register on May 19, 2010 (75 FR 27972).

That action proposed to require overhauling fan blade leading edges at the first shop visit after 4,000 CIS since the last total fan blade overhaul was performed.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Request To Extend the Proposed AD Comment Period

Two commenters, Delta Airlines, Inc. and the National Transportation Safety Board, request that we extend the proposed AD comment period. The extension would allow time to determine the root cause of a fan blade failure on a Delta DC-9 airplane, occurring on June 14, 2010.

We do not agree. Extending the comment period would delay the rulemaking process. The root cause investigation can continue after the AD is issued. We did not change the AD.

Request for Clarification of Shop Visit

Delta Airlines, Inc. requests clarification of the shop visit definition in paragraph (i) of the proposed AD. Specifically, clarify whether a gearbox removal or gearbox change would fit into the shop visit definition. Also, that we clarify that a nose cowl removal or a thrust reverser removal not be included in the shop visit definition. These actions involve components that mate to engine flanges.

We partially agree. We revised the definition of shop visit in the AD to include a clarification of "lettered flanges" after "pairs of major mating engine flanges." The procedures referenced by the commenter are shop visits according to the definition in paragraph (i) of the AD. Since the nose cowl and thrust reverser are not engine components, they would involve the separation of an engine flange with a non-engine flange. A gearbox removal would not involve a lettered flange. You can find further information on what is a lettered flange in the engine manual.

Clarification Requirements

Since we issued the proposed AD, we discovered that paragraphs (f) and (g) require clarification. We clarified those paragraphs in the AD, to state that the cycles-in-service apply to the fan blades.

Conclusion

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously.

Costs of Compliance

We estimate that this AD will affect 1,527 engines installed on airplanes of U.S. registry. We also estimate that it will take about 63 work-hours per engine to perform the actions, and that the average labor rate is $85 per work-hour. No additional parts are required. Based on these figures, we estimate the total cost of the AD to U.S. operators to be $8,177,085.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in subtitle VII, part A, subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

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

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 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.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends 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 adding the following new airworthiness directive:

2010-21-17 Pratt & Whitney: Amendment 39-16477. Docket No. FAA-2010-0514; Directorate Identifier 2010-NE-02-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective November 12, 2010.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Pratt & Whitney (PW) JT8D-9, -9A, -11, -15, -17, and -17R turbofan engines. These engines are installed on, but not limited to, Boeing 727 series, Boeing 737-200 series and McDonnell Douglas DC-9 airplanes.

Unsafe Condition

(d) This AD results from reports of failed fan blades. We are issuing this AD to prevent high-cycle fatigue cracking at the blade root, which could result in uncontained failures of first stage fan blades and 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 Overhaul

(f) For engines where the cycles-in-service (CIS) since the last overhaul of the fan blades are known, overhaul the total set of stage 1 fan blades at the first shop visit after 4,000 CIS since the last total stage 1 fan blade overhaul, or the next shop visit after the effective date of this AD, whichever occurs later. Guidance on performing a fan blade overhaul can be found in Pratt & Whitney JT8D Maintenance Advisory Notice No. MAN-JT8D-2-06, and the Engine Manual Chapter/Section 72-33-21, Inspection 00.

(g) For engines where the CIS since the last overhaul of the fan blades are unknown, overhaul the total set of stage 1 fan blades at the next shop visit after the effective date of this AD. Guidance on performing a fan blade overhaul can be found in Pratt & Whitney JT8D Maintenance Advisory Notice No. MAN-JT8D-2-06, and the Engine Manual Chapter/Section 72-33-21, Inspection 00.

Repetitive Overhaul

(h) Thereafter, overhaul the total set of stage 1 fan blades at the first shop visit after 4,000 CIS since the last total stage 1 fan blade overhaul. Guidance on performing a fan blade overhaul can be found in Pratt & Whitney JT8D Maintenance Advisory Notice No. MAN-JT8D-2-06, and the Engine Manual Chapter/Section 72-33-21, Inspection 00.

Definitions

(i) For the purpose of this AD, a shop visit is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges (lettered flanges), except that the separation of engine flanges solely for the purposes of transporting the engine without subsequent engine maintenance does not constitute an engine shop visit.

Alternative Methods of Compliance

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

Related Information

(k) Contact James Gray, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.e.gray@faa.gov; telephone (781) 238-7742; fax (781) 238-7199, for more information about this AD.

(l) Pratt & Whitney JT8D Maintenance Advisory Notice No. MAN-JT8D-2-06, dated November 20, 2006, pertains to the subject of this AD. Contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-7700; fax (860) 565-1605, for a copy of this service information.

Material Incorporated by Reference

(m) None.

Issued in Burlington, Massachusetts, on October 1, 2010.
Peter A. White,
Assistant Manager, Engine and Propeller Directorate,
Aircraft Certification Service.