

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 65730 11/3/2000]

[Docket No. 98-ANE-61-AD; Amendment 39-11941; AD-2000-21-09]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney PW2000 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final Rule, correction.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to Pratt & Whitney (PW) PW2000 series turbofan engines, that requires revisions to the time limit sections (TLS) of the manufacturer's Engine Manuals to include enhanced inspection of selected critical life-limited parts at each piece-part exposure. This action adds additional critical life-limited parts for enhanced inspection. This amendment is prompted by additional focused inspection procedures for other critical life-limited rotating engine parts that have been developed by the manufacturer. The actions specified in the AD are intended to prevent critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane.

DATES: Effective date January 22, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from Pratt & Whitney, 400 Main Street, East Hartford, CT 06108. 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: Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7747, fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding (AD) 99-08-14, Amendment 39-11120 (64 FR 17949, dated April 13, 1999) that is applicable to Pratt & Whitney (PW) PW2000 series turbofan engines was published in the **Federal Register** on October 8, 1999 (64 FR 54799). That action proposed revisions to the engine manufacturers time limits section (TLS) to include enhanced inspection of selected critical life-limited parts at each piece-part exposure. That action proposed to add additional critical life-limited parts for enhanced inspection.

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.

Part numbers in the AD

One comment states that the use of part numbers (P/N's) in the AD places undue burden on operators who must keep track of the Engine Manual changes to ensure consistency with P/N's, and creates a potential need for revisions to the AD as additional P/N's are introduced into service.

The FAA agrees. The final rule has been revised to eliminate specific P/N's and to use the term "ALL" in the P/N column.

Extend the Comment Period

One comment states that the proposed additional inspections have not been published in the Engine Manual, and that the comment period should be extended to allow for publication and evaluation by the operators.

The FAA does not agree. The FAA believes that the nature and scope of the added inspections will not be significantly different from existing inspections. In addition, the effective date of this AD has been extended to 90 days after publication to allow time for the specific procedures to be published. The extra time until the AD becomes effective should also allow the manufacturer to issue a manual revision. Operators may submit comments to the docket file on the specific procedures, once they are published, and the FAA will consider extending the effective date further or additional rulemaking, as necessary. The FAA does not believe, however, that this final rule need be delayed pending the publication of the inspection procedures, or the initial compliance time extended to accommodate the manufacturer's manual revision cycle.

Discussion Section Changed From Original Proposed Rule

One comment states that the summary and discussion sections of the proposed rule did not include the same guidelines concerning required enhanced inspections, as the summary and discussion sections published in the proposed rule for current AD 99-08-14. The commenter therefore asks that the discussion from the notice of proposed rule making, that preceded the current AD, be included in this final rule.

The FAA does not agree. The inspection program established by the current AD has not been changed. The proposed rule adds more parts to the list that must be inspected, but does not change how air carriers must manage the inspection program. Future AD's may be issued to introduce additional intervention strategies in order to further reduce uncontained engine failures. These strategies may include AD's to add new parts to the list of parts to be inspected. The inspection program established by the current AD will remain unchanged unless specifically changed in a future proposal.

Incorrect Manual Reference

Two comments state that Engine Manual 72-52-02, Inspection/Check-02 is only a dimensional inspection to the HPT 1st stage disk. The required fluorescent-penetrant inspection (FPI) reference for all HPT 1st stage disks and HPT 2nd stage hubs should be Engine Manual 72-52-00, Inspection/Check-02.

The FAA agrees. The final rule has been revised to reference the correct Engine Manual task and subtasks for HPT 1st stage disks and HPT 2nd stage hubs.

Clarification of FPI Procedures

One comment requests clarification for FPI procedures for parts repaired by plasma spray, as to whether the plasma spray should be removed before inspection.

Upon investigation, the FAA has concluded that the manufacturer's engine manual has no plasma spray procedures for HPT disks at the critical locations to be fluorescent-penetrant-inspected. The engine manual does allow a plasma spray repair for the buildup of the HPT snap diameter. This plasma spray coating is not required to be removed to accomplish the FPI procedure.

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 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

No comments were received on the economic analysis contained in the proposed rule. The FAA has determined that the annual cost of complying with this AD does not create a significant economic impact on small entities.

Regulatory Impact

This 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 rule.

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) 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, 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 removing Amendment 39-11120, (64 FR 17949, April 13, 1999), and by adding the following new airworthiness directive:

SUPPERS EDED

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

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

We post ADs on the internet at "av-info.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).

CORRECTION - Inadvertently omitted superseded AD number.

2000-21-09. Pratt & Whitney: Amendment 39-11941. Docket No. 98-ANE-61-AD. Supersedes AD 99-08-14, Amendment 39-11120.

Applicability

Pratt & Whitney (PW) PW2037, PW2040, PW2037M, PW2240, PW2337, PW2043, PW2143, and PW2643 series turbofan engines. These engines are installed on but not limited to Boeing 757 series and Ilyushin IL-96T 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 (c) 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 critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within the next 30 days after the effective date of this AD, revise the manufacturer's Time Limits section (TLS) of the manufacturer's engine manual, Part Numbers (P/N's) 1A6231 and 1B2412, as appropriate for the PW2037, PW2040, PW2037M, PW2240, PW2337, PW2043, PW2643, and PW2143 series turbofan engines, and for air carriers revise the approved continuous airworthiness maintenance program, by adding the following:

"MANDATORY INSPECTIONS

(1) Perform inspections of the following parts at each piece-part opportunity in accordance with the instructions provided in the PW2000 series Engine Manuals:

Nomenclature	Part Number	EM Manual Section	Inspection	Subtask
Hub, LPC Assembly	ALL	72-31-04	-06	
Disk, HPT 1 st Stage	ALL	72-52-02	FPI entire disk per 72-52-00, Inspection/ Check-02	72-52-02-230-007
Hub, HPT 2 nd Stage	ALL	72-52-16	FPI entire disk per 72-52-00, Inspection/ Check-02	72-52-16-230-007

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when done in accordance with the disassembly instructions in the manufacturer's engine manual to either the part detail, or part assembly level, listed in the table above, and

(ii) The part has accumulated more than 100 cycles in service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in § 43.16 of Federal Aviation Regulations (14 CFR 43.16), these enhanced inspections shall be performed only in accordance with the TLS of the appropriate PW2000 series engine manuals.

Alternative Methods of Compliance

(c) 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.

Special Flight Permits

(d) 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 aircraft to a location where the requirements of this AD can be accomplished.

Continuous Airworthiness Maintenance Program

(e) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of § 121.369 (c) of the Federal Aviation Regulations [14 CFR 121.369 (c)] of this chapter must maintain records of the mandatory inspections that result from revising the Time Limits section of the Instructions for Continuous Airworthiness (ICA) and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an approved system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate method in the air carrier's maintenance manual required by § 121.369 (c) of the Federal Aviation Regulations [14 CFR 121.369 (c)]; however, the alternate system must be accepted by the appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under § 121.380 (a) (2) (vi) of the Federal Aviation Regulations [14 CFR 121.380 (a) (2) (vi)]. All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

Note 3: The requirements of this AD have been met when the engine manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

Effective Date

(f) This amendment becomes effective on January 22, 2001.

FOR FURTHER INFORMATION CONTACT: Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7747, fax (781) 238-7199.

Issued in Burlington, Massachusetts, on October 12, 2000.

David A. Downey, Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service.