

FAA Maintenance Inspector, who may add comments and then send it to the Manager, Small Airplane Directorate.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Small Airplane Directorate.

(d) Questions or technical information related to Schempp-Hirth Technical Note 265-8, dated February 11, 1985, should be directed to Schempp-Hirth Flugzeugbau GmbH, Krehenstrasse 25, Postfach 1443, D-73230 Kirchheim/Teck, Germany. This service information may be examined at the FAA, Central Region, Office of the Regional Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Note 3: The subject of this AD is addressed in German AD 85-56, dated March 4, 1985.

Issued in Kansas City, Missouri, on June 9, 1998.

Michael Gallagher,

Manager, Small Airplane Directorate, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97-ANE-53-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney PW4000 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain Pratt & Whitney (PW) PW4000 series turbofan engines not incorporating modifications described in certain PW service bulletins listed in the applicability section. This proposal would require high pressure compressor (HPC) blade tip grinding of the rotor assembly, installation of aluminum oxide coated HPC blade tips in stages 9 through 12, modification of HPC 8th through 14th stage stators, incorporation of 1st stage high pressure turbine (HPT) vanes with increased airflow area which also requires additional HPT hardware modifications, and incorporation of HPC 13th-15th stage zirconium oxide blade tips. This proposal is prompted by reports of HPC surge caused by excessive HPC rear stage rotor-to-case clearance. The actions specified by the proposed AD are intended to prevent

HPC surge, which can result in engine power loss at a critical phase of flight such as takeoff or climb.

DATES: Comments must be received by August 17, 1998.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 97-ANE-53-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may also be sent via the Internet using the following address: "9-ad-engineprop@faa.dot.gov". Comments sent via the Internet must contain the docket number in the subject line. Comments may be inspected at this location between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-6600, fax (860) 565-4503. This information may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Chris Gavriel, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7147, fax (781) 238-7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 97-ANE-53-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 97-ANE-53-AD, 12 New England Executive Park, Burlington, MA 01803-5299.

Discussion

The Federal Aviation Administration (FAA) has received reports of certain Pratt & Whitney (PW) PW4000 series turbofan engine power loss events occurring frequently during a critical phase of flight such as takeoff or climb. The events have led to the flight crew conducting rejected takeoffs and to engine power loss or shutdown events in flight. A rejected takeoff could result in the airplane overrunning the runway, incurring airplane damage, and injuring airplane occupants. Engine power loss or shutdown during takeoff also significantly increases crew workload during a critical phase of flight. The investigations into these events revealed that they were caused by high pressure compressor (HPC) surge that could require crew action to recover. Further investigation revealed that the surge results from excessive HPC rear stage rotor-to-case clearance. This condition, if not corrected, could result in HPC surge, which can result in engine power loss at a critical phase of flight such as takeoff.

The FAA has reviewed and approved the technical contents of the following PW Service Bulletins (SB): PW4ENG-72-484, Revision 3, dated July 1, 1997, that describes procedures for HPC blade tip grinding at the rotor assembly and introduces HPC aluminum oxide blade tip coating in stages 9 through 15 compatible with tip grinding; PW4ENG-72-486, Revision 1, dated November 23, 1994, that describes procedures for modifying HPC 8th through 14th stage stators; PW4ENG-72-514, Revision 1, dated August 2, 1996, that describe procedures for high pressure turbine (HPT) hardware modifications to accommodate the incorporation of 1st stage HPT vanes with increased airflow area; and PW4ENG-72-575, Revision 1, dated June 30, 1997, that describes procedures for incorporating HPC 13th-15th stage zirconium oxide tips.

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require grinding of the HPC blade tips at the rotor assembly and incorporation of HPC stage 9 through 12 aluminum oxide blade tips, modification of HPC 8th through 14th stage stators, modification of HPT hardware to accommodate incorporation of 1st stage HPT vanes with increased airflow area and incorporation of these vanes, and incorporation of HPC 13th through 15th stage zirconium oxide blade tips, within 1,400 cycles in service after the effective date of this AD, or prior to June 30, 1999, whichever occurs first. The calendar end-date was based upon analysis of test data and service experience data. The actions would be required to be accomplished in accordance with the SBs described previously.

There are approximately 187 engines of the affected design in the worldwide fleet. The FAA estimates that there are currently 61 engines installed on aircraft of U.S. registry that would be affected by this proposed AD. Required parts would cost approximately \$20,000 per engine. Based on these figures, the total cost impact of the proposed AD, including labor costs, is estimated to be \$1,220,000.

The regulations proposed herein would not have substantial direct effects 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, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

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) if promulgated, 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 copy of the draft regulatory evaluation prepared for this action 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.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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:

Pratt & Whitney: Docket No. 97-ANE-53-AD.

Applicability: Pratt & Whitney (PW) Model PW4152, PW4056, PW4156, PW4256, PW4052, PW4158, W4060, PW4160, PW4460, PW4050, PW4060A, PW4156A, PW4062, PW4462, PW4060C, and PW4650 turbofan engines, not incorporating at least one of the modifications described in the PW service bulletins (SBs) and listed in items (1) through (6), excluding those engines having a (-3) identifier next to the engine model number on the engine data plate. These engines are installed on but not limited to Boeing 767 and 747 series aircraft, McDonnell Douglas MD-11 series aircraft, and Airbus A310 and A300-600 series aircraft.

(1) PW4ENG 72-484, Revision 3, dated July 1, 1997, or earlier revisions, PW4ENG 72-486, Revision 1, dated November 23, 1994, or original issue.

(2) PW4ENG 72-484, Revision 3, dated July 1, 1997, or earlier revisions, PW4ENG 72-575, Revision 1, dated June 30, 1997, or original issue, PW4ENG 72-486, Revision 1, dated November 23, 1994, or original issue.

(3) PW4ENG 72-514, Revision 1, dated August 2, 1996, or original issue.

(4) PW4ENG 72-490, Revision 1, dated August 2, 1994, or original issue.

(5) PW4ENG 72-504, Revision 1, dated May 9, 1995, or original issue.

(6) PW4ENG 72-572, dated June 16, 1995.

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 (b) 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 high pressure compressor (HPC) surge, which can result in engine power loss at a critical phase of flight such as takeoff, accomplish the following:

(a) Within 1,400 cycles in service (CIS) after the effective date of this AD, or prior to June 30, 1999, whichever occurs first, perform the following modifications:

(1) Incorporate stage 9 through 12 aluminum oxide blade tips and grind HPC blade tips at the rotor assembly in accordance with the Accomplishment Instructions of PW SB No. PW4ENG-72-484, Revision 3, dated July 1, 1997, concurrently with the requirements of paragraph (a)(4) of this AD.

(2) Modify HPC 8th-14th stage stators in accordance with the Accomplishment Instructions of PW SB No. PW4ENG-72-486, Revision 1, dated November 23, 1994.

(3) Modify the 1st stage high pressure turbine (HPT) cooling duct (TOBI Duct), install a metering plug in the Number 2 bearing thrust balance vent tube, and incorporate 1st stage HPT vanes with increased airflow area in accordance with the Accomplishment Instructions of PW SB No. PW4ENG-72-514, Revision 1, dated August 2, 1996.

(4) Incorporate HPC 13th-15th stage zirconium oxide blade tips in accordance with the Accomplishment Instructions of PW SB No. PW4ENG-72-575, Revision 1, dated June 30, 1997.

(b) 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 request 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.

(c) 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.

Issued in Burlington, Massachusetts, on June 11, 1998.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 98-16271 Filed 6-17-98; 8:45 am]

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