

Proposed Rules

Federal Register

Vol. 67, No. 183

Friday, September 20, 2002

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NE-15-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt and Whitney PW4000 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The Federal Aviation Administration (FAA) proposes to adopt a new airworthiness directive (AD) that is applicable to certain serial number (SN) Pratt and Whitney (PW) models PW4164, PW4168, and PW4168A turbofan engines. This proposal would require operators to initially and repetitively borescope-inspect 14th and 15th stage rubstrips located on the 13th and 14th stage stator set for wear. This proposal is prompted by reports of high pressure compressor (HPC) surges during the takeoff phase of flight that have been attributed to increased stage 14 and stage 15 HPC blade tip clearances caused by excessive wear on the HPC inner rear case rear hook. The actions specified by the proposed AD are intended to prevent engine power loss during takeoff due to HPC surge. **DATES:** Comments must be received by November 19, 2002.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2002-NE-15-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may be inspected at this location, by appointment, between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. Comments may also be sent via the Internet using the following address: "9-ane-adcomment@faa.gov". Comments sent

via the Internet must contain the docket number in the subject line.

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) 656-4503. This information may be examined, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Tara Goodman, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7130; 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 action 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 action must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2002-NE-15-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRM's

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. 2002-NE-15-AD, 12 New England Executive Park, Burlington, MA 01803-5299.

Discussion

The FAA has received reports of eleven HPC surge events occurring during the takeoff phase of flight, on PW models PW4164, PW4168, and PW4168A turbofan engines. The manufacturer has attributed these surges to increased stage 14 and stage 15 HPC blade tip clearances, caused by excessive wear on the rear hook of the HPC inner rear case assembly part number (P/N) 53H272-01. The rear hook wear allows the 14th and 15th stage rubstrips, located on the 13th and 14th stage stator in the HPC inner rear case assembly, to rub against the blade tips resulting in increased blade tip clearances and a reduced surge margin. This proposal requires initial and repetitive borescope inspections of the 14th and 15th stage rubstrips for wear and removing the engine from service if the inspection finds 14th and 15th stage rubstrip wear beyond specified limits, in order to replace the 13th and 14th stage stator set with a serviceable stator set and to replace the HPC inner rear case assembly. This proposal also requires, on uninstalled engines, borescope inspection of the 14th and 15th stage rubstrips, and if any evidence of wear through to parent material is revealed, replacement of the HPC inner case assembly with HPC inner case assembly P/N 58H026-01, and replacement of the worn 13th and 14th stage stator set and with a serviceable 13th and 14th stage stator set. This condition, if not corrected, could result in engine takeoff power loss due to HPC surge.

Manufacturer's Service Information

The FAA has reviewed and approved the technical contents of Pratt & Whitney Alert Service Bulletin (ASB) PW4G-100-A72-170, Revision 2, dated June 24, 2002. The ASB:

- Is applicable to engines serial numbers P733301 through P733500 not having HPC inner rear case assembly P/N 58H026-01 installed, and describes procedures for initial and repetitive borescope inspections of 14th and 15th stage rubstrips for wear; and
- If wear exceeds specified limits, requires removal for replacement,

within certain additional cycles, with a serviceable 13th and 14th stage stator set P/N 57H283-01; and

- If wear exceeds specified limits, requires removal for replacement of the HPC inner rear case assembly P/N 53H272-01 with a new design HPC inner rear case assembly P/N 58H026-01.

The FAA has also reviewed and approved the technical contents of Pratt & Whitney SB PW4G-100-72-159, Revision 1, dated July 12, 2000, that introduces a new HPC inner rear case with different rear hook material, by either modification of the case assembly or replacing the HPC inner rear case assembly with new design HPC inner rear case assembly P/N 58H026-01.

FAA's Determination of an Unsafe Condition and Proposed Actions

Since an unsafe condition has been identified that is likely to exist or develop on other PW models PW4164, PW4168, and PW4168A turbofan engines of the same type design, the proposed AD would require:

- Initial and repetitive borescope inspections of 14th and 15th stage rubstrips, located on the 13th and 14th stage stator set P/N 57H283-01, for wear; AND
- Removing the engine from service if the inspection finds 14th and 15th stage rubstrip wear beyond specified limits, in order to replace the 13th and 14th stage stator set with a serviceable stator set and to replace the HPC inner rear case assembly; AND
- On uninstalled engines, borescope inspection of the 14th and 15th stage rubstrips, and if any evidence of wear through to parent material is revealed, replacement of the HPC inner case assembly with case assembly P/N 58H026-01, and replacement of the worn 13th and 14th stage stator set with a serviceable 13th and 14th stage stator set.

Installation of an HPC inner rear case assembly P/N 58H026-01, and a serviceable 13th and 14th stage stator set P/N 57H283-01, constitutes terminating action to the repetitive borescope inspections of this proposed AD. The actions would be required to be done in accordance with the service bulletins described previously.

Economic Analysis

There are approximately 90 Pratt & Whitney models PW4164, PW4168, and

PW4168A turbofan engines of the affected design in the worldwide fleet. The FAA estimates that 21 engines installed on airplanes of U.S. registry would be affected by this proposed AD. The FAA also estimates that it would take approximately 3 work hours per engine to perform the proposed inspection, and that the average labor rate is \$60 per work hour. Assuming an average accumulation of 100 cycles-in-service per month per engine, the FAA estimates an average of two borescope inspections be required per engine per year. Parts cost is not included in this analysis, as this AD requires inspection. Based on these figures, the total cost of the proposed AD to U.S. operators is estimated to be \$7,560.

Regulatory Analysis

This proposed 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 proposed 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) 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. 2002-NE-15-AD.

Applicability

This airworthiness directive (AD) is applicable to Pratt and Whitney (PW) models PW4164, PW4168, and PW4168A turbofan engines, serial numbers P733301 through P733500. These engines are installed on, but not limited to Airbus Industries A330 airplanes.

Note 1: This 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 (f) 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

Compliance with this AD is required as indicated, unless already done.

To prevent engine power loss during takeoff due to high pressure compressor (HPC) surge, do the following:

- (a) For engines with an HPC inner case assembly part number (P/N) 58H026-01 installed, no action is required.

Airplanes With One Affected Engine Installed

- (b) If only one of the engines on the airplane is affected by this AD, do the following:

- (1) Perform borescope inspections in accordance with the Accomplishment Instructions, Borescope Inspection for Engines Installed on Aircraft, paragraphs 1.A. through 1.I of Pratt & Whitney Alert Service Bulletin (ASB) PW4G-100-A72-170, Revision 2, dated June 24, 2002, using the following Table 1 schedule:

TABLE 1.—INSTALLED-ENGINE BORESCOPE INSPECTION SCHEDULE

Engine cycles accumulated	Initial borescope-inspect 14th and 15th stage rubstrips
(i) Fewer than 900 cycles-since-new (CSN) or cycles-since-refurbishment (CSR) of the HPC inner rear case assembly, on the effective date of this AD.	Before accumulating 1,500 CSN or CSR, whichever occurs later.
(ii) More than 900 CSN or CSR but fewer than 1,500 CSN or CSR, on the effective date of this AD.	Within 600 cycles-in-service (CIS) after the effective date of this AD.
(iii) More than 1,500 CSN or CSR, on the effective date of this AD	Within 600 cycles since the last inspection of 14th and 15th stage rubstrips, or 600 CIS after the effective date of this AD, whichever occurs earlier.

(2) Use the wear limits and disposition the engine in accordance with the Accomplishment Instructions, Borescope Inspection for Engines Installed on Aircraft, paragraphs 2 through 4 of Pratt & Whitney ASB PW4G-100-A72-170, Revision 2, dated June 24, 2002.

Airplanes With Two Affected Engines Installed

(c) For engines installed on airplanes with two engines affected by this AD, do the following:

(1) Perform borescope inspections in accordance with the Accomplishment Instructions, Borescope Inspection for Engines Installed on Aircraft, paragraphs 1.A. through 1.I of Pratt & Whitney ASB PW4G-100-A72-170, Revision 2, dated June 24, 2002, using the schedule in Table 1.

(2) If a borescope inspection of one engine reveals any evidence of wear through to the parent material of either the 14th stage or 15th stage rubstrip, then borescope-inspect the other engine on the aircraft within 10 additional CIS. If the other engine shows any evidence of wear through to the parent material of either 14th stage or 15th stage rubstrip, then remove either engine from the aircraft within 25 additional CIS and replace with an engine not affected by this AD.

Borescope Inspections of Uninstalled Engines

(d) For engines removed from the aircraft and not scheduled for HPC disassembly, perform a borescope inspection in accordance with the Accomplishment Instructions, Borescope Inspection for Engines Removed From the Aircraft and Not Scheduled for HPC Disassembly, paragraphs 1.A. through 1.I of Pratt & Whitney ASB PW4G-100-A72-170, Revision 2, dated June 24, 2002. Use the wear limits and disposition the engine in accordance with paragraphs 2 through 3 of the ASB.

(e) Thereafter, perform the borescope inspections of paragraphs (b), (c), or (d) of this AD within 600 cycles since last inspection.

Terminating Action

(f) Installation of an HPC inner rear case assembly P/N 58H026-01 in accordance with Pratt & Whitney service bulletin (SB) No. PW4G-100-72-159, Revision 1, dated July 12, 2000 constitutes terminating action for the repetitive engine borescope inspections of this AD.

Alternative Methods of Compliance

(g) 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 (ECO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

Special Flight Permits

(h) 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 airplane to a location where the requirements of this AD can be done.

Issued in Burlington, Massachusetts, on September 13, 2002.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 02-23882 Filed 9-19-02; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001-NE-06-AD]

RIN 2120-AA64

Airworthiness Directives; Turbomeca S.A. Arriel 1 A2, 1 C, 1 C1, 1 C2, 1 D, 1 D1, 1 E2, 1 K, 1 K1, 1 S, 1 S1 and Arriel 2 B, 2 B1, 2 C, 2 C1, 2 S1 Series Turboshaft Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Supplemental notice of proposed rulemaking (NPRM); reopening of comment period.

SUMMARY: This notice revises an earlier proposed airworthiness directive (AD), applicable to Turbomeca S.A. Arriel- 1 D, 1 D1, 1 S, 1 S1, 2 S1, and -2B series turboshaft engines. That proposal would

have required the insertion of a sleeve in the attachment boss of the compressor bleed valve. That proposal was prompted by several cases of contained centrifugal compressor impeller blade ruptures that occurred in service. This proposed action revises the proposed rule by retaining the insertion of a sleeve in the attachment boss of the compressor bleed valve, adding requirements for bonding the sleeve in the bleed-valve mounting pad, and expanding the applicability to Turbomeca Arriel 1 A2, 1 C, 1 C1, 1 C2, 1 D, 1 D1, 1 E2, 1 K, 1 K1, 1 S, 1 S1, and Arriel 2 B, 2 B1, 2 C, 2 C1, 2 S1 series turboshaft engines. The actions specified by this proposed AD are intended to prevent acoustic excitation of the centrifugal compressor impeller blades resulting in contained compressor impeller blade ruptures and power loss that could lead to an uncommanded in-flight shutdown.

DATES: Comments must be received by November 19, 2002.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2001-NE-06-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may be inspected at this location, by appointment, between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. Comments may also be sent via the Internet using the following address: "9-ane-adcomment@faa.gov". Comments sent via the Internet must contain the docket number in the subject line.

The service information referenced in the proposed rule may be obtained from Turbomeca S.A, 64511 Bordes Cedex, France; telephone 33 05 59 64 40 00; fax 33 05 59 64 60 80. This information may be examined, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Richard Woldan, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New