[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0826; Product Identifier 2018-NE-27; Amendment 39-19553; AD 2019-03-01]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Division (PW) Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Pratt & Whitney Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines. This AD was prompted by an in-flight failure of a 1st-stage low-pressure compressor (LPC) blade. This AD requires initial and repetitive thermal acoustic imaging (TAI) inspections for cracks in certain 1st-stage LPC blades and removal of those blades that fail inspection. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Pratt & Whitney Division, 400 Main Street, East Hartford, CT, 06118; phone: 800-565-0140; fax: 860-565-5442; email: help24@pw.utc.com. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington,

MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759. It is also available on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0826.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0826; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, 20590.

FOR FURTHER INFORMATION CONTACT: Jo-Ann Theriault, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7105; fax: 781-238-7199; email: jo-ann.theriault@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain PW PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines. The NPRM published in the Federal Register on October 10, 2018 (83 FR 50862). The NPRM was prompted by an in-flight failure of a 1st-stage LPC blade. The NPRM proposed to require initial and repetitive TAI inspections for cracks in certain 1st-stage LPC blades and removal of those blades that fail inspection. We are issuing this AD to address the unsafe condition on these products.

Comments

We gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request to Give Credit for Earlier Revisions of PW ASB

PW and Japan Airlines (JAL) requested that we revise the Credit for Previous Actions paragraph of this AD to give credit for revisions of Pratt & Whitney Alert Service Bulletin (ASB) PW4G-112-A72-268, earlier than Revision No. 6, dated August 5, 2014. PW and JAL reason that TAI inspections performed using earlier revisions of the PW ASB meet the requirements of this AD.

We agree. We revised the Credit for Previous Actions paragraph of this AD to give credit for accomplishing the initial TAI inspection if operators used Pratt & Whitney ASB PW4G-112-A72-268, Revision No. 6, dated August 5, 2014, or earlier revisions, because this meets the intended safety requirements of this AD.

Request to Clarify Installation Prohibition

PW and JAL requested that we revise the Installation Prohibition paragraph to align with the wording in Table 1, Step 3, of Pratt & Whitney ASB PW4G-112-A72-268, Revision No. 7, dated September 6, 2018, which states, "All blades that have never been TAI inspected but have accumulated greater than 1,000 cycles must be inspected prior to December 31, 2027." JAL reasoned that the intent of the Installation Prohibition is the same as the PW ASB.

JAL also requested that we define "install 1st-stage LPC blade" and clarify that the Installation Prohibition paragraph does not prohibit removing and reinstalling 1st-stage LPC blades for the purpose of relubrication.

We partially agree. We agree that the intent of the Installation Prohibition section in the NPRM was the same as the PW ASB. We also agree that 1st-stage LPC blades that

are removed solely for relubrication do not need to be inspected before reinstallation because this AD intends to inspect 1st-stage LPC blades at every M-flange separation. We do not agree, however, to modify the Installation Prohibition paragraph as we have determined that this paragraph is unnecessary because the AD already requires the initial inspections at specific thresholds. These thresholds provide an acceptable level of safety. We removed the Installation Prohibition paragraph from this AD.

Support for the AD

The Air Line Pilots Association, Boeing Company, and the National Transportation Safety Board expressed support for the NPRM as written.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related Service Information under 1 CFR part 51

We reviewed Pratt & Whitney ASB PW4G-112-A72-268, Revision No. 7, dated September 6, 2018. The PW ASB describes procedures for performing 1st-stage LPC blade TAI inspections. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 120 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	22 work-hours X $85 per hour = $1,870	$0	$1,870	$224,400

We estimate the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need these replacements:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Replace 1st-stage LPC blade	0 work-hours X $85 per hour = $0	$125,000	$125,000

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

Regulatory Findings

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),

(3) Will not affect intrastate aviation in Alaska, and

(4) 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.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA 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 (AD):

2019-03-01 **Pratt & Whitney Division**: Amendment 39-19553; Docket No. FAA-2018-0826; Product Identifier 2018-NE-27-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Pratt & Whitney Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines, with 1st-stage low-pressure compressor (LPC) blade, part numbers 52A241, 55A801, 55A801-001, 55A901, 55A901-001, 56A201, 56A201-001, or 56A221, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by an uncontained 1st-stage LPC blade failure. We are issuing this AD to prevent failure of the 1st-stage LPC blade. The unsafe condition, if not addressed, could result in uncontained blade release, damage to the engine, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) After the effective date of this AD, perform an initial thermal acoustic imaging (TAI) inspection of the 1st-stage LPC blades as follows:

(i) For 1st-stage LPC blades that have accumulated fewer than 6,500 cycles since new (CSN), perform a TAI inspection the next time the engine is separated at the M-flange, or prior to the 1st-stage LPC blade accumulating 7,000 CSN, whichever occurs first.

(ii) For 1st-stage LPC blades that have accumulated 6,500 or more CSN, or if the cycles since the blade was new cannot be determined, or if the cycles since the blade was last TAI inspected cannot be determined, perform a TAI inspection within 500 flight cycles or 180 days after the effective date of this AD, whichever occurs first.

(2) Thereafter, perform a TAI inspection of 1st-stage LPC blades every time the engine is separated at the M-flange and the blades have accumulated 1,000 or more flight cycles since the last TAI inspection, not to exceed 6,500 flight cycles since the last TAI inspection.

(3) If any 1st-stage LPC blade fails the inspection required by paragraph (g)(1) or (2) of this AD, remove the blade from service and replace with a part eligible for installation before further flight.

(4) The TAI inspection and disposition required for compliance with this AD must be accomplished by a method approved by the FAA. You can find a vendor that has an FAA-approved TAI inspection listed in the Vendor Services Section of Pratt & Whitney Alert Service Bulletin (ASB) PW4G-112-A72-268, Revision No. 7, dated September 6, 2018.

(h) Credit for Previous Actions

You may take credit for the initial TAI inspection required by paragraph (g)(1) of this AD if you performed the TAI inspection before the effective date of this AD using Pratt & Whitney ASB PW4G-112-A72-268, Revision No. 6, dated August 5, 2014, or earlier revisions.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

For more information about this AD, contact Jo-Ann Theriault, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7105; fax: 781-238-7199; email: jo-ann.theriault@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) Pratt & Whitney Alert Service Bulletin PW4G-112-A72-268, Revision No. 7, dated September 6, 2018.

(ii) [Reserved]

(4) For Pratt & Whitney service information identified in this AD, contact Pratt & Whitney Division, 400 Main Street, East Hartford, CT, 06118; phone: 800-565-0140; fax: 860-565-5442; email: help24@pw.utc.com.

(5) You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(6) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Burlington, Massachusetts, on February 7, 2019.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.
[FR Doc. 2019-02453 Filed: 2/14/2019 8:45 am; Publication Date: 2/15/2019]