Patrick Mullen,

Manager, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service.

[FR Doc. 2022–04845 Filed 3–10–22; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2021–0959; Project Identifier AD–2021–00830–E; Amendment 39–21975; AD 2022–06–09]

RIN 2120–AA64

Airworthiness Directives; Pratt & Whitney Division Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2019–03–01 and AD 2021–05–51 for certain Pratt & Whitney Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090–3 model turbofan engines. AD 2019–03–01 required performing initial and repetitive thermal acoustic image (TAI) inspections for cracks in certain 1st-stage low-pressure compressor (LPC) blades and removal of those blades that fail inspection. AD 2021–05–51 required performing a one-time TAI inspection for cracks in certain 1st-stage LPC blades and removal of those blades that fail inspection. This AD was prompted by three in-flight failures of a 1st-stage LPC blade, with one failure resulting in an engine fire during flight, and subsequent manufacturer publication of service information specifying improved inspections for three critical locations on the 1st-stage LPC blade. This AD requires initial and repetitive ultrasonic (UT) inspections and TAI inspections for cracks in certain 1st-stage LPC blades and removal of those blades that fail inspection. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective April 15, 2022.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 15, 2022.

ADDRESSES: For service information identified in this final rule, contact Pratt & Whitney Division, 400 Main Street, East Hartford, CT 06118; phone: (860) 565–0140; email: *help24@prattwhitney.com;* website: *https://connect.prattwhitney.com.* You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222–5110. It is also available at *https://www.regulations.gov* by searching for and locating Docket No. FAA–2021–0959.

Examining the AD Docket

You may examine the AD docket at *https://www.regulations.gov*by searching for and locating Docket No. FAA–2021–0959; 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, any comments received, and other information. The address for Docket Operations 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: Carol Nguyen, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238–7655; fax: (781) 238–7199; email: *carol.nguyen@faa.gov*.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2019–03–01, Amendment 39–19553 (84 FR 4320, February 15, 2019) (AD 2019–03–01), and AD 2021–05–51, Amendment 39–21470 (86 FR 13445, March 9, 2021) (AD 2021–05–51). AD 2019–03–01 and AD 2021–05–51 applied to certain PW PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090–3 model turbofan engines. The NPRM published in the **Federal Register** on December 28, 2021 (86 FR 73699). The NPRM was prompted by the manufacturer developing an improved UT inspection for the three critical locations on the 1st-stage LPC blade, two at the mid span region of the blade and one at the flow path region of the blade, following three in-flight failures of a 1st-stage LPC blade, with one failure resulting in an engine fire during flight. The manufacturer published Pratt & Whitney Alert Service Bulletin (ASB) PW4G–112–A72–361, dated October 15, 2021, which provides instructions for performing both the improved UT inspection and the TAI inspection. The manufacturer also determined that it was necessary to adjust the initial TAI inspection threshold and lower the repetitive TAI inspection interval on the 1st-stage LPC blades to address the unsafe condition. In the NPRM, the FAA proposed to require initial and repetitive UT inspections and TAI inspections for cracks in certain 1st-stage LPC blades and removal of those blades that fail inspection.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from five commenters. The commenters were Air Line Pilots Association, International (ALPA), All Nippon Airways (ANA), The Boeing Company (Boeing), Japan Airlines (JAL), and United Airlines (UAL). The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Revise Note and Add Additional Note in Required Actions

UAL requested that the FAA revise Note 2 to paragraph (g)(1)(ii) of the NPRM [Note 1 to paragraph (g)(1)(ii) of this AD] to ''The FAA-approved TAI inspection method and the vendors that can perform the FAA-approved TAI inspection are specified in the Accomplishment Instructions section and Vendor Services section of PW4G–112–A72–361, respectively.'' UAL also requested that the FAA add the same note to paragraph (g)(2)(iii) of this AD.

The FAA agrees and revised Note 1 to paragraph (g)(1)(ii) of this AD and added Note 2 to paragraph (g)(2)(iii) to this AD, as requested by UAL.

Request To Change the Initial Compliance Time to Before Revenue Flight

ANA requested that the FAA change the Required Actions, paragraph (g)(1) Initial 1st-stage LPC Blade Inspections, from ''before further flight after the effective of this AD'' to ''before the next revenue flight'' to clarify the ferry flight requirement.

Similarly, JAL requested the FAA change the Required Actions, paragraph (g)(1) Initial 1st-stage LPC Blade Inspections, from ''before further flight after the effective of this AD'' to ''before the next revenue flight'' or ''before further flight except the ferry flight without passenger and cargos.''

The FAA disagrees with changing the initial compliance in paragraph (g) of this AD as requested by ANA and JAL. The FAA has determined it is necessary to require certain actions prior to any flight, except as permitted in paragraph (i), Special Flight Permit, of this AD.

Request To Add Aircraft Maintenance Manual Task to Special Flight Permit

ANA and UAL requested that paragraph (h)(2) of the proposed AD (paragraph (i)(2) of this AD) include Task 29–11–00–710–806 of the Boeing 777–200/300 Aircraft Maintenance Manual as an acceptable method for accomplishing the functional check of the left and right hydraulic pump shutoff valves.

The FAA agrees and has added Task 29–11–00–710–806 of the Boeing 777–200/300 Aircraft Maintenance Manual to Note 3 to paragraph (i)(2) of this AD as guidance for accomplishing the actions in paragraph (i)(2), Special Flight Permit, of this AD.

Request To Add Certain Exceptions for Ferry Flights

JAL requested that the FAA revise the AD to include certain exceptions for ferry flights. JAL stated it is planning to ferry affected airplanes to a storage point in the United States. JAL commented that although the local authority in Japan provides regulatory requirements for special flight permissions which are similar to 14 CFR 21.197, Special flight permits, the Japanese regulatory requirements do not include ''to a point of storage'' language for the purpose of the flights. JAL proposed to add the following wording to paragraphs (c) and (g), Applicability and Required Actions, respectively, of this AD, ''except for ferry flights, without passenger and cargo, of the airplanes on which the actions specified in paragraphs (h)(1) and (h)(2) of this AD [paragraphs (i)(1) and (2) of this AD] have been done.''

The FAA disagrees with revising paragraph (c) Applicability or paragraph (g) Required Actions of this AD in response to JAL's comment. Paragraph (i), Special Flight Permit, provides that special flight permits, as described in 14 CFR 21.197 and 21.199, are permitted provided that the actions in paragraphs (i)(1) and (2) of this AD have first been accomplished. 14 CFR 21.197(a)(1) provides, in relevant part, that a special flight permit may be issued for flying the aircraft to a base where repairs, alterations, or maintenance are to be performed, or to a point of storage. The requested change is already permitted by this AD. The FAA did not change this AD as a result of this comment.

Request To Provide a Threshold for the Special Flight Permit

JAL and UAL requested that the FAA provide a threshold in paragraph (h)(1) of the proposed AD [paragraph (i)(1) of this AD] for the flow path UT inspection of the 1st-stage LPC blades for cracking prior to obtaining a special flight permit. JAL suggested a threshold of 275 flight cycles (FCs) since the last flow path UT inspection for 1st-stage LPC blades that have zero cycles since new (CSN) and also for 1st-stage LPC blades that have accumulated any number of CSN greater than zero.

UAL stated that omitting a compliance time in paragraph (h) of the proposed AD for the special flight permits creates ambiguity regarding when and how often the flow path UT inspection is required for special flight permits. UAL suggested a threshold of 275 FCs since the last flow path UT inspection.

The FAA agrees to add a threshold of 275 FCs to paragraph (i)(1) of this AD. This allows airplanes with 1st-stage LPC blades that have accumulated 275 CSN or fewer to be eligible for a special flight permit.

Request To Define Part Eligible for Installation

JAL requested that the FAA define the 1st-stage LPC blade eligible for installation.

The FAA agrees and added paragraph (h) to this AD to define a part eligible for installation.

Request To Clarify the Use of Revised Non-Destructive Inspection Procedures (NDIPs)

JAL requested clarification for the use of revised NDIPs for the flow path UT inspection of the 1st-stage LPC blades specified in paragraph (g)(1), (g)(2), and (h)(1) of the proposed AD (paragraph (g)(1), (g)(2), and (i)(1) of this AD). JAL commented that Pratt & Whitney ASB PW4G–112–A72–361, dated October 15, 2021, references the UT inspection procedures in NDIP 1238, NDIP–1240, and NDIP–1241, which are currently at the original version. JAL asked if the submission of an alternative method of compliance (AMOC) request is necessary if the NDIPs are later revised to meet the requirements in paragraph (g)(1), (g)(2), and (h)(1) of the proposed AD (paragraph (g)(1), (g)(2), and (i)(1) of this AD).

Pratt & Whitney Alert Service Bulletin PW4G–112–A72–361, dated October 15, 2021, requires the latest FAA-approved revision of NDIP–1238, NDIP–1240, and NDIP–1241 at the time the initial inspection is accomplished. Furthermore, the FAA has provided credit for accomplishment of the flow path and mid span UT inspection identified in paragraph (g)(1), and (i)(1) of this AD using the service information specified in paragraph (j) of this AD.

Support for the AD

ALPA and Boeing expressed support for the AD as written.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Pratt & Whitney ASB PW4G–112–A72–361, dated October 15, 2021. This ASB specifies procedures for performing the TAI and UT inspections of 1st-stage LPC blades. 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 **ADDRESSES**.

Other Related Service Information

The FAA reviewed ''Engine-Driven Pump (EDP) Shutoff Valve Check'' (Subtasks 26–21–00–200–018, 26–21–00–200–019, 26–21–00–840–022, and Task 29–11–00–710–806) of Boeing 777–200/300 Aircraft Maintenance Manual, dated September 5, 2021. The service information specifies procedures for performing the engine-driven pump shutoff valve functional check.

Costs of Compliance

The FAA estimates that this AD affects 108 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

ESTIMATED COSTS

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Perform UT flow path inspection of 1st-stage LPC blades.	15 work-hours × $85 per hour = $1,275	$0	$1,275	$137,700
Perform UT mid span inspection of 1st-stage LPC blades.	30 work-hours × $85 per hour = $2,550	0	2,550	275,400
Perform TAI inspection of 1st-stage LPC blades.	22 work-hours × $85 per hour = $1,870	0	1,870	201,960

The FAA estimates the following costs to do any necessary replacement that would be required based on the results of the inspection. The agency has no way of determining the number of aircraft that might need this replacement:

ON-CONDITION COSTS

Action	Labor cost	Parts cost	Cost per product
Replace 1st-stage LPC blade	0 work-hours × $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.

The FAA is 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

The FAA has 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) Will not affect intrastate aviation in Alaska, 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.

List of Subjects in 14 CFR Part 39

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

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:

■ a. Removing Airworthiness Directive (AD) 2019–03–01, Amendment 39–19553 (84 FR 4320, February 15, 2019), and AD 2021–05–51, Amendment 39–21470 (86 FR 13445, March 9, 2021); and

■ b. Adding the following new airworthiness directive:

2022–06–09 Pratt & Whitney Division: Amendment 39–21975; Docket No. FAA–2021–0959; Project Identifier AD–2021–00830–E.

(a) Effective Date

This airworthiness directive (AD) is effective April 15, 2022.

(b) Affected ADs

This AD replaces AD 2019–03–01, Amendment 39–19553 (84 FR 4320, February 15, 2019), and AD 2021–05–51, Amendment 39–21470 (86 FR 13445, March 9, 2021).

(c) Applicability

This AD applies to Pratt & Whitney Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090–3 model turbofan engines, with a 1st-stage low-pressure compressor (LPC) blade, with part number 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 three in-flight failures of a 1st-stage LPC blade, with one failure resulting in an engine fire during flight, and subsequent manufacturer publication of service information specifying improved inspections for three critical locations on the 1st-stage LPC blade. The FAA is issuing this AD to prevent failure of the 1st-stage LPC blades. The unsafe condition, if not addressed, could result in 1st-stage LPC 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) Initial 1st-Stage LPC Blade Inspections

(i) For 1st-stage LPC blades that have accumulated any number of cycles since new (CSN) greater than zero, before further flight after the effective date of this AD, perform a flow path and a mid span ultrasonic testing (UT) inspection of the 1st-stage LPC blades in accordance with the Accomplishment Instructions, Part A—Initial Inspection of All LPC Fan Blades Prior to Their Return to Service, paragraph 1.A. through C., of Pratt & Whitney Alert Service Bulletin (ASB) PW4G–112–A72–361, dated October 15, 2021 (PW4G–112–A72–361). New 1st-stage LPC

blades that have zero CSN do not need to undergo the initial 1st-stage LPC blade flow path and mid span UT inspection required by paragraph (g)(1)(i) of this AD, but must undergo the repetitive inspections of paragraph (g)(2) of this AD.

(ii) Within the following compliance times after the effective date of this AD, perform a thermal acoustic image (TAI) inspection of the 1st-stage LPC blades for cracks using a method approved by the FAA:

(A) For 1st-stage LPC blades with 1,000 CSN or more, with no prior TAI inspection, inspect before further flight.

(B) For 1st-stage LPC blades with 1,000 flight cycles (FCs) or more since the last TAI inspection, inspect before further flight.

(C) For 1st-stage LPC blades with fewer than 1,000 CSN, with no prior TAI inspection, inspect before accumulating 1,000 CSN.

(D) For 1st-stage LPC blades with fewer than 1,000 FCs since the last TAI inspection, inspect before accumulating 1,000 FCs since the last TAI inspection.

Note 1 to paragraph (g)(1)(ii): The FAA-approved TAI inspection method and the vendors that can perform the FAA-approved TAI inspection are specified in the Accomplishment Instructions section and the Vendor Services section of PW4G–112–A72–361, respectively.

(2) Repetitive 1st-Stage LPC Blade Inspections

(i) Before exceeding 275 FCs since the last flow path UT inspection, and thereafter at intervals not exceeding 275 FCs since the last flow path UT inspection, perform a flow path UT inspection of the 1st-stage LPC blades in accordance with the Accomplishment Instructions, Part B—Repetitive Inspection of All LPC Fan Blades After Their Return to Service, paragraph 1.A., of PW4G–112–A72–361.

(ii) Before exceeding 550 FCs since the last mid span UT inspection, and thereafter at intervals not exceeding 550 FCs since the last mid span UT inspection, perform a mid span UT inspection of the 1st-stage LPC blades in accordance with the Accomplishment Instructions, Part B—Repetitive Inspection of All LPC Fan Blades After Their Return to Service, paragraphs 1.B. and C., of PW4G–112–A72–361.

(iii) Before exceeding 1,000 FCs since the last TAI inspection, and thereafter at intervals not exceeding 1,000 FCs since the last TAI inspection, perform repetitive TAI inspections of the 1st-stage LPC blades using a method approved by the FAA.

Note 2 to paragraph (g)(2)(iii): The FAA-approved TAI inspection method and the vendors that can perform the FAA-approved TAI inspection are specified in the Accomplishment Instructions section and the Vendor Services section of PW4G–112–A72–361, respectively.

(3) Removal of the 1st-Stage LPC Blade

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

(h) Definition

For the purpose of this AD, a ''part eligible for installation'' is a new, zero CSN 1st-stage LPC blade or a 1st-stage LPC blade that has passed the inspections required by paragraphs (g)(1) and (2) of this AD, as applicable.

(i) Special Flight Permit

Special flight permits, as described in 14 CFR 21.197 and 21.199, are permitted provided that the actions in paragraphs (i)(1) and (2) of this AD have first been accomplished.

(1) A flow path UT inspection of the 1st-stage LPC blades for cracking has been done within the last 275 FCs, as specified in the Accomplishment Instructions, Part A—Initial Inspection of All LPC Fan Blades Prior to their Return to Service, paragraph 1.A., of PW4G–112–A72–361, and the 1st-stage LPC blades have been found serviceable. This inspection is not required for 1st-stage LPC blades with 275 CSN or fewer.

(2) A functional check of the left and right hydraulic pump shutoff valves to ensure they close in response to the corresponding engine fire handle input and all applicable corrective actions (*i.e.,* repair) within 10 days prior to flight.

Note 3 to paragraph (i)(2): Guidance for accomplishing the actions required by paragraph (i)(2) of this AD can be found in the ''Engine-Driven Pump (EDP) Shutoff Valve Check'' (Subtasks 26–21–00–200–018, 26–21–00–200–019, 26–21–00–840–022, or Task 29–11–00–710–806) of Boeing 777–200/300 Aircraft Maintenance Manual.

(j) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraphs (g)(1) and (i)(1) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraph (j)(1), (2), or (3) of this AD.

(1) Paragraph 2. of the Accomplishment Instructions of Pratt & Whitney Special Instruction No. 85F21, dated May 12, 2021, for a flow path UT inspection.

(2) Paragraph 1.a) through c) of the Accomplishment Instructions of Pratt & Whitney Special Instruction No. 130F–21, dated July 1, 2021, for a flow path and a mid span UT inspection.

(3) Paragraph 2.a) through c) of the Accomplishment Instructions of Pratt & Whitney Special Instruction No. 130F–21, Revision A, dated July 28, 2021, for a flow path and a mid span UT inspection.

(k) 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 (l) 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.

(l) Related Information

For more information about this AD, contact Carol Nguyen, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238–7655; fax: (781) 238–7199; email: *carol.nguyen@faa.gov.*

(m) 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.

(i) Pratt & Whitney Alert Service Bulletin PW4G–112–A72–361, dated October 15, 2021.

(ii) [Reserved]

(3) For service information identified in this AD, contact Pratt & Whitney Division, 400 Main Street, East Hartford, CT 06118; phone: (860) 565–0140; email: *help24@prattwhitney.com;* website: *https://connect.prattwhitney.com.*

(4) You may view this service information FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222–5110.

(5) 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, email: *fr.inspection@nara.gov,* or go to: *https://www.archives.gov/federal-register/cfr/ibr-locations.html.*

Issued on March 4, 2022.

Lance T. Gant,

Director, Compliance & Airworthiness Division, Aircraft Certification Service.

[FR Doc. 2022–05296 Filed 3–9–22; 4:15 pm]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2021–0963; Project Identifier AD–2021–01026–T; Amendment 39–21977; AD 2022–06–11]

RIN 2120–AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain The Boeing Company Model 777–200