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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0511; Project Identifier AD-2020-01229-E; Amendment 39-22101; AD 2022-13-15]

RIN 2120-AA64

Airworthiness Directives; Williams International Co., L.L.C. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Williams International Co., L.L.C. (Williams) FJ44-2A, FJ44-2C, FJ44-3A, and FJ44-3A-24 model turbofan engines. This AD was prompted by a report of cracks in the high-pressure turbine (HPT) disk posts and failure of an HPT disk post, resulting in the contained fracture of an HPT disk post and blade. This AD requires removing the HPT disk, part number (P/N) 67093, from service before reaching defined cycle limits and replacing it with a part eligible for installation. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective August 9, 2022.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 9, 2022.

ADDRESSES: For service information identified in this final rule, contact Williams International, Product Support, 2000 Centerpoint Parkway, Pontiac, MI 48341; phone: (800) 859-3544; website: <http://www.williams-int.com/product-support>. 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.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0511; 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: Kyle Bush, Aviation Safety Engineer, Chicago ACO, FAA, 2300 East Devon Avenue, Des Plaines, IL 60018; phone: (847) 294-7870; email: kyle.bush@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Williams FJ44-2A, FJ44-2C, FJ44-3A, and FJ44-3A-24 model turbofan engines. The SNPRM published in the Federal Register on April 14, 2022 (87 FR 22153). The SNPRM was prompted by a report of cracks in the HPT disk posts and failure of an HPT disk post, resulting in the contained fracture of an HPT disk post and blade. Subsequently, Williams notified the FAA that revised service information was available, which added additional serial-numbered FJ44-2A, FJ44-2C, and FJ44-3A model turbofan engines to the effectivity and updated the compliance time for replacing the HPT disk. In the SNPRM, the FAA proposed to require removing the HPT disk, P/N 67093, from service before reaching defined cycle limits and replacing it with a part eligible for installation. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the SNPRM or on the determination of the costs.

Conclusion

The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the SNPRM.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Williams International Service Bulletin (SB) WISB-72-1032, Revision 2, dated June 4, 2020. This SB specifies procedures for removing and replacing the HPT rotor assemblies that include HPT disk, P/N 67093. This SB also provides instructions for incorporating the latest HPT combustor/fuel slinger module on FJ44-2A and FJ44-2C model turbofan engines. 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 Williams International SB WISB-72-1034, Revision 3, dated July 2, 2021. This SB describes procedures for re-identifying the HPT rotor assembly and HPT disk.

Costs of Compliance

The FAA estimates that this AD affects 242 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
Remove and replace the HPT disk	33 work-hours × \$85 per hour = \$2,805	\$16,694	\$19,499	\$4,718,758

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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

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 adding the following new airworthiness directive:



2022-13-15 Williams International Co., L.L.C.: Amendment 39-22101; Docket No. FAA-2021-0511; Project Identifier AD-2020-01229-E.

(a) Effective Date

This airworthiness directive (AD) is effective August 9, 2022.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Williams International Co., L.L.C. (Williams) FJ44-2A, FJ44-2C, FJ44-3A, and FJ44-3A-24 model turbofan engines with an engine serial number identified in paragraph 1.A., Effectivity, of Williams International Service Bulletin WISB-72-1032, Revision 2, dated June 4, 2020 (the SB), with an installed high-pressure turbine (HPT) disk, part number (P/N) 67093.

(d) Subject

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by a report of cracks in the HPT disk posts and failure of an HPT disk post, resulting in the contained fracture of an HPT disk post and blade. The FAA is issuing this AD to prevent cracking and failure of the HPT disk posts. The unsafe condition, if not addressed, could result in release of the HPT blade, 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) For FJ44-2A and FJ44-2C model turbofan engines, within the compliance times specified in Table 1 to Paragraph (g) of this AD, remove the affected HPT disk from service and replace it with a part eligible for installation using paragraphs 2.C. and E., Accomplishment Instructions—FJ44-2A & FJ44-2C, of the SB.

(2) For FJ44-3A and FJ44-3A-24 model turbofan engines, within the compliance times specified in Table 1 to Paragraph (g) of this AD, remove the affected HPT disk from service and replace it with a part eligible for installation using paragraphs 3.C. and D., of the SB.

Table 1 to Paragraph (g) – Compliance Time

HPT disk, P/N 67093, cycles since new (CSN) as of the effective date of this AD	Replace within HPT disk cycles after the effective date of this AD
0 to 999 CSN	620
1,000 to 1,999 CSN	530
2,000 to 2,999 CSN	245
3,000 or higher CSN	130

(h) Installation Prohibition

After the effective date of this AD, do not install onto any engine an HPT disk with P/N 67093.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Chicago ACO, 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.

(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 Kyle Bush, Aviation Safety Engineer, Chicago ACO, FAA, 2300 East Devon Avenue, Des Plaines, IL 60018; phone: (847) 294-7870; email: kyle.bush@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.

(i) Williams International Service Bulletin WISB-72-1032, Revision 2, dated June 4, 2020.

(ii) [Reserved]

(3) For service information identified in this AD, contact Williams International, Product Support, 2000 Centerpoint Parkway, Pontiac, MI 48341; phone: (800) 859-3544; website: <http://www.williams-int.com/product-support>.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, FAA, 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 June 17, 2022.
Christina Underwood,
Acting Director, Compliance & Airworthiness Division, Aircraft Certification Service.
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