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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2017-0750; Product Identifier 2017-NE-24-AD; Amendment 39-19137; AD 2017-26-06]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Rolls-Royce Corporation Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Rolls-Royce Corporation (RRC) AE 3007A and AE 3007C model turbofan engines. This AD was prompted by an updated analysis that lowered the life limit of fan wheels installed on the affected engines. This AD requires removal of the affected fan wheel at new, lower life limits. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective January 31, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of January 31, 2018.

**ADDRESSES:** For service information identified in this final rule, contact Rolls-Royce Corporation, 450 South Meridian Street, Mail Code NB-02-05, Indianapolis, IN 46225; phone: 317-230-3774; email: indy.pubs.services@rolls-royce.com; internet: www.rolls-royce.com. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

#### **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-2017-0750; or in person at the Docket Management Facility 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 the Docket Office (phone: 800-647-5527) is Document Management Facility, 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:** Kyri Zaroyiannis, Aerospace Engineer, Chicago ACO Branch, FAA, 2300 E. Devon Ave., Des Plaines, IL 60018; phone: 847-294-7836; fax: 847-294-7834; email: kyri.zaroyiannis@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 RRC AE 3007A and AE 3007C model turbofan engines. The NPRM published in the Federal Register on September 22, 2017 (82 FR 44357). The NPRM was prompted by an updated stress analysis that showed higher stress than previously calculated in the aft retainer flange scallop of the fan wheel, part number (P/N) 23061670. As a result, RRC reduced the published life of the affected fan wheel. The NPRM proposed to require removal of the affected fan wheel at new, lower life limits. We are issuing this AD to correct the unsafe condition on these products.

**Comments**

We gave the public the opportunity to participate in developing this final rule. We have considered the comment received. The Air Line Pilots Association supported the NPRM.

**Conclusion**

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this final rule as proposed except for minor editorial changes. We have determined that these minor changes:

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

**Related Service Information Under 1 CFR Part 51**

We reviewed RRC Alert Service Bulletin (ASB) AE 3007A-A-72-424/ASB AE 3007C-A-72-327 (one document), Revision 1, dated April 20, 2017. The ASB provides updated life limits for the affected fan wheels. 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 341 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
Replace fan wheel (P/N 23061670) at reduced life	0 work-hours x \$85 per hour = \$0	\$12,357 (pro-rated cost of part)	\$12,357	\$4,213,737

## **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):



**2017-26-06 Roll-Royce Corporation (Type Certificate previously held by Allison Engine Company):** Amendment 39-19137; Docket No. FAA-2017-0750; Product Identifier 2017-NE-24-AD.

**(a) Effective Date**

This AD is effective January 30, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Rolls-Royce Corporation (RRC) AE 3007A, AE 3007A1, AE 3007A1/1, AE 3007A1/2, AE 3007A1/3, AE 3007A1P, AE 3007A1E, AE 3007A3, AE 3007C and 3007C1 turbofan engines with a fan wheel, part number (P/N) 23061670, installed.

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by an updated analysis that lowered the life limit of fan wheels installed on the affected engines. We are issuing this AD to prevent failure of the fan wheel. The unsafe condition, if not corrected, could result in failure of the fan wheel, uncontained release of the fan wheel, 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 all AE 3007A, AE 3007A1, AE 3007A1/1, AE 3007A1/2, AE 3007A1/3, AE 3007A1P, AE 3007A1E, AE 3007A3, AE 3007C and 3007C1 engines with an installed fan wheel, P/N 23061670, after the effective date of this AD, remove the affected fan wheel before exceeding the new life limits identified in Planning Information, paragraph 1.F., of RRC Alert Service Bulletin (ASB) AE 3007A-A-72-424/ASB AE 3007C-A-72-327 (one document), Revision 1, dated April 20, 2017.

(2) After the effective date of this AD, do not return to service any engine with a fan wheel, P/N 23061670, with a fan wheel life that exceeds the new life limits identified in Planning Information,

paragraph 1.C., of RRC ASB AE 3007A-A-72-424/ASB AE 3007C-A-72-327 (one document), Revision 1, dated April 20, 2017.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Chicago ACO 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 Chicago ACO Branch, send it to the attention of the person identified in paragraph (i) 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.

**(i) Related Information**

For more information about this AD, contact Kyri Zaroyiannis, Aerospace Engineer, Chicago ACO Branch, FAA, 2300 E. Devon Ave. Des Plaines, IL 60018; phone: 847-294-7836; fax: 847-294-7834; email: kyri.zaroyiannis@faa.gov.

**(j) 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) Rolls-Royce Corporation (RRC) Alert Service Bulletin AE 3007A-A-72-424/ASB AE 3007C-A-72-327 (one document), Revision 1, dated April 20, 2017.

(ii) Reserved.

(3) For RRC service information identified in this AD, contact Rolls-Royce Corporation, 450 South Meridian Street, Mail Code NB-02-05, Indianapolis, IN 46225; phone: 317-230-3774; email: indy.pubs.services@rolls-royce.com; internet: www.rolls-royce.com.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7125.

(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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on December 18, 2017.

Robert J. Ganley,  
Manager, Engine and Propeller Standards Branch,  
Aircraft Certification Service.