



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0750; Product Identifier 2017-NE-24-AD]**

**RIN 2120-AA64**

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

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

**ACTION:** Notice of proposed rulemaking (NPRM).

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

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, 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](mailto:indy.pubs.services@rolls-royce.com); Internet: [www.rolls-royce.com](http://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 NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**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](mailto:kyri.zaroyiannis@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2017-0750; Product Identifier 2017-NE-24-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

### **Discussion**

We learned from RRC that an updated stress analysis shows 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. We are proposing new life limits to remove this fan wheel from service before exceeding this new life limit. This 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.

### **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.

### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Proposed AD Requirements**

This proposed AD would require replacement of the affected fan wheels at new, lower life limits

## Costs of Compliance

We estimate that this proposed AD affects 341 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this proposed 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 appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD 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.

For the reasons discussed above, I certify 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),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, 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.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

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

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(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.

(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 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.

**(g) 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)(1) 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.

**(h) Related Information**

(1) 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.

(2) 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](mailto:indy.pubs.services@rolls-royce.com); Internet: [www.rolls-royce.com](http://www.rolls-royce.com).

(3) 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.

Issued in Burlington, Massachusetts, on September 13, 2017.

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

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