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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2008-0975; Directorate Identifier 2008-NE-29-AD; Amendment 39-15905; AD 2009-08-51]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Rolls-Royce Corporation (RRC) AE 3007A Series Turbofan Engines**

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This document publishes in the Federal Register an amendment adopting emergency airworthiness directive (AD) 2009-08-51 that was sent previously to all known U.S. owners and operators of RRC AE 3007A series turbofan engines. This AD requires performing an eddy current inspection (ECI) or surface wave ultrasonic test (SWUT) inspection on each affected high-pressure turbine wheel. This AD results from additional reports of cracks in the high-pressure turbine (HPT) stage 2 wheels identified from the required inspections in AD 2008-26-06. A revised risk assessment that includes these additional reports indicates we need to require a higher inspection rate. We are issuing this AD to prevent an uncontained failure of the HPT stage 2 wheel and damage to the airplane.

**DATES:** This AD becomes effective May 27, 2009 to all persons except those persons to whom it was made immediately effective by emergency AD 2009-08-51, issued on April 10, 2009, which contained the requirements of this amendment. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of May 27, 2009.

We must receive any comments on this AD by July 13, 2009.

**ADDRESSES:** Use one of the following addresses to comment on this AD.

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: (202) 493-2251.

**FOR FURTHER INFORMATION CONTACT:** Kyri Zaroyiannis, Aerospace Engineer, Chicago Aircraft Certification Office, Small Airplane Directorate, FAA, 2300 E. Devon Ave., Des Plaines, IL 60018; e-mail: kyri.zaroyiannis@faa.gov; telephone (847) 294-7836; fax (847) 294-7834.

Contact Rolls-Royce Corporation, P.O. Box 420, Indianapolis, IN 46206; telephone (317) 230-3774; fax (317) 230-8084; e-mail: indy.pubs.services@rolls-royce.com, for the service information identified in this AD.

**SUPPLEMENTARY INFORMATION:** On April 10, 2009, the FAA issued emergency AD 2009-08-51, that applies to RRC AE 3007A series turbofan engines. That AD supersedes AD 2008-26-06, and requires performing an ECI or SWUT inspection on HPT stage 2 wheels for cracks. That AD resulted from additional reports of cracks in the HPT stage 2 wheels identified from the required inspections. A revised risk assessment that includes these additional reports indicates we needed to require a higher inspection rate. That emergency AD also addresses a group of low utilization engines above 16,350 cycles-since-new (CSN) that might not yet have been inspected. This condition, if not corrected, could result in a possible uncontained failure of the HPT stage 2 wheel and damage to the airplane.

### **Relevant Service Information**

We have reviewed RRC Alert Service Bulletin (ASB) AE 3007A-A-72-367, Revision 1, dated April 7, 2009, that describes procedures for ECI of the HPT stage 2 wheel on AE 3007A series turbofan engines and RRC SB AE 3007A-72-368, Revision 1, dated April 6, 2009, that describes the procedures for SWUT inspection of the HPT stage 2 wheel on AE 3007A series turbofan engines.

### **FAA's Determination and Requirements of This AD**

Since the unsafe condition described is likely to exist or develop on other engines of the same type design, we issued emergency AD 2009-08-51 to prevent an uncontained failure of the HPT stage 2 wheel, and damage to the airplane. This AD requires performing an ECI or SWUT inspection on each affected wheel. You must use the service information described previously to perform the actions required by this AD.

### **FAA's Determination of the Effective Date**

Since an unsafe condition exists that requires the immediate adoption of this AD, we have found that notice and opportunity for public comment before issuing this AD are impracticable, and that good cause existed to make the AD effective immediately on April 10, 2009, to all known U.S. owners and operators of RRC AE 3007A series turbofan engines. These conditions still exist, and we are publishing the AD in the Federal Register as an amendment to Section 39.13 of part 39 of the Code of Federal Regulations (14 CFR part 39) to make it effective to all persons.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send us any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. FAA-2008-0975; Directorate Identifier 2008-NE-29-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it.

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 with FAA personnel concerning this AD. Using the search function of the Web site,

anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is the same as the Mail address provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **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.

### **Regulatory Findings**

We have 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. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); 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.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

### **List of Subjects in 14 CFR Part 39**

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

### **Adoption of the Amendment**

Under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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 removing Amendment 39-15772 (73 FR 78927, December 24, 2008), and by adding the following new airworthiness directive:



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**2009-08-51 Rolls-Royce Corporation (RRC) (Formerly Allison Engine Company):** Amendment 39-15905. Docket No. FAA-2008-0975; Directorate Identifier 2008-NE-29-AD.

### **Effective Date**

(a) This airworthiness directive (AD) becomes effective May 27, 2009, to all persons except those persons to whom it was made immediately effective by emergency AD 2008-08-51, issued April 10, 2009, which contained the requirements of this amendment.

### **Affected ADs**

(b) This AD supersedes AD 2008-26-06.

### **Applicability**

(c) This AD applies to RRC AE 3007A series turbofan engines with high-pressure turbine (HPT) stage 2 wheels, part number (P/N) 23065892, 23069116, 23069438, 23069592, 23074462, 23074644, 23075345, 23084520, or 23084781, installed. These engines are installed on, but not limited to, Empresa Brasileira de Aeronautica S. A. (EMBRAER) EMB-135 and EMB-145 airplanes.

### **Unsafe Condition**

(d) This AD results from additional reports of cracks in the HPT stage 2 wheels identified from the required inspections in AD 2008-26-06. A revised risk assessment that includes these additional reports indicates we need to require a higher inspection rate. We are issuing this AD to prevent uncontained failure of the HPT stage 2 wheel and damage to the airplane.

### **Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

### **Eddy Current Inspection or Surface Wave Ultrasonic Test Inspection**

(f) Perform an eddy current inspection (ECI) or surface wave ultrasonic test (SWUT) inspection on each affected wheel by the cycle limit specified in Table 1 of this AD. Use paragraphs 2.A. through 2.C.(4) of RRC Alert Service Bulletin (ASB) AE 3007A-A-72-367, Revision 1, dated April 7, 2009, or use paragraphs 2.A through 2.M.(8) of RRC Service Bulletin (SB) AE 3007A-72-368, Revision 1, dated April 6, 2009, to perform the inspections.

**Table 1–Compliance Times for ECI or SWUT Inspection of the HPT Stage 2 Wheels by Cycles-Since-New (CSN)**

<b>For HPT stage 2 wheels with CSN on the effective date of this AD:</b>	<b>Remove or inspect:</b>
17,500 or more	Before the next flight.
15,560 to 17,499	Within 75 cycles-in-service (CIS).
15,000 to 15,559	Within 150 CIS.
14,700 to 14,999	Within 200 CIS.
14,000 to 14,699	Within 250 CIS.
13,580 to 13,999	Within 450 CIS.
12,460 to 13,579	Within 600 CIS.

**Installation Prohibition**

(g) After the effective date of this AD, don't return to service, any HPT stage 2 wheel that was installed in any RRC AE 3007A series turbofan engine removed from service as a result of paragraph (f) of this AD unless the HPT stage 2 wheel has passed an inspection specified in RRC ASB AE 3007A-A-72-367, Revision 1, dated April 7, 2009 or RRC SB AE 3007A-72-368, Revision 1, dated April 6, 2009.

**Removal From Service**

(h) After the effective date of this AD, remove from service any HPT stage 2 wheel covered by this AD that has accumulated 22,500 CSN.

(i) After the effective date of this AD, don't install any HPT stage 2 wheel that has 22,500 or more CSN.

**Credit for Previous Inspections**

(j) HPT stage 2 wheels already inspected and passed using RRC ASB AE 3007A-A-72-367, Revision 1, dated April 7, 2009, or earlier issue; or RRC SB AE 3007A-72-368, Revision 1, dated April 6, 2009, or earlier issue, meet the requirements for the initial inspections specified in paragraph (f) of this AD.

**Alternative Methods of Compliance**

(k) The Manager, Chicago Aircraft Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

**Special Flight Permits**

(l) Under 14 CFR part 39.23, we are limiting the special flight permits for this AD by restricting the flight to essential flight crew only.

## Related Information

(m) Contact Kyri Zaroyiannis, Aerospace Engineer, Chicago Aircraft Certification Office, Small Airplane Directorate, FAA, 2300 E. Devon Ave., Des Plaines, IL 60018; e-mail: kyri.zaroyiannis@faa.gov; telephone (847) 294-7836; fax (847) 294-7834, for more information about this AD.

## Material Incorporated by Reference

(n) You must use the service information specified in Table 2 of this AD to perform the inspections required by this AD. The Director of the Federal Register approved the incorporation by reference of the documents listed in Table 2 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You can get a copy from Rolls-Royce Corporation, P.O. Box 420, Indianapolis, IN 46206; telephone (317) 230-3774; fax (317) 230-8084; e-mail: indy.pubs.services@rolls-royce.com. You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or 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>.

**Table 2—Incorporation by Reference**

<b>Rolls-Royce Corporation service information No.</b>	<b>Page</b>	<b>Revision</b>	<b>Date</b>
Alert Service Bulletin AE 3007A–A–72–367	ALL	1	April 7, 2009.
Total pages: 6			
Service Bulletin AE 3007A–72–368	ALL	1	April 6, 2009.
Total pages: 22			

Issued in Burlington, Massachusetts, on May 4, 2009.

Peter A. White,  
Assistant Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.