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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2007-27824; Directorate Identifier 2003-NE-12-AD; Amendment 39-15364; AD 2006-11-05R2]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Rolls-Royce plc RB211 Series Turbofan Engines**

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

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

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**SUMMARY:** The FAA is revising an existing airworthiness directive (AD) for Rolls-Royce plc (RR) RB211-22B series, RB211-524B, -524C2, -524D4, -524G2, -524G3, and -524H series, and RB211-535C and -535E series turbofan engines with high pressure compressor (HPC) stage 3 disc assemblies, part numbers (P/Ns) LK46210, LK58278, LK67634, LK76036, UL11706, UL15358, UL22577, UL22578, and UL24738 installed. That AD currently requires removing from service certain disc assemblies before they reach their full published life if not modified with anticorrosion protection. This AD requires the same actions but relaxes the removal compliance time for certain disc assemblies that have a record of detailed inspection. This AD results from the FAA allowing certain affected disc assemblies that have a record of a detailed inspection, to remain in service for a longer period than the previous AD allowed. We are issuing this AD to relax the compliance time for disc assemblies manufactured both "before and after 1990" by providing an option to track the disc life based on a record of a detailed inspection rather than by its entry into service date, while continuing to prevent corrosion-induced uncontained disc assembly failure, resulting in damage to the airplane.

**DATES:** Effective February 21, 2008. The Director of the Federal Register previously approved the incorporation by reference of certain publications listed in the regulations as of February 24, 2004 (69 FR 2661, January 20, 2004).

We must receive any comments on this AD by April 7, 2008.

**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: U.S. Docket Management Facility, 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.

Contact Rolls-Royce plc, PO Box 31, Derby, England, DE248BJ; telephone: 011-44-1332-242424; fax: 011-44-1332-245-418, for the service information identified in this AD.

**FOR FURTHER INFORMATION CONTACT:** Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park; Burlington, MA 01803; e-mail: ian.dargin@faa.gov; telephone (781) 238-7178; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** On May 15, 2006, the FAA issued AD 2006-11-05, Amendment 39-14609 (71 FR 29586, May 23, 2006). We also issued a correction to that AD on September 26, 2006 (71 FR 58254, October 3, 2006) and a revision to that AD on April 9, 2007 (72 FR 18862, April 16, 2007). That AD revision requires removing from service certain disc assemblies before they reach their full published life if not modified with anticorrosion protection. That AD was the result of the manufacturer's reassessment of the corrosion risk on HPC stage 3 disc assemblies that have not yet been modified with sufficient application of anticorrosion protection. That condition, if not corrected, could result in corrosion-induced uncontained disc assembly failure, resulting in damage to the airplane.

#### **Actions Since AD 2006-11-05R1 Was Issued**

Since AD 2006-11-05R1 was issued, we discovered that the population of affected disc assemblies identified in that AD was incorrect. That AD allowed affected disc assemblies that entered into service "before 1990" that have a record of a detailed inspection, to remain in service for a longer period than the previous AD, AD 2006-11-05, allowed. This revised AD allows disc assemblies manufactured both "before and after 1990" that have a record of a detailed inspection, to remain in service for 17 years from last overhaul inspection date. But the discs are not to exceed the manufacturer's published cyclic limit in the time limits section of the manual. We are issuing this AD to relax the compliance time for certain disc assemblies by providing an option to track the disk life based on a record of a detailed inspection rather than by its entry into service date, while continuing to prevent corrosion-induced uncontained disc assembly failure, resulting in damage to the airplane.

#### **Relevant Service Information**

We have reviewed and approved the technical contents of RR MSB No. RB.211-72-9661, Revision 5, dated December 22, 2006. That MSB allows affected disc assemblies and that have a record of detailed inspection:

- To remain in service for 17 years from last overhaul inspection date; but
- Not to exceed the manufacturer's published cyclic limit in the time limits section of the manual.

We do not incorporate by reference this MSB, but we list it in the Related Information section.

#### **Bilateral Airworthiness Agreement**

This engine model is manufactured in the United Kingdom (UK), and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Under this bilateral airworthiness agreement, the Civil Aviation Authority (CAA), which is the airworthiness authority

for the UK, has kept the FAA informed of the situation described above. We have examined the findings of the CAA, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

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

The unsafe condition described previously is likely to exist or develop on other RR RB211-22B series, RB211-524B, -524C2, -524D4, -524G2, -524G3, and -524H series, and RB211-535C and -535E series turbofan engines of the same type design. We are issuing this AD to relax the compliance time for certain disc assemblies by providing an option to track the disk life based on a record of a detailed inspection rather than by its entry into service date, while continuing to prevent corrosion-induced uncontained disc assembly failure, resulting in damage to the airplane. This AD requires the following for affected HPC stage 3 rotor disc assemblies:

- Removing affected disc assemblies from service; and
- Re-machining, inspecting, and applying anticorrosion protection; and
- Re-marking, and returning disc assemblies into service; and
- Allowing affected disc assemblies that have a record of a detailed inspection, to remain in service for 17 years from last overhaul inspection date but not to exceed the manufacturer's published cyclic limit in the time limits section of the manual.

### **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. Good cause exists for making this amendment effective in less than 30 days.

### **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-2007-27824; Directorate Identifier 2003-NE-12-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 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 39-15026 (72 FR 18862, April 16, 2007) and by adding a new airworthiness directive, Amendment 39-15364, to read as follows:



**2006-11-05R2 Rolls-Royce plc:** Amendment 39-15364. Docket No. FAA-2007-27824; Directorate Identifier 2003-NE-12-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective February 21, 2008.

**Affected ADs**

(b) This AD revises AD 2006-11-05R1, Amendment 39-15026.

**Applicability**

(c) This AD applies to Rolls-Royce plc (RR) RB211-22B series, RB211-524B, -524C2, -524D4, -524G2, -524G3, and -524H series, and RB211-535C and -535E series turbofan engines with high pressure compressor (HPC) stage 3 disc assemblies, part numbers (P/Ns) LK46210, LK58278, LK67634, LK76036, UL11706, UL15358, UL22577, UL22578, and UL24738 installed. These engines are installed on, but not limited to, Boeing 747, Boeing 757, Boeing 767, Lockheed L-1011, and Tupolev Tu204 series airplanes.

**Unsafe Condition**

(d) This AD results from the FAA allowing certain affected disc assemblies that have a record of a detailed inspection, to remain in service for a longer period than the previous AD allowed. We are issuing this AD to relax the compliance time for disc assemblies manufactured both " before and after 1990" by providing an option to track the disc life based on a record of a detailed inspection rather than by its entry into service date, while continuing to prevent corrosion-induced uncontained disc assembly failure, resulting in 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.

**Removal of HPC Stage 3 Disc Assemblies**

(f) Remove from service affected HPC stage 3 disc assemblies identified in the following Table 1, using one of the following criteria:

**Table 1.–Affected HPC Stage 3 Disc Assemblies**

<b>Engine model</b>	<b>Rework band for cyclic life accumulated on disc assemblies P/Ns LK46210 and LK58278 (pre RR Service Bulletin (SB) No. RB.211-72- 5420)</b>	<b>Rework band for cyclic life accumulated on disc assembly P/N LK67634 (pre RR SB No. RB.211-72- 5420)</b>	<b>Rework band for cyclic life accumulated on disc assemblies P/Ns LK76036, UL11706, UL15358, UL22577, UL22578, and UL24738 (pre RR SB No. RB.211-72- 9434)</b>
-22B series	4,000–6,200	7,000–10,000	11,500–14,000
-535E4 series	N/A	N/A	9,000–15,000
-524B-02, B-B-02, B3-02, and B4 series, Pre and Post accomplishment of SB No. 72-7730	4,000–6,000	7,000–9,000	11,500–14,000
-524B2 and C2 series, Pre SB No. 72-7730	4,000–6,000	7,000–9,000	11,500–14,000
-524B2-B-19 and C2-B-19 series, SB No. 72-7730	4,000–6,000	7,000–9,000	8,500–11,000
-524D4 series, Pre SB No. 72-7730	4,000–6,000	7,000–9,000	11,500–14,000
-524D4-B series, SB No. 72-7730	4,000–6,000	7,000–9,000	8,500–11,000
-524G2, G3, H, and H2 series	4,000–6,000	7,000–9,000	8,500–11,000

(1) For disc assemblies that entered into service before 1990, remove disc assembly and rework as specified in paragraph (g)(2) of this AD, on or before January 4, 2007, but not to exceed the upper cyclic limit in Table 1 of this AD before rework. Disc assemblies reworked may not exceed the manufacturer's published cyclic limit in the time limits section of the manual.

(2) For disc assemblies that entered into service in 1990 or later, remove disc assembly within the cyclic life rework bands in Table 1 of this AD, or within 17 years after the date of the disc assembly entering into service, whichever is sooner, but not to exceed the upper cyclic limit of Table 1 of this AD before rework. Disc assemblies reworked may not exceed the manufacturer's published cyclic limit in the time limits section of the manual.

(3) For disc assemblies that when new, were modified with an application of anticorrosion protection and re-marked to P/N LK76036 (not previously machined) as specified by part 1 of the original issue of RR SB No. RB.211-72-5420, dated April 20, 1979, remove RB211-22B series disc assemblies before accumulating 10,000 cycles-in-service (CIS), and remove RB211-524 series disc assemblies before accumulating 9,000 CIS.

(4) If the disc assembly date of entry into service cannot be determined, the date of disc assembly manufacture may be obtained from RR and used instead.

(5) Disc assemblies in RB211-535C series operation are unaffected by the interim rework cyclic band limits in Table 1 of this AD, but must meet the calendar life requirements of either paragraph (f)(1) or (f)(2) of this AD, as applicable.

## **Optional Rework of HPC Stage 3 Disc Assemblies**

(g) Rework HPC stage 3 disc assemblies that were removed in paragraph (f) of this AD as follows:

(1) For disc assemblies that when new, were modified with an application of anticorrosion protection and re-marked to P/N LK76036 (not previously machined) as specified by Part 1 of the original issue of RR SB RB.211-72-5420, dated April 20, 1979, rework disc assemblies and re-mark to either P/N LK76034 or P/N LK78814 using paragraph 2.B. of the Accomplishment Instructions of RR SB No. RB.211-72-5420, Revision 4, dated February 29, 1980. This rework constitutes terminating action to the removal requirements in paragraph (f) of this AD.

(2) For all other disc assemblies, rework using Paragraph 3.B. of the Accomplishment Instructions of RR SB No. RB.211-72-9434, Revision 4, dated January 12, 2000. This rework constitutes terminating action to the removal requirements in paragraph (f) of this AD.

(3) If rework is done on disc assemblies that are removed before the disc assembly reaches the lower life of the cyclic life rework band in Table 1 of this AD, artificial aging of the disc assembly to the lower life of the rework band, at time of rework, is required.

(4) Disc assemblies that have a record of detailed inspection, regardless of the date of entry into service, are allowed to remain in service for 17 years from last overhaul inspection date but not to exceed the manufacturer's published cyclic limit in the time limits section of the manual.

## **Alternative Methods of Compliance**

(h) The Manager, Engine 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.

## **Related Information**

(i) Civil Aviation Authority AD 004-01-94, dated January 4, 2002, and RR Mandatory Service Bulletin No. RB.211-72-9661, Revision 5, dated December 22, 2006, pertain to the subject of this AD.

## **Material Incorporated by Reference**

(j) You must use Rolls-Royce plc Service Bulletin No. RB.211-72-5420, Revision 4, dated February 29, 1980, and Rolls-Royce plc Service Bulletin No. RB.211-72-9434, Revision 4, dated January 12, 2000, to perform the rework required by this AD. The Director of the Federal Register previously approved the incorporation by reference of these service bulletins in accordance with 5 U.S.C. 552(a) and 1 CFR part 51, as of February 24, 2004 (69 FR 2661, January 20, 2004). You can get copies from Rolls-Royce plc, PO Box 31, Derby, England, DE248BJ; telephone: 011-44-1332-242424; fax: 011-44-1332-245-418. You can 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>.

(k) Contact Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park; Burlington, MA 01803; e-mail: [ian.dargin@faa.gov](mailto:ian.dargin@faa.gov); telephone (781) 238-7178; fax (781) 238-7199, for more information about this AD.

Issued in Burlington, Massachusetts, on January 25, 2008.

Peter A. White,

Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. E8-2028 Filed 2-5-08; 8:45 am]