

Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NE-57-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc (RR) RB211-22B, RB211-524, and RB211-535 Series Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for Rolls-Royce plc (RR) RB211-22B, RB211-524, and RB211-535 series turbofan engines. This proposal would require revising the Time Limits Manual for RR RB211-22B, RB211-524, and RB211-535 series turbofan engines. These revisions would include required enhanced inspection of selected critical life-limited parts at each piece-part exposure. This proposal results from the need to require enhanced inspection of selected critical life-limited parts of RB211-22B, RB211-524, and RB211-535 series turbofan engines. We are proposing this AD to prevent failure of critical life-limited rotating engine parts, which could result in an uncontained engine failure and damage to the airplane.

DATES: We must receive any comments on this proposed AD by May 11, 2004.

ADDRESSES: Use one of the following addresses to submit comments on this proposed AD:

- *By mail:* Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2003-NE-57-AD, 12 New England Executive Park, Burlington, MA 01803-5299.

- *By fax:* (781) 238-7055.

- *By e-mail:* 9-ane-adcomment@faa.gov.

You may examine the AD docket, by appointment, at the FAA, New England

Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT:

Christopher Spinney, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7175, fax (781) 238-7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to submit any written relevant data, views, or arguments regarding this proposal. Send your comments to an address listed under **ADDRESSES**. Include "AD Docket No. 2003-NE-57-AD" in the subject line of your comments. If you want us to acknowledge receipt of your mailed comments, send us a self-addressed, stamped postcard with the docket number written on it; we will date-stamp your postcard and mail it back to you. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the proposed AD. If a person contacts us verbally, and that contact relates to a substantive part of this proposed AD, we will summarize the contact and place the summary in the docket. We will consider all comments received by the closing date and may amend the proposed AD in light of those comments.

We are reviewing the writing style we currently use in regulatory documents. We are interested in your comments on whether the style of this document is clear, and your suggestions to improve the clarity of our communications that affect you. You may get more information about plain language at <http://www.faa.gov/language> and <http://www.plainlanguage.gov>.

Examining the AD Docket

You may examine the AD Docket (including any comments and service information), by appointment, between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. See **ADDRESSES** for the location.

Discussion

A recent FAA study analyzing 15 years of accident data for transport category airplanes identified several root causes for a failure mode that can result in serious safety hazards to

transport category airplanes. This study identified uncontained failure of critical life-limited rotating engine parts as the leading engine-related safety hazard to airplanes. Uncontained engine failures have resulted from undetected cracks in rotating parts that started and grew to failure. Cracks can start from causes such as unintended excessive stress from the original design, or they may start from stresses induced from material flaws, handling, or damage from machining operations. The failure of a rotating part can present a significant safety hazard to the airplane by release of high-energy fragments that could injure passengers or crew by penetration of the cabin, damage flight control surfaces, sever flammable fluid lines, or otherwise compromise the airworthiness of the airplane.

Based on these findings, the FAA, with concurrence from the Civil Aviation Authority (CAA), which is the Airworthiness Authority for the United Kingdom (U.K.), has developed an intervention strategy to significantly reduce uncontained engine failures. This intervention strategy was developed after consultation with industry and will be used as a model for future initiatives. The intervention strategy is to conduct enhanced, nondestructive inspections of rotating parts, which could most likely result in a safety hazard to the airplane in the event of a part fracture. We are considering the need for additional rulemaking. We might issue future ADs to introduce additional intervention strategies to further reduce or eliminate uncontained engine failures.

Properly focused enhanced inspections require identification of the parts whose failure presents the highest safety hazard to the airplane, identifying the most critical features to inspect on these parts, and utilizing inspection procedures and techniques that improve crack detection. The CAA, with close cooperation of RR, has completed a detailed analysis that identifies the most safety significant parts and features, and the most appropriate inspection methods.

Critical life-limited high-energy rotating parts are currently subject to some form of recommended crack inspection when exposed during engine maintenance or disassembly. The inspections currently recommended by the manufacturer would become

mandatory for those parts listed in the compliance section as a result of this proposed AD. Furthermore, we intend that additional mandatory enhanced inspections resulting from this AD would serve as an adjunct to the existing inspections. We have determined that the enhanced inspections will significantly improve the probability of crack detection on disassembled parts during maintenance. All mandatory inspections must be conducted in accordance with detailed inspection procedures prescribed in the manufacturer's Engine Manual.

Additionally, this proposed AD would:

- Allow air carriers that operate under the provisions of 14 CFR part 121 with an FAA-approved continuous airworthiness maintenance program, and maintenance facilities to verify completion of the enhanced inspections.

- Allow the air carrier or maintenance facility to retain the maintenance records that include the inspections resulting from this proposed AD, if the records include the date and signature of the person who performed the maintenance action.

- Require retaining the records with the maintenance records of the part, engine module, or engine until the task is repeated.

- Establish a method of record preservation and retrieval typically used in existing continuous airworthiness maintenance programs.

- Require adding instructions in an air carrier's maintenance manual on how to implement and integrate this record preservation and retrieval system into the air carrier's record keeping system.

For engines or engine modules that are approved for return to service by an authorized FAA-certificated entity, and that are acquired by an operator after the effective date of the proposed AD, you would not need to perform the mandatory enhanced inspections until the next piece-part opportunity. For example, you would not have to disassemble to piece-part level, an engine or module returned to service by an FAA-certificated facility simply because that engine or module was previously operated by an entity not required to comply with this proposed AD. Furthermore, we intend that operators perform the enhanced inspections of these parts at the next piece-part opportunity after the initial acquisition, installation, and removal of the part after the effective date of this proposed AD. For piece parts not approved for return to service before the effective date of this AD, the proposed AD would require that you perform the

mandatory enhanced inspections before approval of those parts for return to service. The proposed AD would allow installation of piece parts approved for return to service before the effective date of this AD. However, the proposed AD would require an enhanced inspection at the next piece-part opportunity.

This proposal would require, within the next 40 days after the effective date of this proposed AD, revisions to the Time Limits Manual.

FAA's Determination and Requirements of the Proposed AD

Since an unsafe condition has been identified that is likely to exist or develop on other Rolls-Royce plc RB211-22B, RB211-524, and RB211-535 series turbofan engines of the same type design that are used on Boeing 747, 757, 767, Lockheed L-1011, and Tupolev Tu204 airplanes registered in the United States, the proposed AD would require revisions to the Time Limits Manual for RR RB211-22B, RB211-524, and RB211-535 series turbofan engines to include required enhanced inspection of selected critical parts at each piece-part exposure.

Changes to 14 CFR Part 39—Effect on the Proposed AD

On July 10, 2002, we issued a new version of 14 CFR part 39 (67 FR 47998, July 22, 2002), which governs the FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

Costs of Compliance

There are about 882 RB211-22B and RB211-524 series engines and about 1,160 RB211-535 series engines of the affected design in the worldwide fleet. We estimate that 30 RB211-22B and RB211-524 series engines and 620 RB211-535 series engines installed on airplanes of U.S. registry would be affected by this proposed AD. We also estimate that it would take about 75 work hours per engine to perform the proposed inspections, and that the average labor rate is \$65 per work hour. Since this is an added inspection requirement, included as part of the normal maintenance cycle, no additional part costs are involved. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be \$3,169,000.

Regulatory Findings

We have 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 that the 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); and
3. Would 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 proposal and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under

ADDRESSES. Include "AD Docket No. 2003-NE-57-AD" in your request.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration 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:

Rolls-Royce plc: Docket No. 2003-NE-57-AD.

Comments Due Date

(a) The Federal Aviation Administration (FAA) must receive comments on this airworthiness directive (AD) action by May 11, 2004.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Rolls-Royce plc (RR) RB211-22B, RB211-524, and RB211-535 series turbofan engines.

These engines are installed on, but not limited to, Boeing 747, 757, 767, Lockheed L-1011, and Tupolev Tu204 airplanes.

Unsafe Condition

(d) This AD results from the need to require enhanced inspection of selected critical life-limited parts of RB211-22B, RB211-524, and RB211-535 series turbofan engines. We are issuing this AD to prevent failure of critical life-limited rotating engine parts, which could result in an uncontained engine failure 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.

(f) Within the next 40 days after the effective date of this AD, revise the Time Limits Manual (TLM), and for air carrier operations revise the approved continuous airworthiness maintenance program, by adding the following text and the applicable table determined by engine model number:

“Group A Parts Mandatory Inspection

(1) Inspections referred to as ‘Focus Inspect’ in the applicable Engine Manual inspection Task are mandatory inspections for the components given below, when the conditions that follow are satisfied:

(i) When the component has been completely disassembled to piece-part level as given in the applicable disassembly procedures contained in the Engine Manual; and

(ii) The part has more than 100 recorded flight cycles in operation since the last piece-part inspection. or

(iii) The component removal was for damage or a cause directly related to its removal; or

(iv) Where serviceable used components, for which the inspection history is not fully known, are to be used again.”

(2) The list of Group A Parts for RB211-22B engines is specified below:

Part nomenclature (RB211-22B series engines)	Part number	Inspected per over-haul manual task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-006
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Rotor Shaft Stages 1 to 5	All	72-32-31-200-000
Intermediate Pressure Compressor Rotor Shaft Stages 6 to 7	All	72-32-31-200-001
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-31-200-000
High Pressure Compressor Rotor Stage 1 to 2 Disc Shaft	All	72-41-31-200-000
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002
Compressor/Turbine Joint Flange Support Disc	All	72-41-31-200-003
High Pressure Turbine Disc	All	72-41-51-200-000
Intermediate Pressure Turbine Disc	All	72-51-31-200-000
Intermediate Pressure Turbine Shaft	All	72-51-33-200-000
Low Pressure Turbine Stage 1 Disc	All	72-51-61-200-000
Low Pressure Turbine Stage 2 Disc	All	72-51-61-200-001
Low Pressure Turbine Stage 3 Disc	All	72-51-61-200-002
Low Pressure Turbine Shaft	All	72-51-63-200-000

(3) The list of Group A Parts for RB211-535 series engines is specified below:

Part nomenclature (RB211-535 Series Engines)	Part number	Inspected per over-haul manual task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-000
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Rotor Shaft	All	72-32-31-200-001
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-000
High Pressure Compressor Rotor Stage 1 & 2 Disc	All	72-41-31-200-000
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002
Compressor/Turbine Joint Flange Support Disc (applicable to -535C only)	All	72-41-31-200-003
High Pressure Turbine Disc	All	72-41-51-200-000
Intermediate Pressure Turbine Rotor Disc	All	72-51-31-200-000
Intermediate Pressure Turbine Shaft	All	72-51-33-200-000
Low Pressure Turbine Stage 1 Disc	All	72-51-61-200-000
Low Pressure Turbine Stage 2 Disc	All	72-51-61-200-001
Low Pressure Turbine Stage 3 Disc	All	72-51-61-200-002
Low Pressure Turbine Shaft	All	72-51-63-200-000

(4) The list of Group A Parts for RB211-524B, -524B3, and -524B4 series engines is specified below:

Part nomenclature (RB211-524B, -524B3, and -524B4 series engines)	Part Number	Inspected per over-haul manual task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-05 (Configuration 1) 72-31-12-200-013 (Configuration 2)
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Stage 1 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 2 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 3 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 4 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 5 Disc	All	72-32-31-200-001
Intermediate Pressure Compressor Rotor Shaft Stages 6 to 7	All	72-32-31-200-001
Intermediate Pressure Compressor Front Stubshaft Drive Cone	All	72-32-31-200-008
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-010
High Pressure Compressor Rotor Stage 1 to 2 Disc	All	72-41-31-200-000
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002
High Pressure Compressor/Turbine Joint Flange Support Disc	All	72-41-31-200-006
High Pressure Turbine Bearing Inner Race Support Panel	All	72-41-51-200-005
High Pressure Turbine Disc	All	72-41-51-200-019
High Pressure Turbine Conical Shaft	All	72-41-51-200-021
Intermediate Pressure Turbine Disc	All	72-51-31-200-003
Intermediate Pressure Turbine Shaft	All	72-51-33-200-005
Low Pressure Turbine Stage 1 Disc	All	72-51-61-200-000 (Configuration 1) 72-51-61-200-007 (Configuration 2)
Low Pressure Turbine Stage 2 Disc	All	72-51-61-200-001 (Configuration 1) 72-51-61-200-008 (Configuration 2)
Low Pressure Turbine Stage 3 Disc	All	72-51-61-200-002 (Configuration 1) 72-51-61-200-009 (Configuration 2)
Low Pressure Turbine Shaft	All	72-51-63-200-000 (Configuration 1) 72-51-63-200-003 (Configuration 2)

(5) The list of Group A Parts for RB211-524B2, -524C2, and -524D4 series engines is specified below:

Part nomenclature (RB211-524B, -524C2, and -524D4 series engines)	Part number	Inspected per over-haul manual task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-013
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Stage 1 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 2 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 3 Disc	All	72-32-31-200-000
Intermediate Pressures Compressor Stage 4 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 5 Disc	All	72-32-31-200-001
Intermediate Pressure Compressor Rotor Shaft Stages 6 to 7	All	72-32-31-200-001
Intermediate Pressure Compressor Front Stubshaft Drive Cone	All	72-32-31-200-008
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-010
High Pressure Compressor Rotor Stage 1 to 2 Disc	All	72-41-31-200-000
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002
High Pressure Compressor/Turbine Joint Flange Support Disc	All	72-41-31-200-006
High Pressure Turbine Bearing Inner Race Support Panel	All	72-41-51-200-005
High Pressure Turbine Disc	All	72-41-51-200-019
High Pressure Turbine Conical Shaft	All	72-41-51-200-021
Intermediate Pressure Turbine Rotor Disc	All	72-51-31-200-003
Intermediate Pressure Turbine Shaft	All	72-51-33-200-005
Low Pressure Turbine Stage 1 Disc	All	72-51-61-200-007
Low Pressure Turbine Stage 2 Disc	All	72-51-61-200-008
Low Pressure Turbine Stage 3 Disc	All	72-51-61-200-009
Low Pressure Turbine Shaft	All	72-51-63-200-003

(6) The list of Group A Parts for RB211-524G and -524H series engines is specified below:

Part nomenclature (RB211-524G and -524H Series Engines)	Part number	Inspected per overhaul manual task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-000
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Stage 1 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 2 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 3 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 4 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 5 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Rotor Shaft Stages 6 to 7	All	72-32-31-200-001
Intermediate Pressure Compressor Front Stubshaft Drive Cone	All	72-32-31-200-008
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-010
High Pressure Compressor Rotor Stage 1 to 2 Disc	All	72-41-31-200-000 (Configuration 1)
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001 (Configuration 1)
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002 (Configuration 1)
Compressor/Turbine Joint Flange Support Disc	All	72-41-31-200-003 (Configuration 1)
High Pressure Compressor Rotor Shaft Assembly	All	72-41-31-200-014 (Configuration 2)
High Pressure Turbine Disc	All	72-41-51-200-010 (Configuration 1) 72-41-51-200-024 (Configuration 2)
Intermediate Pressure Turbine Disc	All	72-51-31-200-003
Intermediate Pressure Turbine Shaft	All	72-51-33-200-005
Low Pressure Turbine Stage 1 Disc	All	72-51-61-200-007
Low Pressure Turbine Stage 2 Disc	All	72-51-61-200-008
Low Pressure Turbine Stage 3 Disc	All	72-51-61-200-009
Low Pressure Turbine Shaft	All	72-51-63-200-003"

Alternative Methods of Compliance

(g) You must perform these mandatory inspections using the TLM and the applicable Engine Manual unless you receive approval to use an alternative method of compliance under paragraph (h) of this AD. Section 43.16 of the Federal Aviation Regulations (14 CFR 43.16) may not be used to approve alternative methods of compliance or adjustments to the times in which these inspections must be performed.

(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.

Maintaining Records of the Mandatory Inspections

(i) You have met the requirements of this AD by using a TLM changed as specified in paragraph (f) of this AD, and, for air carriers operating under part 121 of the Federal Aviation Regulations (14 CFR part 121), by modifying your continuous airworthiness maintenance plan to reflect those changes. You must maintain records of the mandatory inspections that result from those changes to the TLM according to the regulations governing your operation.

You do not need to record each piece-part inspection as compliance to this AD. For air carriers operating under part 121, you may use either the system established to comply with section 121.369 or use an alternative system that your principal inspector has accepted if that alternative system:

- (1) Includes a method for preserving and retrieving the records of the inspections resulting from this AD; and
- (2) Meets the requirements of section 121.369(c); and
- (3) Maintains the records either indefinitely or until the work is repeated.

(j) These record keeping requirements apply only to the records used to document the mandatory inspections required as a result of revising the Time Limits Manual as specified in paragraph (f) of this AD, and do not alter or amend the record keeping requirements for any other AD or regulatory requirement.

Related Information

(k) CAA airworthiness directives No. G-2003-0006, dated September 18, 2003, No. G-2003-0009, dated September 19, 2003, and No. G-2003-0007, dated September 18, 2003 also address the subject of this AD.

Issued in Burlington, Massachusetts, on March 5, 2004.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 04-5621 Filed 3-11-04; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

User Input to the Aviation Weather Technology Transfer (AWTT) Board

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

ACTION: Notice of public meeting.

SUMMARY: The FAA will hold an informal public meeting to seek aviation weather user input. Details: April 14, 2004; Northrop Grumman, 475 School Street, SW., Washington, DC 20024; 9 a.m. to 5 p.m. The objective of this meeting is to provide an opportunity for interested Government and commercial sector representatives who use government-provided aviation weather