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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001-NE-13-AD; Amendment 39-13435; AD 2004-01-21]

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: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Rolls-Royce plc (RR) RB211-22B, RB211-524, and RB211-535 series turbofan engines. This AD requires the installation of a front engine mount housing and link support assembly that has a serialized, life limited, spherical bearing installed. This AD results from reports of corrosion and fatigue cracks in the mount pins, the spherical bearings, and the support links and their respective spherical bearings. We are issuing this AD to prevent failure of the front engine mount housing and link support assembly due to cracks that could result in loss of the engine.

DATES: This AD becomes effective February 27, 2004. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of February 27, 2004.

ADDRESSES: You can get the service information identified in this AD from Rolls-Royce plc, P.O. Box 31 Derby, DE24 8BJ, United Kingdom; telephone 011-44-1332-242424; fax 011-44-1332-249936. 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. You may examine the service information, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: John Frost, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7756; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that is applicable to RR RB211-22B, RB211-524, and RB211-535 series turbofan engines was published in the Federal Register on February 26, 2002 (67 FR 8739). That action proposed to require disassembling and inspecting all engine mounts for cracks, refurbishing the engine mounts, and replacing the front mount thrust link spherical bearing in accordance with RR Service Bulletin (SB) No. RB.211-71-5291, Revision 14, dated March 13, 2001.

After we issued that NPRM, we became aware that the Civil Aviation Authority (CAA), which is the aviation authority for the U.K., cancelled AD 004-08-2000. CAA AD 004-08-2000 addressed disassembling and inspecting all engine mounts for cracks, refurbishing the engine mounts, and replacing the front mount thrust link spherical bearing. We were also informed that RR downgraded the category of SB No. RB.211-71-5291, Revision 14, dated March 13, 2001, which required those actions, to recommend the actions instead of requiring them. RR has since issued a mandatory SB No. RB.211-71-D437, Revision 1, dated February 28, 2003, which introduces a serialized, life-limited, spherical bearing for the engine front mount housing and link support assembly. Since RR has also introduced requirements to inspect the engine front and rear mounts into the Time Limit Manual, compliance with the requirements of SB No. RB.211-71-5291 is no longer required.The CAA has issued AD 005-04-2002, dated April 2002, to mandate compliance with the new requirements included in RR Mandatory Service Bulletin (MSB) No. RB.211-71-D437, Revision 1, dated February 28, 2003.

Since this change expands the scope of the originally proposed rule, we determined that it was necessary to reopen the comment period to provide additional opportunity for public comment. As a result, we published a supplemental proposed AD that applies to RR RB211-22B, RB211-524, and RB211-535 series turbofan engines in the Federal Register on July 31, 2003 (68 FR 44902). That action proposed to require the installation of a front engine mount housing and link support assembly that has a serialized, life limited spherical bearing installed in accordance with RR MSB No. RB.211-71-D437, Revision 1, dated February 28, 2003.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Update Title of Table 2

One commenter requests that the FAA update the title of Table 2 from "Table 2. Module 04 Reworked part numbers (P/Ns)" to "Table 2. Module 07 Reworked P/Ns". The commenter also requests that the list of Module 07 P/Ns in Table 2 be completed. The FAA agrees. Table 2 was incomplete and has been changed.

P/Ns Not Applicable to RB211-535 Series Engines

One commenter notes that RB211-535 operators need to be informed that the "existing" and "reworked" module 07 P/Ns in Table 2 are not included in the RB211-535 Engine Manual. The FAA agrees and paragraph (b) has been changed to indicate this.

Credit for Previous Compliance

One commenter requests that the final rule allow credit for previous compliance with the initial issuance of RR No. SB RB.211-71-D437. We do not agree. Revision 1 expands the Accomplishment Instructions to include the requirement to control the spherical bush life by recording the part serial

numbers as specified in the Time Limits Manual, and defines a repetitive inspection of the front mounts as specified in the Time Limits Manual.

Editorial Comment

We have corrected a minor mathematical error in the Supplemental NPRM Cost of Compliance section in the final rule.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Economic Analysis

There are about 2,214 RR RB211-22B, RB211-524, and RB211-535 series turbofan engines of the affected design in the worldwide fleet. We estimate that about 620 RB211-535 engines, and about 45 RB211-524 and RB211-22B engines installed on airplanes of U.S. registry, would be affected by this AD. We also estimate that no additional labor costs would be incurred to perform the actions. We anticipate that the new hardware will be installed while the module is inducted into the shop for routine maintenance inspection before the compliance expiration date of this AD. The cost of a new serialized spherical bearing is about $592 for RB211-535 engines, $895 for RB211-524 engines, and $1,990 for RB211-22B engines. Based on these figures, the total cost of the AD to U.S. operators is estimated to be $431,952.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it 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. Accordingly, the FAA has not consulted with State authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

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 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. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-01-21 Rolls-Royce plc: Amendment 39-13435. Docket No. 2001-NE-13-AD.

Applicability

This AD is applicable 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 Tu204-120 airplanes.

Note 1: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance

Compliance with this AD is required as indicated, unless already done. To prevent failure of the front engine mount due to cracks, that could result in loss of the engine, do the following at the next Module 07 shop visit after the effective date of this AD, but no later than April 1, 2011.

(a) Replace the existing engine front mount housing and link support assembly listed in Table 1 of this AD with new production part number (P/N) front mount housing and link support assembly, or with a reworked assembly. Use paragraph 3 of Accomplishment Instructions of Mandatory Service Bulletin (MSB) No. RB. 211-71-D437, Revision 1, dated February 28, 2003. Table 1 follows:

TABLE 1.—FRONT MOUNT HOUSING AND LINK SUPPORT ASSEMBLY EXISTING P/NS AND REWORKED P/NS

Existing P/N	New production or reworked P/N
LK83038	FW18695
LK83047	FW18686
LK83057	FW18691
LK83072	FW18696
LK83110	FW18697
LK83114	FW18698
UL10472	FW18694
UL25694	FW18688
UL27054	FW18687
UL27601	FW18693
UL27612	FW18689
UL27613	FW18684

(b) Except for RB211-535 engines, mark the Modules 07 after the rework with a new P/N as specified in the following Table 2:

TABLE 2.—MODULE 07 REWORKED P/NS

Existing P/N	Reworked P/N
MO7127	MO7159
MO7130	MO7156
MO7133	MO7153
MO7134	MO7152
MO7135	MO7154
MO7149	MO7158
MO7150	MO7155
MO7151	MO7157
MO7202	MO7214
MO7206	MO7216
MO7207	MO7215
MO7208	MO7213
MO7209	MO7212
MO7210	MO7217
MO7552AA	MO7563AC
MO7552AB	MO7563AB
MO7554AA	MO7566AB
MO7554AB	MO7566AA
MO7556AA	MO7563AA
MO7557AA	MO7563AD
MO756OAG	MO7564AB
MO756OAH	MO7564AC
MO756OAI	MO7564AD
MO7561AG	MO7565AA
MO7561AH	MO7565AB
MO7561AI	MO7565AC
MO7561AJ	MO7565AD
MO7561AK	MO7563AE

(c) Information on engine front mount housing and link support assembly disassembly, inspection, replacement of the time limited spherical bearing, and reassembly, can be found in RR Engine Manual, section 71-21-01.

Alternative Methods of Compliance

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Engine Certification Office.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

Special Flight Permits

(e) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be done.

Documents That Have Been Incorporated by Reference

(f) The actions specified in the AD must be done in accordance with Rolls-Royce plc MSB No. RB.211-71-D437, Revision 1, dated February 28, 2003. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Rolls-Royce plc, P.O. Box 31, Derby, England, DE24 8BJ; telephone: 011-44-1332-242424; fax: 011-44-1332-249936. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Note 3: The subject of this AD is addressed in CAA airworthiness directive 005-04-2002, dated April 2002.

Effective Date

(g) This amendment becomes effective on February 27, 2004.

Issued in Burlington, Massachusetts, on January 8, 2004.
Jay J. Pardee,
Manager, Engine and Propeller Directorate, Aircraft Certification Service.
[FR Doc. 04-951 Filed 1-22-04; 8:45 am]
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