DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 94–ANE–16]

RIN 2120–AA64

Airworthiness Directives; Rolls-Royce, plc. RB211 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the supersedure of an existing airworthiness directive (AD), applicable to certain Rolls-Royce, plc. (R–R) RB211 series turbofan engines, that currently requires removing from service intermediate pressure (IP) compressor stage 6–7 rotor shafts that exceed reduced cyclic life limits. This action would further reduce cyclic life limits and introduce new reduced cyclic bands for rework. This proposal is prompted by additional stress analysis conducted following failure of an IP compressor stage 6 disk. The actions specified by the proposed AD are intended to prevent an uncontained engine failure due to rupture of an IP compressor stage 6–7 rotor shaft.

DATES: Comments must be received by November 1, 1999.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 94–ANE–16, 12 New England Executive Park, Burlington, MA 01803–5299. Comments may also be sent via the Internet using the following address: ''9-ane-adcomment@faa.gov''. Comments sent via the Internet must contain the docket number in the subject line. Comments may be inspected at this location between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Rolls-Royce, plc, Technical Publications Department, P.O. Box 31, Derby, England. This information may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803–5299; telephone (781) 238–7747, fax (781) 238–7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this proposal must submit a self-addressed, stamped postcard on which the following statement is made: ''Comments to Docket Number 94–ANE–16.'' The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 94–ANE–16, 12 New England Executive Park, Burlington, MA 01803–5299.

Discussion

On September 1, 1994, the Federal Aviation Administration (FAA) issued airworthiness directive (AD) 94–18–03, Amendment 39–9016 (59 FR 46536, September 9, 1994), applicable to Rolls-Royce, plc (R–R) RB211–22B and –524 series turbofan engines, to require removing from service intermediate pressure (IP) compressor stage 6–7 rotor shafts that exceed reduced cyclic life limits. That action was prompted by information from the Civil Aviation Authority (CAA) of the United Kingdom (UK), which advised the Federal Aviation Administration (FAA) that they received a report of an uncontained failure of an IP compressor stage 6–7 rotor shaft installed in an R–R RB211–22B engine that failed during takeoff roll. Investigation determined that the failure has been caused by a crack which emanated from a corrosion pit and extended radially inward from the bolt holes to the rotor shaft diaphragm. The manufacturer, R–R, determined that the rotor shaft would not reach its published life limit without cracking under normal operating conditions.

Since the issuance of that AD, R–R performed refined stress and critical parts lifing analyses that revealed the cyclic life limits for affected IP compressor stage 6–7 rotor shafts must be further reduced. The affected rotor shafts include both reworked and non-reworked IP compressor stage 6–7 rotor shafts. R–R also introduced a new rework bands to rework the existing rotor shafts.

R–R has issued Service Bulletin (SB) No. RB.211–72–C538, dated January 14, 1999, that specifies reduced cyclic life limits for IP compressor stage 6–7 rotor shafts and reduced cyclic bands for rework. To extend the life of the existing rotor shafts, R–R has issued SB RB.211–72–9594, Revision 5, dated February 12, 1993, that specifies rework of the IP compressor stage 6–7 rotor shaft when the cyclic life falls within the rework bands described in the SB. Rework of the rotor shafts includes machining out corrosion and creating new bolt holes between the previous holes. The SB specifies a two-stage life reduction for the affected rotor shafts, removing certain high cycle time disks by the end of the calendar year 2000 prior to the removal of all disks from the fleet by the end of calendar year 2001. The CAA classified SB No. RB.211–72–C538 as mandatory and issued AD 003–01–99 in order to assure the airworthiness of these engines in the UK.

This engine model is manufactured in the 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. Pursuant to this bilateral airworthiness agreement, the CAA has kept the FAA informed of the situation described above. The FAA has 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.

Since an unsafe condition has been identified that is likely to exist or develop on other products of the same type design, the proposed AD would supersede AD 94–18–03 to specify reduced cyclic life limits for IP

compressor stage 6–7 rotor shafts and to introduce reduced cyclic bands for rework. Rework of IP compressor stage 6–7 rotor shafts in accordance with R–R SB No. RB.211 72–9594, or SB No. RB.211–72–9618 enables the parts to achieve their full, assigned cyclic life limits. This AD is not applicable to those engines that incorporate new intermediate pressure (IP) compressor stage 6–7 rotor shafts assemblies with redesigned stage 6 disks in accordance with R–R SB No. RB.211–72–9993, dated August 26, 1994.

Based on a risk analysis performed by the manufacturer, which considers corrosion as one factor bearing on this condition, the AD proposes a two-stage life reduction for the affected rotor shafts, removing certain high cycle time disks by the end of the calendar year 2000, prior to the removal of all disks from the fleet by the end of calendar year 2001.

There are approximately 1,300 engines of the affected design in the worldwide fleet. The manufacturer has advised the FAA that there are 228 engines installed on aircraft of U.S. registry that would be affected by this proposed AD. It would take approximately 24 work hours or $1,440 per engine to accomplish the proposed rework actions, if rework of the rotor shafts was selected. Otherwise, to maintain the record of the cyclic life of IP compressor stage 6–7 rotor shafts has minimum economic impact to U.S operators. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be less than $330,000.

The regulations proposed herein would not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that 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); and (3) if promulgated, 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 copy of the draft regulatory evaluation prepared for this action 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, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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 removing amendment 39–9016 (59 FR 46536, September 9, 1994) and by adding a new airworthiness directive to read as follows:

Rolls-Royce, plc: Docket No. 94–ANE–16. Supersedes AD 94–18–03, Amendment 39–9016.

Applicability: Rolls-Royce plc (R–R) Model RB211–22B and –524 series turbofan engines, not incorporating new intermediate pressure (IP) compressor stage 6–7 rotor shafts assemblies with redesigned stage 6 disks in accordance with R–R Service Bulletin (SB) No. RB.211–72–9993, dated August 26, 1994. These engines are installed on but not limited to Boeing 747 series and 767 series, and Lockheed L–1011 series aircraft.

Note 1: This airworthiness directive (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: Required as indicated, unless accomplished previously.

To prevent an uncontained engine failure due to rupture of an IP compressor stage 6–7 rotor shaft, accomplish the following:

(a) For IP compressor stage 6–7 rotor shafts that have not been reworked in accordance with SB RB.211–72–9594, Revision 8, dated January 14, 1999, Revision 7, dated September 16, 1994, Revision 6, dated August 12, 1994, or Revision 5, dated February 12, 1993, remove the rotor shafts prior to exceeding the life limits established in Table 1 of this AD under subtitle ''Pre SB 72–9594,'' and replace with serviceable parts.

TABLE 1

Engine mark and mod standard	Pre SB72–9594			Rework bands			Post SB72–9594			Post SB72–9618		
	Life limits through 12/31/00	Life limits after 12/31/00	Life limits after 12/31/01	Rework bands through 12/31/00	Rework bands after 12/31/00	Rework bands after 12/31/01	Life limits through 12/31/00	Life limits after 12/31/00	Life limits after 12/31/01	Life limits through 12/31/00	Life limits after 12/31/00	Life limits after 12/31/01
RB.211–22B–02, Pre SB72–5787 and Pre SB72–8700	11000	10000	9000	8000–11000	7500–10000	7500–9000	18000	17600	16600	N/A	N/A	N/A
RB.211–22B–02, Pre SB72–5787, and Post SB72–8700	11000	10000	10000	8000–11000	7500–10000	7500–10000	17310	16960	15960	N/A	N/A	N/A
RB.211–22B–02, Post SB72–5787, and Pre SB72–8700	11000	11000	11000	8000–11000	8000–11000	8000–11000	18000	18000	18000	N/A	N/A	N/A
RB.211–22B–02, Post SB72–5787 and Post SB72–8700	11000	11000	11000	8000–11000	8000–11000	8000–11000	17310	17310	17310	N/A	N/A	N/A
RB.211–524B–02, RB.211–524B3–02, RB.211–524B4–02, Pre SB72–5787	7500	7250	6250	6000–7500	4750–7250	4750–6250	13500	13500	12750	17500	17500	17500
RB.211–524B–02, RB.211–524B3–02, RB.211–524B4–02, Post SB72–5787	8500	8200	7200	6500–8500	5700–8200	5700–7200	15000	14700	13700	19000	19000	18000
RB.211–524B–B–02, RB.211–524B4–D–02, Pre SB72–5787	7500	7500	7400	6000–7500	6000–7500	5500–7400	13500	13500	13500	17500	17500	17500

TABLE 1—Continued

Engine mark and mod standard	Pre SB72–9594			Rework bands			Post SB72–9594			Post SB72–9618		
	Life limits through 12/31/00	Life limits after 12/31/00	Life limits after 12/31/01	Rework bands through 12/31/00	Rework bands after 12/31/00	Rework bands after 12/31/01	Life limits through 12/31/00	Life limits after 12/31/00	Life limits after 12/31/01	Life limits through 12/31/00	Life limits after 12/31/00	Life limits after 12/31/01
RB.211–524B—B02, RB.211–524B4–D–02, Post SB72–5787	8500	8200	7200	6500–8500	5700–8200	5700–7200	15000	14700	13700	19000	19000	18000
RB.211–524B2, RB.211–524C2, RB211–524D4, RB211–524D4X, Pre SB72–5787	7500	7500	7300	6000–7500	6000–7500	5800–7300	13500	13500	13500	17500	17500	17500
RB.211–524B2, RB.211–524C2, RB211–524D4, RB211–524D4X, Post SB72–5787	8500	8250	7250	6500–8500	5800–8250	5800–7250	15000	14500	13500	19000	18750	17750
RB.211–524B2–B, RB.211–524C2–B, Pre SB72–5787	7500	7500	7300	6000–7500	6000–7500	5800–7300	13500	13500	13500	17500	17500	17500
RB.211–524B2–B, RB.211–524C2–B, Post SB72–5787	8500	8200	7250	6500–8500	5800–8200	5800–7250	15000	14500	13500	19000	18650	17650
RB.211–524D4–B, RB.211–524D4X–B, Post SB72–5787	8500	8500	7750	6500–8500	6500–8500	5750–7750	15000	15000	15000	19000	19000	19000
RB.211–524G, RB.211–524G–T, RB.211–524H, RB.211–524H–T, Post SB72–5787	8500	8150	7150	6500–8500	5750–8150	5750–7150	13950	13950	13950	N/A	N/A	N/A

(b) Remove from service IP stage 6–7 rotor shafts that have been reworked in accordance with R–R SB RB.211–72–9594, Revision 8, dated January 14, 1999, Revision 7, dated September 16, 1994, Revision 6, dated August 12, 1994, or Revision 5, dated February 12, 1993, prior to exceeding the new, reduced cyclic life listed in Table 1 of this AD under the sub-title ''Post SB72–9594'' and replace with serviceable part.

(c) Remove from service IP compressor stage 6–7 rotor shafts that have been reworked in accordance with R–R SB RB.211–72–9618, dated August 7, 1992, prior to exceeding the new, reduced cyclic life limits listed in Table 1 of this AD under the sub–title ''Post SB72-9618,'' and replace with serviceable parts.

(d) IP compressor stage 6–7 rotor shaft rework in accordance with R–R SB RB.211–72–9594 can only be accomplished when the cyclic life of the part falls within the rework bands established in the Table 1 of this AD. To accomplish rework of IP compressor stage 6–7 rotor prior to reaching the lower limit of the rework bands specified in the Table 1 of this AD, the part must be artificially aged to the cyclic life which defines the lower limit of the applicable rework bands in Table 1 of this AD.

Note 2: For example, if the lower limit of the rework band is 8,000 cycles, and the part is reworked at 7,000 cycles, the part must be artificially aged by adding 1,000 cycles to the cycles since new recorded on the part; i.e., on return to service the cycles since new on this part would be 8,000 cycles.

(e) 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 shall 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 3: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(f) Special flight permits may be issued in accordance with sections 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 accomplished.

Issued in Burlington, Massachusetts, on August 25, 1999.

David A. Downey,

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

[FR Doc. 99–22562 Filed 8–30–99; 8:45 am]

BILLING CODE 4910–13–U

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

[Airspace Docket No. 99–ANM–01]

Proposed Revision of Class E Airspace, Lewiston, ID; Proposed Establishment of Class E Airspace, Grangeville, ID

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This proposal would amend the Lewiston, ID, Class E area and establish additional controlled airspace at Grangeville, ID, to accommodate the development of new Standard Instrument Approach Procedures (SIAP) utilizing the Global Positioning System (GPS) at the Idaho County Airport, Grangeville, ID.

DATES: Comments must be received on or before October 15, 1999.

ADDRESSES: Send comments on the proposal in triplicate to: Manager, Airspace Branch, ANM–520, Federal Aviation Administration, Docket No. 99–ANM–01, 1601 Lind Avenue SW, Renton, Washington 98055–4056.

The official docket may be examined in the office of the Assistant Chief Counsel for the Northwest Mountain Region at the same address.

An informal docket may also be examined during normal business hours in the officer of the Manager, Air Traffic Division, Airspace Branch, at the address listed above.

FOR FURTHER INFORMATION CONTACT: Dennis Ripley, ANM–520.6, Federal Aviation Administration, Docket No. 99–ANM–01, 1601 Lind Avenue SW, Renton, Washington 98055–4056: telephone number: (425) 227–2527.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments, as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, aeronautical, economic, environmental, and energy related aspects of the proposal. Communications should identify the airspace docket number and be submitted in triplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their