[Federal Register: December 17, 2003 (Volume 68, Number 242)]
[Rules and Regulations]
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[DOCID:fr17de03-5]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NE-19-AD; Amendment 39-13391; AD 2003-25-08]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Corporation (Formerly Allison Engine Company) AE 3007A1, AE 3007A1/1, AE 3007A1/3, AE 3007A3, AE 3007A1E, and AE 3007A1P Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Rolls-Royce Corporation (formerly Allison Engine Company) AE 3007A1, AE 3007A1/1, AE 3007A1/3, AE 3007A3, AE 3007A1E, and AE 3007A1P turbofan engines, with 1st to 2nd stage turbine spacers, part number (P/N) 23069627, 23070989, 23072849, or 23075364 installed. This AD reduces the life limit for 1st to 2nd stage turbine spacers, P/N 23072849, to a certain lower life limit, based on engine model. This AD also requires a one-time fluorescent penetrant inspection (FPI) of 1st to 2nd stage turbine spacers P/Ns 23069627, 23070989, 23072849, and 23075364 before reaching the spacer life limit, within specified cycles-since-new (CSN), and requires replacement of the spacer if found cracked, or with bent or missing aft tangs. This AD is prompted by a report that during a scheduled inspection, aft pilot tangs on a 1st to 2nd stage turbine spacer were found bent and cracked. We are issuing this AD to prevent 1st to 2nd stage turbine spacer failure, leading to uncontained turbine failure, engine shutdown, and damage to the airplane.

DATES: This AD becomes effective January 21, 2004.

ADDRESSES: You can get the service information identified in this AD from Rolls-Royce Corporation, P.O. Box 420, Indianapolis, IN 46206-0420; telephone (317) 230-6400; fax (317) 230-4243.

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.

FOR FURTHER INFORMATION CONTACT: Michael Downs, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018; telephone: (847) 294-7870, fax: (847) 294-7834.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to Rolls-Royce Corporation (formerly Allison Engine Company) AE 3007A1, AE 3007A1/1, AE 3007A1/3, AE 3007A3, AE 3007A1E, and AE 3007A1P turbofan engines, with 1st to 2nd stage turbine spacers, P/N 23069627, 23070989, 23072849, or 23075364 installed. We published the proposed AD in the Federal Register on August 13, 2003 (68 FR 48326). That action proposed to reduce the life limit for 1st to 2nd stage turbine spacers, P/N 23072849, to a certain lower life limit, based on engine model. That action also proposed to require a one-time FPI of 1st to 2nd stage turbine spacers P/Ns 23069627, 23070989, 23072849, and 23075364 before reaching the spacer life limit, within specified CSN, and to require replacement of the spacer if found cracked, or with bent or missing aft tangs.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comment received.

Request To Rewrite Paragraph (g)(1)

One commenter, the manufacturer, requests that we rewrite paragraph (g)(1) from "For an engine inducted into the shop for any reason, if the spacer has accumulated 3,000 CSN or more" to "For an engine inducted into the shop for any reason, requiring disassembly of the engine core split lines, if the spacer has accumulated 3,000 CSN or more". The commenter estimates that approximately two to four engines a year return to the shop to address external issues only. The commenter states that paragraph (g)(1), as written, creates a burden to the operators and imposes an engine core teardown on those engines returned to the shop for external issues only.

The FAA agrees. The requested change does not change the risk assessment or the inspection criteria of the AD, and as long as the upper limit of 9,800 CSN or the life limit is not exceeded, the operator should not be forced into an engine teardown if the spacer has 3,000 CSN or more. Paragraph (g)(1) is rewritten as requested in this AD.

Conclusion

We have carefully reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Changes to 14 CFR Part 39–Effect on the AD

On July 10, 2002, the FAA published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. That regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. The material previously was included in each individual AD. Since the material is included in 14 CFR part 39, we will not include it in future AD actions.

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 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 by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2003-NE-19-AD" in your request.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

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Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends 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 (AD):

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).

2003-25-08 Rolls-Royce Corporation (formerly Allison Engine Company): Amendment 39-13391. Docket No. 2003-NE-19-AD.

Effective Date

(a) This AD becomes effective January 21, 2004.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Rolls-Royce Corporation (formerly Allison Engine Company) AE 3007A1, AE 3007A1/1, AE 3007A1/3, AE 3007A3, AE 3007A1E, and AE 3007A1P turbofan engines, with 1st to 2nd stage turbine spacer part number (P/N) 23069627, 23070989, 23072849, or 23075364 installed. These engines are installed on, but not limited to, EMBRAER EMB-135 and EMB-145 series airplanes.

Unsafe Condition

(d) This AD is prompted by a report that during a scheduled inspection, aft pilot tangs on a 1st to 2nd stage turbine spacer were found bent and cracked. We are issuing this AD to prevent 1st to 2nd stage turbine spacer failure, leading to uncontained turbine failure, engine shutdown, 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.

1st to 2nd Stage Turbine Spacer Life Limits

(f) 1st to 2nd stage turbine spacer life limits are as follows:

(1) For P/N 23072849, the newly established life limit is:

(i) 13,100 cycles-since-new (CSN) for engine models AE 3007A1/1, AE 3007A1/3, AE 3007A1, AE 3007A3; and

(ii) 12,900 CSN for engine models AE 3007A1E and AE 3007A1P.

(2) For P/Ns 23069627, 23070989, and 23075364, the life limits are unchanged.

Inspection

(g) After the effective date of this AD, perform a one-time fluorescent penetrant inspection (FPI) of the 1st to 2nd stage turbine spacer P/Ns 23069627, 23070989, 23072849, and 23075364 and replace spacer if cracked or if aft pilot tangs are bent or missing, with a new or serviceable 1st to 2nd stage turbine spacer, using the following compliance criteria:

(1) For an engine inducted into the shop for any reason, requiring disassembly of the engine core split lines, if the spacer has accumulated 3,000 CSN or more.

(2) For installed engines, if the spacer has accumulated more than 9,300 CSN, inspect before accumulating an additional 500 cycles-in-service, or before accumulating 4,200 cycles-since-last FPI, whichever is more, but do not exceed the spacer life limit in paragraph (f) of this AD.

(3) For installed engines, if the spacer has accumulated 9,300 or less CSN, inspect before accumulating 9,800 CSN, or before accumulating 4,200 cycles-since-last FPI, whichever is more, but do not exceed the spacer life limit in paragraph (f) of this AD.

Alternative Methods of Compliance

(h) 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 part 39.19.

Material Incorporated by Reference

(i) None.

Related Information

(j) The subject of this AD is addressed in Rolls-Royce Corporation alert service bulletin No. AE 3007A-A-72-265, Revision 1, dated April 10, 2003.

Issued in Burlington, Massachusetts, on December 9, 2003.
Jay J. Pardee,
Manager, Engine and Propeller Directorate, Aircraft Certification Service.
[FR Doc. 03-31057 Filed 12-16-03; 8:45 am]
BILLING CODE 4910-13-P