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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [63 FR 53558 NO. 193 10/06/98]

[Docket No. 98-ANE-63-AD; Amendment 39-10809; AD 98-21-01]

RIN 2120-AA64

Airworthiness Directives; International Aero Engines AG (IAE) V2500-A1 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to International Aero Engines AG (IAE) V2500-A1 series turbofan engines. This action requires a one-time ultrasonic inspection of fan blade roots for cracks, and, if necessary, replacement of cracked fan blades with serviceable parts. This amendment is prompted by a report of dovetail root cracks visually detected on three fan blades from one engine during a routine inspection. The actions specified in this AD are intended to prevent fan blade root cracks, which could result in fan blade root failures, an uncontained engine failure, and damage to the aircraft.

DATES: Effective October 21, 1998.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of October 21, 1998. Comments for inclusion in the Rules Docket must be received on or before December 7, 1998.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 98-ANE-63-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may also be sent via the Internet using the following address: "9-ad-engineprop@faa.dot.gov".

Comments sent via the Internet must contain the docket number in the subject line. The service information referenced in this AD may be obtained from Rolls-Royce Commercial Aero Engine Limited, P. O. Box 31, Derby, England, DE2488J, Attention: Publication Services ICL-TP. This information may be examined 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: Diane Cook, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7133, fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: The Federal Aviation Administration (FAA) has received reports of dovetail root cracks visually detected on three fan blades from one engine during a routine turnaround inspection of an Airbus A320 aircraft powered with International Aero Engines AG (IAE) V2500-A1 turbofan engines. These cracks were located just inboard of the fan blade root/disc abutment area and extend to the front face of the blade root. Ultrasonic inspection of the other fan blades in this engine revealed blade root cracks in every fan blade initiating in high cycle fatigue from multi origins. Ultrasonic inspection of the fan disc from this engine also revealed small cracks in eleven disc posts. The FAA has determined that these fan blade root and fan disc post cracks were caused by an undetermined event that induced extremely high stresses into the blade roots and disc posts. A review of this engine history has not isolated any event other than a fan case acoustic panel loss six months prior to this routine inspection. However, other in-service V2500-A1 and -A5 engines that experienced a fan case acoustic panel loss have completed the ultrasonic inspections without finding a fan blade root crack. As the investigation continues, IAE has recommended that the V2500-A1 engine fleet ultrasonic inspect the fan blades. Approximately 95 % of the V2500-A1 engine fleet have completed this fan blade ultrasonic inspection without finding fan blade root cracks. This condition, if not corrected, could result in fan blade root cracks, which could result in fan blade root failure, an uncontained engine failure, and damage to the aircraft.

The FAA has reviewed and approved the technical contents of IAE Service Bulletin (SB) No. V2500-ENG-72-0316, Revision 2, dated August 28, 1998, that describes procedures for ultrasonic inspection of fan blade roots for cracks.

Since an unsafe condition has been identified that is likely to exist or develop on other engines of the same type design, this AD is being issued to prevent fan blade root cracks. This AD requires a one-time ultrasonic inspection of fan blade roots for cracks, and, if necessary, replacement of cracked fan blades with serviceable parts. The actions are required to be accomplished in accordance with the SB described previously.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this 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 under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the 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 that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 98-ANE-63-AD." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will 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 final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866.

It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from 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, pursuant to 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 the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC



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

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, 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 FAR Subpart 39.3).

98-21-01 International Aero Engines AG: Amendment 39-10809. Docket 98-ANE-63-AD.

Applicability: International Aero Engines AG (IAE) V2500-A1 series turbofan engines, installed on but not limited to Airbus A320 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 (b) 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 fan blade root cracks, which could result in fan blade root failure, an uncontained engine failure, and damage to the aircraft, for those engines that have not previously been inspected in accordance with IAE Service Bulletin (SB) No. V2500-ENG-72-0316, dated May 15, 1998; or No. V2500-ENG-72-0316, Revision 1, dated June 5, 1998; or No. V2500-ENG-72-0316, Revision 2, dated August 28, 1998, accomplish the following:

(a) Within 150 hours time in service (TIS) after the effective date of this AD, perform a one-time ultrasonic inspection of fan blade roots for cracks, and, if necessary, replace cracked fan blades with serviceable parts, in accordance with IAE Service Bulletin (SB) No. V2500-ENG-72-0316, Revision 2, dated August 28, 1998.

(b) 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 requests 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.

(c) 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 inspection requirements of this AD can be accomplished.

(d) The actions required by this AD shall be done in accordance with the following IAE SB:

Document No.	Pages	Revision	Date
V2500-ENG-72-0316	1-7	2	August 28, 1998

Total pages: 7.

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 Commercial Aero Engine Limited, P. O. Box 31, Derby, England, DE2488J, Attention: Publication Services ICL-TP. 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.

(e) This amendment becomes effective on October 21, 1998.