

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [64 FR 31967 NO. 114 06/15/99]

[Docket No. 99-NE-37-AD; Amendment 39-11194; AD 99-13-01]

RIN 2120-AA64

Airworthiness Directives; International Aero Engines AG V2500-A1 and V2500-A5 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 certain International Aero Engines AG (IAE) V2500-A1 and V2500-A5 series turbofan engines. This action requires determining the need for a special borescope inspection of the high pressure turbine (HPT) stage 1 inner rotating airseal (TOBI ID seal) for oil wetting after an in-flight shutdown (IFSD). It also requires, if necessary, the tear down and inspection of HPT hardware. This amendment is prompted by reports of overheat damage to the HPT hardware caused by ignition of oil that leaked into the HPT from the No. 4 bearing compartment during an IFSD. The actions specified in this AD are intended to prevent failure of the HPT hardware due to ignition of oil trapped by the HPT TOBI ID seal, which could result in an uncontained engine failure and damage to the airplane.

DATES: Effective June 25, 1999.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of June 25, 1999.

Comments for inclusion in the Rules Docket must be received on or before August 16, 1999.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 99-NE-37-AD, 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.

The service information referenced in this AD may be obtained from International Aero Engines, 400 Main Street, East Hartford, CT 06108; telephone (860) 565-5515; fax (860) 565-5510. This information may be examined at the Federal Aviation Administration (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 overheat damage to the high pressure turbine (HPT) hardware from two International Aero Engines AG (IAE) V2500-A1 series turbofan engines. The investigation of these engines revealed overheat damage to the HPT hardware was caused by ignition of oil that leaked from the No. 4 bearing compartment during an IFSD into the HPT and became trapped by the stage 1 inner rotating airseal (TOBI ID seal). The oil ignited during subsequent operation. The results of the investigation show that the probable cause of oil entering the TOBI ID seal is due to insufficient oil scavenging capability of the No. 4 bearing compartment during windmilling. The investigation has also concluded that V2500 engines that incorporate a redesigned scavenge tube and a redesigned or reworked TOBI ID seal have sufficient No. 4 bearing compartment oil scavenging capability and do not require any special actions following an IFSD. This condition, if not corrected, could result in failure of the HPT hardware due to ignition of oil trapped by the HPT TOBI ID seal, which could result in an uncontained engine failure and damage to the airplane.

The FAA has reviewed and approved the technical contents of IAE All Operator Wire (AOW) 1046, Issue 2, dated May 21, 1999, that describes procedures for determining which actions must be accomplished within five cycles after the IFSD. The actions are determined in AOW Attachments I, II, and III by the engine model, engine serial number, and whether the scavenge tube and TOBI ID seal have been replaced by new or reworked designs. The FAA has also reviewed and approved the technical contents of IAE service bulletins (SB's) V2500-ENG-72-0120, revision 2, dated October 30, 1992 or revision 3, dated May 14, 1999, that describe the requirements for replacing the No. 4 bearing scavenge tube assembly; and V2500-ENG-72-0190, revision 2, dated September 26, 1996, and V2500-ENG-72-0351, dated May 31, 1999, that describe requirements for replacing or reworking the TOBI ID seal.

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 failure of the HPT hardware due to ignition of oil trapped by the HPT TOBI ID seal, which could result in an uncontained engine failure and damage to the airplane. This AD requires determining the need for a special borescope inspection of the TOBI ID seal for oil wetting or overheat damage within five cycles after an IFSD, and if necessary, tear down and inspection of the HPT module. Because of the complex nature of the borescope inspection, only IAE is currently authorized to perform the borescope inspection. IAE will provide training to perform the borescope inspections for those operators who want to perform the borescope inspections themselves. In the event of HPT damage, this AD requires removing affected parts from service and replacing with serviceable parts. Accomplish the actions in accordance with the AOW and SB's 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 99-NE-37-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

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460



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).

99-13-01 International Aero Engines AG: Amendment 39-11194. Docket 99-NE-37-AD.

Applicability: International Aero Engines AG (IAE) V2500-A1 turbofan engines, all serial numbers (S/Ns), and V2500-A5 turbofan engines, with S/Ns V10079 and below, installed on, but not limited to, Airbus Industries A319, A320, and A321 series airplanes.

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 (h) 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 failure of the high pressure turbine (HPT) hardware due to ignition of oil trapped by the HPT stage 1 inner rotating airseal (TOBI ID seal), which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

(a) Within five cycles after an in-flight shutdown (IFSD), accomplish the actions specified in the following Attachments of IAE All Operators Wire (AOW) 1046, Issue 2, dated May 21, 1999:

(1) For V2500-A1 engines with S/N's below V0313, accomplish the actions specified in Attachment III, V2500 No.4 Compartment Oil Loss Risk Elimination Flow Chart; or

(2) For V2500-A1 engines with S/N's V0313 and above, accomplish the actions specified in Attachment II, V2500 No.4 Compartment Oil Loss Risk Elimination Flow Chart; or

(3) For V2500-A5 engines with S/N's V10079 or below, accomplish the actions specified in Attachment I, V2500 No.4 Compartment Oil Loss Risk Elimination Flow Chart.

(4) For the purpose of this AD, engines that have been restarted in flight using normal procedures following an IFSD have used 1 cycle since the IFSD.

(b) This AD has no further requirements if no special actions are identified in accordance with the instructions given in IAE AOW 1046, Issue 2, dated May 21, 1999.

(c) If a borescope inspection of the HPT TOBI ID seal is required, have IAE inspect in accordance with IAE AOW 1046, Issue 2, dated May 21, 1999.

(d) If any evidence of oil wetness or overheat damage is seen with the borescope, disassemble the HPT module, remove from service any part with overheat damage, and replace with a serviceable part.

(e) For V2500-A1 engines with S/N's below V0313, incorporation of service bulletins (SB's) V2500-ENG-72-0120, revision 2, dated October 30, 1992 or revision 3, dated May 14, 1999, and V2500-ENG-72-0351, dated May 31, 1999, constitute terminating action for the requirements specified in paragraph (a) and paragraph (c) of this AD.

(f) For V2500-A1 engines with S/N's V0313 and above, incorporation of SB V2500-ENG-72-0351, dated May 31, 1999, constitutes terminating action for the requirements specified in paragraph (a) and paragraph (c) of this AD.

(g) For V2500-A5 engines with S/N's V10079 and below, incorporation of SB V2500-ENG-72-0190, revision 2, dated September 26, 1996, constitutes terminating action for the requirements specified in paragraph (a) and paragraph (c) of this AD.

(h) 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.

(i) 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.

(j) The inspection and optional terminating actions must be done in accordance with the following International Aero Engines AG AOW and SB's:

Document No.	Pages	Revision	Date
AOW 1046	All	Issue 2	May 21, 1999
Total pages: 6.			
SB V2500-ENG-72-0120	All	2	October 30, 1992
Total pages: 10.			

Document No.	Pages	Revision	Date
SB V2500-ENG-72-0120	1	3	May 14, 1999
	2	2	October 30, 1992
	3	3	May 14, 1999
	4 to 7	2	October 30, 1992
	8 to 9	3	May 14, 1999
	10	2	October 30, 1992
Total pages: 10.			
SB V2500-ENG-72-0190	1	2	September 26, 1996
	2 to 18	1	April 30, 1994
	19	2	September 26, 1996
	20 to 21	1	April 30, 1994
Total pages: 21.			
SB V2500-ENG-72-0351	All	Original	May 31, 1999
Total pages: 14.			

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 International Aero Engines, 400 Main Street, East Hartford, CT 06108; telephone (860) 565-5515; fax (860) 565-5510. 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.

(k) This amendment becomes effective on June 25, 1999.

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.