

under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

#### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

#### The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

**Thielert Aircraft Engines GmbH:** Docket No. FAA-2010-0820; Directorate Identifier 2010-NE-31-AD.

#### Comments Due Date

(a) We must receive comments by January 7, 2011.

#### Affected ADs

(b) None.

#### Applicability

(c) This AD applies to Thielert Aircraft Engines GmbH models TAE 125-01, TAE 125-02-99, and TAE 125-02-114 reciprocating engines installed in, but not limited to, Cessna 172 and (Reims-built) F172 series (European Aviation Safety Agency (EASA) STC No. EASA.A.S.01527); Piper PA-28 series (EASA STC No. EASA.A.S.01632); APEX (Robin) DR 400 series (EASA STC No. A.S.01380); and Diamond Aircraft Industries Models DA 40, DA 42, and DA 42M NG airplanes.

#### Reason

(d) This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. We are issuing this AD to prevent engine in-flight shutdown or power loss, possibly resulting in reduced control of the airplane.

#### Actions and Compliance

(e) Unless already done, do the following actions.

(1) Within 110 flight hours after the effective date of the AD or during next maintenance, whichever occurs first, install full-authority digital electronic control (FADEC) software version 2.91.

(2) Guidance on FADEC software installation can be found in the following:

(i) For TAE 125-01 engines, Operation & Maintenance Manual OM-01-02, Issue 3, Revision 13.

(ii) For TAE 125-02-99 and TAE 125-02-114 engines, Operation & Maintenance Manual OM-02-02, Issue 1, Revision 10.

#### Prohibition of FADEC Software Earlier Versions

(f) Once FADEC software version 2.91 is installed, do not install any earlier version of FADEC software.

#### FAA AD Differences

(g) EASA AD 2010-0137 permits installation of earlier FADEC software versions, once version 2.91 is installed. This AD does not.

(h) EASA AD 2010-0137 requires compliance within 110 flight hours after the effective date of the AD or during next maintenance, whichever occurs first, but no later than 6 months after the effective date of the AD. This AD requires compliance within 110 flight hours after the effective date of the AD or during next maintenance, whichever occurs first.

#### Alternative Methods of Compliance (AMOCs)

(i) The Manager, Engine Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

#### Related Information

(j) Refer to AD 2010-0137, dated June 30, 2010, for related information. Contact Thielert Aircraft Engines GmbH, Platanenstrasse 14 D-09350, Lichtenstein, Germany, telephone: +49-37204-696-0; fax: +49-37204-696-2912; e-mail: [info@centurion-engines.com](mailto:info@centurion-engines.com), for a copy of the service information referenced in this AD.

(k) Contact Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: [alan.strom@faa.gov](mailto:alan.strom@faa.gov); telephone (781) 238-7143; fax (781) 238-7199, for more information about this AD.

Issued in Burlington, Massachusetts, on November 16, 2010.

#### Peter A. White,

*Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service.*  
[FR Doc. 2010-29449 Filed 11-22-10; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2010-0494; Directorate Identifier 2010-NE-20-AD]

RIN 2120-AA64

#### Airworthiness Directives; International Aero Engines V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5 Turbofan Engines

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for International Aero Engines (IAE) V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5 turbofan engines. This proposed AD would require initial and repetitive 360° borescope inspections of high-pressure turbine (HPT) stage 1 blade outer air seal segments for evidence of certain distress conditions. This proposed AD would also require incorporation of improved durability stage 1 blade outer air seal segments at the next exposure to the HPT module subassembly, as terminating action to the repetitive inspections. This proposed AD results from three reports received of HPT case burn-through events, numerous shop reports of loss of stage 1 blade outer air seal segments, and HPT case bulging. We are proposing this AD to prevent HPT case burn-through, uncontrolled under-cowl engine fire, and damage to the airplane.

**DATES:** We must receive any comments on this proposed AD by January 24, 2011.

**ADDRESSES:** Use one of the following addresses to comment on this proposed AD.

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.

- *Mail:* Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

- *Hand Delivery:* Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- *Fax:* (202) 493-2251.

Contact International Aero Engines AG, 400 Main Street, East Hartford, CT 06108; telephone: (860) 565-5515; fax: (860) 565-5510, for a copy of the service information identified in this proposed AD.

**FOR FURTHER INFORMATION CONTACT:**

Carlos Fernandes, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: [carlos.fernandes@faa.gov](mailto:carlos.fernandes@faa.gov); telephone (781) 238-7189; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send us any written relevant data, views, or arguments regarding this proposal. Send your comments to an address listed under **ADDRESSES**. Include "Docket No. FAA-2010-0494; Directorate Identifier 2010-NE-20-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the proposed AD. We will consider all comments received by the closing date and may amend the proposed AD in light of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477-78).

**Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is the same as the Mail address provided in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

**Discussion**

Since August 2006 we have received three reports of IAE V2500 series engines experiencing HPT case burn-through events. There have also been numerous shop reports of loss of stage 1 blade outer air seal segments, and reports of HPT case bulging. Investigation revealed the cause to be due to HPT stage 1 blade outer air seal distress. Distress initially starts with surface erosion and cracking of the blade outer air seal segments. Continued engine operation then leads to burn-through, radial bowing of the segments into the gas path, contact with the HPT stage 1 blades, and loss of the segments from the HPT case. This condition, if not corrected, could then result in HPT case burn-through, uncontrolled under-cowl engine fire, and damage to the airplane.

**Relevant Service Information**

We have reviewed and approved the technical contents of IAE Service Bulletin (SB) No. V2500-ENG-72-0580, Revision 2, dated August 12, 2010, that describes procedures for initial and repetitive 360° borescope inspections of stage 1 blade outer air seal segments for evidence of distress. We have also reviewed and approved IAE SB No. V2500-ENG-72-0483, Revision 3, dated January 7, 2009, and IAE SB No. V2500-ENG-72-0542, Revision 1, dated January 7, 2009, which incorporate improved durability stage 1 blade outer air seal segments.

**FAA's Determination and Requirements of the Proposed AD**

We have evaluated all pertinent information and identified an unsafe condition that is likely to exist or develop on other products of this same type design. We are proposing this AD, which would require initial and repetitive 360° borescope inspections of HPT stage 1 blade outer air seal segments for evidence of distress. This proposed AD would also require incorporation of improved design stage 1 blade outer air seal segments at the next exposure to the HPT module subassembly. The proposed AD would require you to use the service information described previously to perform these actions.

**Costs of Compliance**

We estimate that this proposed AD would affect 34 V2500 A1 series and 510 V2500 A5/D5 series engines installed on airplanes of U.S. registry. We also estimate that it would take about 3 work-hours per engine to perform one proposed inspection, about 3 work-hours per engine to install the

improved durability stage 1 blade outer air seal segments, and that the average labor rate is \$85 per work-hour. Required parts would cost about \$150,882 (V2500 A1 series) and \$155,195 (V2500 A5/D5 series), per engine. Based on these figures, we estimate the total cost of the proposed AD to U.S. operators to be \$84,556,878.

**Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings**

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD 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.

For the reasons discussed above, I certify that the proposed AD:

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. Would 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 regulatory evaluation of the estimated costs to comply with this proposed AD. You may get a copy of this summary at the address listed under **ADDRESSES**.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Proposed Amendment**

Under the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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:

**International Aero Engines:** Docket No. FAA-2010-0494; Directorate Identifier 2010-NE-20-AD.

**Comments Due Date**

(a) The Federal Aviation Administration (FAA) must receive comments on this airworthiness directive (AD) action by January 24, 2011.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to International Aero Engines (IAE) V2500-A1, V2522-A5, V2524-

A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5 turbofan engines. These engines are installed on, but not limited to, Airbus A319, A320, A321, and McDonnell Douglas MD-90 airplanes.

**Unsafe Condition**

(d) This AD results from three reports received of high-pressure turbine (HPT) case burn-through events. There have also been numerous shop reports of loss of stage 1 blade outer air seal segments, and HPT case bulging. We are issuing this AD to prevent HPT case burn-through, uncontrolled under-cowl engine fire, 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.

(f) For engines that have incorporated IAE Service Bulletin (SB) No. V2500-ENG-72-0483, Revision 3 or earlier, or IAE SB No. V2500-ENG-72-0542, Revision 1 or earlier, no further action is required.

**Borescope Inspections**

(g) Perform 360° borescope inspections of the HPT stage 1 blade outer air seal segments for evidence of the distress conditions listed in Appendix D of IAE SB No. V2500-ENG-72-0580, Revision 2, dated August 12, 2010.

(1) For V2525-D5 and V2528-D5 turbofan engines:

(i) Inspect within 1,000 operating hours after the engine meets all criteria as defined in Table 1 of this AD, or within 600 operating hours after the effective date of this AD, whichever is greater.

(ii) Thereafter, re-inspect within every 1,000 operating hours or as defined in Appendix D of IAE SB No. V2500-ENG-72-0580, Revision 2, dated August 12, 2010, whichever is less.

(iii) Use Accomplishment Instructions paragraphs 3.B.(1) through 3.B.(3), and Appendices A through D of IAE SB No. V2500-ENG-72-0580, Revision 2, dated August 12, 2010, to do these inspections.

(2) For V2500-A1, V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, and V2533-A5 turbofan engines:

(i) Inspect within 1,200 operating hours after the engine meets all criteria as defined in Table 1 of this AD, or within 600 operating hours after the effective date of this AD, whichever is greater.

(ii) Thereafter, re-inspect within every 1,200 operating hours or as defined in Appendix D of IAE SB No. V2500-ENG-72-0580, Revision 2, dated August 12, 2010, whichever is less.

(iii) Use Accomplishment Instructions paragraphs 3.A.(1) through 3.A.(3), and Appendices A through D of IAE SB No. V2500-ENG-72-0580, Revision 2, dated August 12, 2010, to do these inspections.

**TABLE 1—STAGE 1 BLADE OUTER AIR SEAL SEGMENT INSPECTION COMPLIANCE CRITERIA**

Engine model	Stage 1 blade outer air seal segments hours-since-last-repair (greater than)	Stage 1 blade outer air seal segments cycles-since-last-repair (greater than)	Exhaust gas temperature margin degrees celsius (less than)
A1 .....	6,000	3,800	45
A5 .....	6,000	3,500	45
D5 .....	5,000	3,500	45

(h) Exhaust Gas Temperature Margin is defined as the expected margin during a sea-level takeoff on a 30-degree Celsius Outside Air Temperature Day.

**Terminating Action**

(i) As terminating action to the repetitive 360° borescope inspections required in paragraphs (g)(1)(ii) and (g)(2)(ii) above, install improved durability stage 1 blade outer air seal segments at the next HPT module subassembly exposure.

(1) For V2500-A1 turbofan engines, use paragraphs 1.B., Concurrent Requirements, and paragraphs 3.(1) through 3.(2)(b) of the Accomplishment Instructions of IAE SB No. V2500-ENG-72-0542, Revision 1, dated January 7, 2009, to do the installation.

(2) For V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5 turbofan engines, use paragraphs 1.B., Concurrent Requirements, and paragraphs 3.(1) through 3.(2)(b) of the Accomplishment Instructions of IAE SB No. V2500-ENG-72-

0483, Revision 3, dated January 7, 2009, to do the installation.

(3) Both IAE SBs No. V2500-ENG-72-0542, Revision 1, and SB No. V2500-ENG-72-0483, Revision 3, require modification of the stage 1 HPT support assembly before installing the new blade outer air seal segments. You must complete the modification using those SBs, as applicable to the appropriate engine model, to properly perform the mandatory terminating action of this AD.

**Alternative Methods of Compliance**

(j) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

**Related Information**

(k) Contact Carlos Fernandes, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: [mark.riley@faa.gov](mailto:mark.riley@faa.gov); telephone

(781) 238-7189; fax (781) 238-7199, for more information about this AD.

(l) Contact International Aero Engines AG, 400 Main Street, East Hartford, CT 06108; telephone: (860) 565-5515; fax: (860) 565-5510, for a copy of the service information referenced in this AD.

Issued in Burlington, Massachusetts, on November 16, 2010.

**Peter A. White,**

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