

## SERVICE INFORMATION NO. SI 42-139

**NOTE:** SI's are used only:  
1) To distribute information from DAI to our customers.  
2) To distribute applicable information/documents from our suppliers to our customers with additional information.  
Typically there is no revision service for SI's. Each new information or change of that will be sent along with a new SI.

### I. TECHNICAL DETAILS

#### 1.1 Airplanes affected:

All DA 42 and DA 42 M aircraft

#### 1.2 Subject:

EASA Airworthiness Directive 2010-0137 Engine – FADEC Software - Modification  
ATA-Code: 72-00

#### 1.3 Reason:

TAE has developed a new software version 2.91 which corrects the possibility of conditions which could lead to in-flight cases of engine power loss or engine shutdown. EASA issued AD 2010-0137 which prescribes a software update to version 2.91.

#### 1.4 Information:


For detailed technical information see EASA AD 2010-0137 Engine – FADEC Software – Modification, which is applicable without any further additions or restrictions.

**Note:** This AD supersedes LBA AD D-2005-145, dated 1-Apr-2005.

### II. OTHERS

EASA Airworthiness Directive 2010-0137 is attached to this Service Information.

In case of doubt contact Thielert Aircraft Engines GmbH.

<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>
	<p><b>AD No.: 2010-0137</b></p> <p><b>Date: 30 June 2010</b></p> <p>Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.</p>
<p>This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].</p>	
<p><b>Type Approval Holder's Name :</b></p> <p>Thielert Aircraft Engines GmbH</p>	<p><b>Type/Model designation(s) :</b></p> <p>TAE 125 series engines</p>
<p>TCDS Number : EASA E.055</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : LBA AD D-2005-145 (EASA approval N° 2 005-2921 dated 01 April 2005)</p>	
<b>ATA 72</b>	<b>Engine - FADEC Software - Modification</b>
<p>Manufacturer(s): Thielert Aircraft Engines (TAE) GmbH.</p>	
<p>Applicability: TAE125-01, TAE 125-02-99, TAE 125-02-114, all serial numbers</p> <p>These engines are known to be installed, but not limited to, Diamond DA 40, DA 42, DA 42M, Apex DR-400, Cessna C172 and Piper PA28.</p>	
<p>Reason:</p> <p>Service experience has shown that a case of FADEC channel B manifold air pressure (MAP) sensor hose permeability is not always recognised as fault by the FADEC. The MAP value measured by the sensor may be lower than the actual pressure value in the engine manifold, and limits the amount of fuel injected into the combustion chamber and thus the available power of the engine. A change in FADEC software version 2.91 will change the logic in failure detection and in switching to channel B (no automatic switch to channel B if MAP difference between channel A and B is detected and lower MAP is at channel B).</p> <p>In addition, previous software versions allow – under certain conditions and on DA42 aircraft only – the initiation of a FADEC self test during flight that causes an engine in-flight shutdown.</p> <p>These conditions, if not corrected, could lead to in-flight cases of engine power loss or ultimately shutdown.</p> <p>To address and correct this situation, TAE has developed a new software version 2.91.</p> <p>This AD requires the installation of software version 2.91.</p>	

Effective Date:	14 July 2010
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>Within 110 flight hours after the effective date of this AD, or during next maintenance, which ever occurs first, but not later than 6 months after the effective date of this AD, install software version 2.91:</p> <ul style="list-style-type: none"> <li>- (for TAE 125-01 engines) in accordance with the instructions given in Annex 13 »FADEC Software Update« of the Operation &amp; Maintenance Manual OM-02-01 Issue 3 Revision 13;</li> <li>- (for TAE 125-02-99 engines and TAE 125-02-114 engines) in accordance with Annex 17 »FADEC Software Update« of the Operation &amp; Maintenance Manual OM-02-02 Issue 1 Revision 10.</li> </ul>
Ref. Publication:	<p>Thielert Aircraft Engines SB TM TAE 000-0007 Rev 9 Engine Variants and Software Versions dated 05 March 2010.</p> <p>Operation &amp; Maintenance Manual OM-02-01 Issue 3 Revision 13 dated 30 March 2010.</p> <p>Operation &amp; Maintenance Manual OM-02-02 Issue 1 Revision 10 dated 07 April 2010.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p>
Remarks :	<ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</li> <li>2. This AD was posted on 23 April 2010 as PAD 10-038 for consultation until 21 May 2010. No comments were received during the consultation period.</li> <li>3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management &amp; Research Section, Certification Directorate, EASA. E-mail <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a>.</li> <li>4. For any question concerning the technical content of the requirements in this AD, please contact: Thielert Aircraft Engines GmbH Platanenstraße 14 D-09350 Lichtenstein, Germany Telephone +49-37204-696-0; Fax +49-37204-696-55; E-mail <a href="mailto:info@centurion-engines.com">info@centurion-engines.com</a>.</li> </ol>

**Datum der Bekanntgabe: 30.04.2005**

**Muster:** Thielert Aircraft Engines  
TAE125

**AD der ausländischen Behörde:**  
-keine-

**Geräte-Nr.:**  
4631

**Technische Mitteilungen des Herstellers:**  
Thielert Aircraft Engines Technische Mitteilung TM TAE 125-0004,  
Revision 4 vom 01.04.2005

**Betroffenes Luftfahrtgerät:**

Thielert Aircraft Engines  
TAE125

- **Baureihen:** TAE125-01

- **Werk-Nrn.:** Alle

**Betrifft:**

Leistungsverlust des Triebwerks nach langandauernden Sinkflügen in Leerlaufstellung bei niedrigen Außentemperaturen.

**Maßnahmen:**

Im Rahmen dieser Lufttüchtigkeitsanweisung sind folgende Maßnahmen vorgesehen:

1. Bis zur Durchführung des Full Authority Digital Engine Control Unit (FADEC) Software-Updates ist für langandauernde Sinkflüge oberhalb 5000ft eine Leistungsstellung von nicht weniger als 30% zu wählen.
2. Durchführung des FADEC Software-Updates gemäß Betriebs- und Wartungshandbuch Nr. OM 02-01.

Alle erforderlichen Maßnahmen müssen nach der genannten Technischen Mitteilung des Herstellers durchgeführt werden.

**Fristen:**

Für die Durchführung der einzelnen Maßnahmen sind folgende Fristen festgelegt worden:

Maßnahme 1:

Sofort nach dem Datum der Bekanntgabe dieser Lufttüchtigkeitsanweisung.

Maßnahme 2:

Innerhalb der nächsten 100 Flugstunden oder bis zum 01.10.2005. Verbindlich ist der zuerst eingetretene Zeitpunkt!

Durch die vorgenannten Mängel ist die Lufttüchtigkeit des Luftfahrtgerätes derart beeinträchtigt, daß es nach Ablauf der genannten Fristen nur in Betrieb genommen werden darf, wenn die angeordneten Maßnahmen ordnungsgemäß durchgeführt worden sind. Im Interesse der Sicherheit des Luftverkehrs, das in diesem Fall das Interesse des Adressaten am Aufschub der angeordneten Maßnahmen überwiegt, ist es erforderlich, die sofortige Vollziehung dieser LTA anzuordnen.

**Rechtsbehelfsbelehrung:**

Gegen diese Verfügung kann innerhalb eines Monats nach Bekanntgabe Widerspruch eingelegt werden. Der Widerspruch ist schriftlich oder zur Niederschrift beim Luftfahrt-Bundesamt, Hermann-Blenk-Str. 26, 38108 Braunschweig einzulegen.

*LTA's werden auch im Internet unter <http://www.lba.de> publiziert*

*\*\*\**



## Airworthiness Directive

**D-2005-145**

## Luffahrt-Bundesamt

Airworthiness Directive Section  
Hermann-Blenk-Str. 26  
38108 Braunschweig  
GERMANY

### Thielert Aircraft Engines

Effective Date: 30 April 2005

#### **Affected:**

Kind of aeronautical product: Aircraft Engine  
Manufacturer: Thielert Aircraft Engines GmbH, Platanenstrasse, Lichtenstein, Germany  
Type: TAE125  
Models affected: TAE125-01  
Serial Numbers affected: All  
German Type Certificate No.: 4631

#### **Subject:**

Software update of the Full Authority Digital Engine Control Unit (FADEC) due to a software error.

#### **Reason:**

Due to a software error in the Full Authority Digital Engine Control Unit (FADEC) loss of power incidents after prolonged descent at idle power setting at low outside air temperatures have been determined during operation. The actions specified in this airworthiness directive are intended to prevent loss of power incidents after prolonged descent at idle power setting, which could result in an emergency landing.

#### **Action:**

The following actions are required by this airworthiness directive:

1. Unless the software update of the Full Authority Digital Engine Control Unit (FADEC) has been carried out, the power setting for prolonged descents above 5000ft must not fall below 30%.
2. Software update of the Full Authority Digital Engine Control Unit (FADEC) in compliance with the Operation and Maintenance Handbook No. OM 02-01.

All mentioned actions must be accomplished in accordance with the referenced manufacturer service bulletin.

#### **Compliance:**

For the necessary actions mentioned above the following compliance times have been laid down:

1. Immediately after the effective date of this airworthiness directive.
2. Within the next 100 flight hours or before 01 October 2005, whichever occurs first.

#### **Technical publication of the manufacturer:**

Thielert Service Bulletin No. TM TAE 125-0004, Revision 4, of 01 April 2005. This service bulletin becomes herewith part of this AD and may be obtained from:

Thielert Aircraft Engines GmbH  
Platanenstrasse 14  
09350 Lichtenstein, GERMANY  
Tel: +49-37204-6960, Fax: +49-37204-69650  
info@centurion-engines.com  
[www.centurion-engines.com](http://www.centurion-engines.com),

#### **EASA-Approval**

Approved by EASA under approval-No. 2005-2921 on 01 April 2005.



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**D-2005-145**

## Luffahrt-Bundesamt

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#### **EASA-Approval**

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