

## **SERVICE INFORMATION NO. SI 42-045**

**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:**

DA 42            S/N 42.004 through S/N 42.269 and S/N 42.AC001 through S/N 42.AC109 equipped with Thielert TAE 125-01 and TAE 125-02-99 engines

#### **1.2 Subject:**

EASA AD No.: 2007 – 0183  
Engine Controls – Engine Control Unit Back-up Batteries Installation  
ATA-Code: 76-00

#### **1.3 Reason:**

EASA has issued an Airworthiness Directive concerning the installation of back-up batteries for the Engine Control Unit (ECU) of the Thielert Aircraft Engines TAE 125-01 and TAE 125-02-99 engines as a corrective measure for EASA Airworthiness Directive AD No.: 2007 – 0182.


#### **1.4 Information:**

For detailed technical information see EASA Airworthiness Directive No.: 2007 – 0183 which is applicable without any further additions or restrictions.

### **II. OTHERS**

The EASA Airworthiness Directive AD No.: 2007 – 0183 is attached to this SI.

In case of doubt contact Diamond Aircraft Industries.

<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>	
	<p><b>AD No : 2007-0183</b></p> <p><b>Date: 02 July 2007</b></p>	
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.		
<b>Type Approval Holder's Name :</b>		<b>Type/Model designation(s) :</b>
Diamond Aircraft Industries GmbH		DA 42
TCDS Number : EASA A.005		
Foreign AD : not applicable		
Supersedure : not applicable		
<b>ATA 76</b>	<b>Engine Controls – Engine Control Unit Back-up Batteries - Installation</b>	
<b>Manufacturer:</b>	Diamond Aircraft Industries GmbH	
<b>Applicability:</b>	DA 42 airplanes, serial numbers 42.004 through 42.269; and 42.AC001 through 42.AC109 (Canadian production line)	
<b>Reason:</b>	<p>Recently, a double in-flight engine shut down incident occurred on a DA42 aircraft equipped with TAE125-01 engines. The BFU (German Accident Investigation Body) found the root cause to be a violation of the Airplane Flight Manual procedures (taking-off with an insufficiently charged main aircraft battery) and momentary low voltage in the electrical system of the aircraft when retracting the main landing gear. This has been the subject of Diamond Service Information (SI) 42-040 and a subsequent EASA Safety Information Notice, SIN 2007-08, issued on 18 April 2007.</p> <p>The TAE125-01 and TAE125-02-99 engines, approved for installation on the DA42, are FADEC (Full Authority Digital Engine Control) controlled and are not totally independent from the aircraft electrical power supply. A significant drop of the voltage causes simultaneously a reset of the FADEC on both engines with subsequent feathering of the propeller blades. In the case of an empty battery this scenario may be considered as catastrophic at the aircraft level.</p> <p>The Thielert Aircraft Engines (TAE) Installation Manuals IM-02-01 Issue 4 and IM-02-02 Issue 1 have been revised to address this issue, which is the subject of EASA Airworthiness Directive (AD) 2007-0182.</p> <p>The present AD, regarding the new specifications introduced by the TAE Installation Manuals, mandates installation of additional Engine Control Unit (ECU) Backup Batteries to supply electrical power to the ECU, preventing high</p>	

	transient power drains from causing a short-term voltage drop when insufficient power from the main battery might exist.
Effective Date:	16 July 2007
Compliance:	<p>Within the next 100 Flight Hours, whichever occurs first after the effective date of this AD, but not later than 31 October 2007, accomplish the following:</p> <ul style="list-style-type: none"> <li>• Modify the engine electrical system of the DA 42 by installing additional ECU backup batteries in accordance with Diamond Aircraft Industries (DAI) Mandatory Service Bulletin (MSB) 42-042 dated 22 June 2007 and DAI Work Instruction WI-MSB-42-042 dated 20 June 2007; and</li> <li>• Amend the DA 42 Aircraft Maintenance Manual by inserting DAI AMM-TR-MÄM-42-240 Temporary Revision dated 17 June 2007, update the operator's maintenance programme and maintain the aircraft accordingly; and</li> <li>• Amend the DA 42 Airplane Flight Manual (AFM) by inserting a copy of AFM TR-MÄM-42-240 dated 17 June 2007 into the AFM, as instructed in that document.</li> </ul>
Ref. Publications:	<p>Diamond Aircraft Industries (DAI) Mandatory Service Bulletin MSB-42-042;  DAI WI-MSB-42-042;  DAI Service Information SI 42-040;  DAI AFM TR-MÄM-42-240 and AMM-TR-MÄM-42-240;  TAE Installation Manual IM-02-01 Issue 4, Revision 1, Chapter 13 (02-IM-13-01);  and  TAE Installation Manual IM-02-02 Issue 1, Revision 3, Chapter 13, (02-IM-13-02).</p>
Remarks :	<ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.</li> <li>2. This AD was posted as PAD 07-074 for consultation on 04 May 2007 with a comment period until 18 May 2007. The Comment Response Document can be found at <a href="http://ad.easa.europa.eu/">http://ad.easa.europa.eu/</a>.</li> <li>3. Enquiries regarding this AD should be addressed to the AD Focal Point - 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 Diamond Aircraft Industries GmbH, Austria.  Ph.: +43 2622 26700 ; Fax: +43 2622 26780  E-mail: <a href="mailto:office@diamond-air.at">office@diamond-air.at</a></li> </ol>