

SERVICE INFORMATION NO. SI 42-047

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, 42.006, 42.009, through 42.156, 42.158 through 42.176, 42.178 through 42.190, 42.192 through 42.233, 42.235 through 42.246, 42.248 through 42.254, 42.256 through 42.261, 42.263 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.: 2007-0183R1
Engine Controls – Engine Control Unit Back-up Batteries Installation
ATA-Code: 76-00

1.3 Reason:


EASA has revised the existing Airworthiness Directive AD No. 2007-0183 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.

1.4 Information:

For detailed technical information see EASA Airworthiness Directive No. 2007-0183R1 which is applicable without any further additions or restrictions.

II. OTHERS

The EASA Airworthiness Directive AD No. 2007-0183R1 is attached to this SI.
In case of doubt contact Diamond Aircraft Industries.

EASA	AIRWORTHINESS DIRECTIVE	
	<p>AD No : 2007-0183 R1</p> <p>Date: 28 August 2007</p>	
<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.</p>		
<p>Type Approval Holder's Name : Diamond Aircraft Industries GmbH</p>	<p>Type/Model designation(s) : DA 42</p>	
<p>TCDS Number : EASA A.005</p>		
<p>Foreign AD : not applicable</p>		
<p>Revision: This AD revises and replaces EASA AD 2007-0183, dated 02 July 2007.</p>		
ATA 76	Engine Controls – Engine Control Unit Back-up Batteries - Installation	
<p>Manufacturer:</p>	<p>Diamond Aircraft Industries GmbH</p>	
<p>Applicability:</p>	<p>DA 42 airplanes, serial numbers 42.004, 42.006, 42.009 through 42.156, 42.158 through 42.176, 42.178 through 42.190, 42.192 through 42.233, 42.235 through 42.246, 42.248 through 42.254, 42.256 through 42.261, 42.263 through 42.269; and 42.AC001 through 42.AC109 (Canadian production line)</p>	
<p>Reason:</p>	<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>AD 2007-0183 was issued to require installation of additional Engine Control Unit (ECU) Backup Batteries to supply electrical power to the ECU, preventing high transient power drains from causing a short-term voltage drop when insufficient power from the main battery might exist.</p> <p>AD 2007-0183 has now been revised to reduce the aircraft serial numbers to which the AD applies and to allow accomplishment of the required modification in accordance with later approved versions of the referenced DAI MSB and related Work Instructions. Aircraft already in compliance with EASA AD 2007-0183 are not affected by this change.</p>
Effective Date:	16 July 2007
Compliance:	<p>Within the next 100 Flight Hours, but not later than 31 October 2007, whichever occurs first after the effective date of this directive, accomplish the following:</p> <ul style="list-style-type: none"> • 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 or later approved revisions of these documents; and • Amend the DA 42 Aircraft Maintenance Manual by inserting DAI AMM-TR-MÄM-42-240 Temporary Revision dated 17 June 2007 or later approved AMM Revision, update the operator's maintenance programme and maintain the aircraft accordingly; and • Amend the DA 42 Airplane Flight Manual (AFM) by inserting a copy of AFM TR-MÄM-42-240 dated 17 June 2007 or later approved AFM Revision into the AFM, as instructed in that document.
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"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. The original issue of 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 http://ad.easa.europa.eu/ . 3. Enquiries regarding this AD should be addressed to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 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: office@diamond-air.at