


<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>	
	<b>AD No : 2007-0183 R2</b>  <b>Date: 06 November 2007</b>	
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		
Revision: This Airworthiness Directive (AD) revises and replaces EASA AD 2007-0182 R1 dated 28 August 2007.		
<b>ATA 76</b>	<b>Engine Controls – Engine Control Unit Back-up Batteries - Installation</b>	
Manufacturer:	Diamond Aircraft Industries GmbH	
Applicability:	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)	
Reason:	<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>This AD has been revised to extend the compliance time by one month, to 30 November 2007, and to include reference to an approved alternative method of compliance. Aircraft already in compliance with EASA AD 2007-0183 or its revision 1 are not affected by this change.</p>
Effective Date:	16 July 2007
Compliance:	<p>Within the next 200 Flight Hours, but not later than 30 November 2007, whichever occurs first after the effective date of this directive, 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 or later approved revisions of these documents; and</li> <li>• 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</li> <li>• 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.</li> </ul> <p><b>Note:</b> Modification of the engine electrical system of the DA 42 and accomplishment of related actions in accordance with the instructions contained in DAI Optional Service Bulletin (OSB) 42-050/1 or later approved revisions, including associated documents referenced therein, has been approved as an alternative method of compliance for the requirements of this AD.</p>
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;</p> <p>TAE Installation Manual IM-02-01 Issue 4, Revision 1, Chapter 13 (02-IM-13-01); and IM-02-02 Issue 1, Revision 3, Chapter 13, (02-IM-13-02).</p> <p>DAI Optional Service Bulletin OSB-42-050/1; DAI WI-OSB-42-050 Revision 2; DAI AFM TR-OÄM-42-129 and AMM-TR-OÄM-42-129.</p>
Remarks :	<ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD.</li> <li>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 <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>