

# MANDATORY SERVICE BULLETIN

## MSB D4-103

### **I TECHNICAL DETAILS**

#### **I.1 Category**

Mandatory

#### **I.2 Airplanes affected**

Type: DA 40 D

Serial Numbers: all Serial Numbers with G1000 (OÄM 42-193 or OÄM 42-224 or OÄM 40-268 or OÄM 40-278) installed

Note: Airplanes converted to DA 40 NG via OSB D4-080 are not affected by this Service Bulletin.

#### **I.3 Date of effectivity**

17-May-2016

#### **I.4 Time of Compliance**

Within 100 flight hours or within 1 year from the date of effectivity, whichever is reached first and thereafter following any maintenance action involving engine and/or alternator cable (re)installation.

#### **I.5 Subject**

Inspection of alternator cable installation

ATA-Code: 24-00

#### **I.6 Reason**

Recently there was an accumulation of damaged or broken ring terminals of alternator cables that were identified during maintenance or have triggered a low voltage caution on the instrument panel.

The most probably cause of the ring terminal failures was attaching the alternator cable to the engine mount leaving not enough flexibility for the relative movement of the engine after engine or alternator cable replacement by certain maintenance organizations.

This Service Bulletin was issued to inspect the alternator cable installation and to assure that the routing of the alternator cable and the positioning of the cable ties is carried out standardized in order to avoid further cases of failed alternator cable ring terminals.

#### **I.7 Concurrent Documents**

None.

**I.8 Approval**

The technical content of this document has been approved under the authority of DOA ref. EASA.21J.052.

**I.9 Accomplishments / Instructions**

Comply with WI-MSB D4-103, latest effective issue.

**I.10 Mass (Weight) and CG**

No change.

**II PLANNING INFORMATION****II.1 Material and Availability**

See WI-MSB D4-103, latest effective issue.

**II.2 Special Tools**

None.

**II.3 Labour Effort**

Approx. 1 hour

**II.4 Credit**

None.

**II.5 Reference Documents**

DA 40 Series Airplane Maintenance Manual, Doc. No. 6.02.01, latest effective issue.

**III REMARKS**

1. All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
2. All work, particular those that are not especially described in this Service Bulletin, must be done in accordance with the referenced Maintenance Manual.
3. Completion of all work must be recorded in the log book.
4. In case of doubt contact Diamond Aircraft Industries GmbH.

**EXECUTION REPORT TO  
SERVICE BULLETIN  
MSB D4-103**

## AIRPLANE DATA

Airplane Serial Number \_\_\_\_\_

Airplane Registration \_\_\_\_\_

Airplane Operator \_\_\_\_\_

Hours of operation of airplane \_\_\_\_\_

No. of landings \_\_\_\_\_

Hours of operation-engine \_\_\_\_\_

Typical operation of airplane private, club, training, other \_\_\_\_\_

\_\_\_\_\_  
Date, Name, SignPlease fax the completed form to Fax No. +43-2622-26700-1369 or e-mail to  
airworthiness@diamond-air.at

# WORK INSTRUCTION

## WI-MSB D4-103

### **I GENERAL INFORMATION**

#### **I.1 Subject**

Inspection of alternator cable installation.

#### **I.2 Reference Documents**

DA 40 Series Airplane Maintenance Manual, Doc. No. 6.02.01, latest effective issue.

#### **I.3 Remarks**

- a) All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
- b) All work, in particular if not described in this work instruction, must be done in accordance with the referenced maintenance manual.
- c) For conversion factors between SI units and US/Imperial units refer to AMM Chapter 02.
- d) In case of doubt, contact Diamond Aircraft Industries GmbH.

### **II DRAWINGS, SPECIAL TOOLS & MATERIALS**

#### **II.1 Drawings**

None.

#### **II.2 Special Tools**

None.


#### **II.3 Material**

Quantity	Part Number	Description
A/R	D4D-2406-25-00_1	Alternator Cable, G1000
A/R	PLT2SM30	Cable Tie
A/R	PLT1MM30	Cable Tie

Material is available from Diamond Aircraft Industries.

### **III INSTRUCTIONS**

<b>WARNING</b> Incorrect maintenance work on the electrical system of the aircraft and disrespect of commonly preassumed skills of certified maintenance personnel can cause severe damage of components or even fire.	
<b>Note</b> Always follow the usual safety practices for work on electrical equipment. Maintenance work must be of good workmanship, strictly considering the guidelines of AC 43-13.1B. It is important that maintenance is done in accordance with the best available techniques and properly trained maintenance personnel in order to eliminate possible mistakes.	
1	Remove engine cowlings in accordance with (i.a.w.) the Airplane Maintenance Manual (AMM), section 71-11.
2	Disconnect airplane main battery i.a.w. AMM, section 24-34.
3	Disconnect ECU backup battery i.a.w. AMM, section 24-35.
4	Disconnect alternator excitation battery i.a.w. AMM, section 24-33.
5	Disconnect the alternator cable from the alternator.
6	<p>Examine the ring terminal of the alternator cable:</p> <ul style="list-style-type: none"> <li>• If cracks on the ring terminal are visible, replace alternator cable with P/N D4D-2406-25-00_1.</li> <li>• If the ring terminal is bent or deformed, replace alternator cable cable with P/N D4D-2406-25-00_1.</li> </ul> <p>NOTE: For alternator cable replacement refer to WI-MSB D4-064.</p>
7	Connect the alternator cable to the alternator.

8	<p>Make sure that the alternator cable routing and the cable tie positioning are carried out as shown in the picture below. If not, remove cable ties and reinstall them accordingly.</p>  <p>NOTE: If a high flexible alternator cable is not installed (MÄM 40-309 not installed and MSB D4-064 not carried out yet), replace alternator cable with P/N D4D-2406-25-00_1.</p> <p>NOTE: If a ring terminal stiffener is not installed (MÄM 40-452 not installed and RSB D4-084 not carried out yet), install ring terminal stiffener in accordance with WI-RSB D4-084, latest effective issue or replace alternator cable with P/N D4D-2406-25-00_1.</p>
9	Connect the alternator excitation battery i.a.w. AMM, section 24-33.
10	Connect the ECU backup battery i.a.w. AMM, section 24-35.
11	Connect the airplane main battery i.a.w. AMM, section 24-34.
12	Clean working area and check for foreign objects.
13	Install the lower cowling i.a.w. AMM, section 71-11 and check the clearance between the alternator cable and the cowling.
14	Install the upper cowling in accordance with the AMM.
15	Perform functional check of all systems in working area.
16	Make necessary entries into aircraft logs.