

# MANDATORY SERVICE BULLETIN

## NO. MSB-D4-064

### I TECHNICAL DETAILS

#### I.1 Category

Mandatory

#### I.2 Airplanes affected

Type: DA 40 D

Serial Numbers: 40.080, 40.084, D4.001 and subsequent, with G1000 installed and MÄM 40-309 not implemented

#### I.3 Date of Effectivity

21-Sep-2007

#### I.4 Time of Compliance

At next 200 hours inspection from the date of effectivity, but not later than 31-Jan-2008.

#### I.5 Subject

Installation of a high flexible alternator cable.

#### I.6 Reason

If the DA40D is equipped with a Garmin G1000, cases have been observed where the double shielded alternator cable connecting the alternator to the relay box of the airplane failed mainly due to the excessive engine vibration during start and stop of the engine. In those cases, the ring terminal on the alternator broke which prevented the alternator from supplying power to the aircraft electric system.

#### I.7 Concurrent Documents

None.

#### I.8 Approval

The technical information or instructions contained in this document relate to the Design Change Advisory No. MÄM 40-309, which has been approved under the authority of EASA Design Organization Approval No. EASA.21J.052.

The technical content of this document has been approved und the authority of DOA No. EASA.21J.052.

### **I.9 Accomplishment/Instructions**

WI-MSB-D4-064, latest effective issue must be complied with.

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

n. a.

## **II PLANNING INFORMATION**

### **II.1 Material & Availability**

See WI-MSB-D4-064, latest effective issue.

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

None.

### **II.3 Labor effort**

approx. 5 hours

### **II.4 Credit**

None, if not explicit specified by the After-Sales Support or Customer Relation Center.

### **II.5 Reference Documents**

Diamond Aircraft Maintenance Manual Doc. 6.02.01, latest effective issue.  
WI-MSB-D4-064, latest effective issue.

## **III REMARKS**

In case of doubt, contact Diamond Aircraft.

**EXECUTION REPORT**  
for MSB D4-064

## 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. \*\*43-2622-26700-369 or e-mail to  
airworthiness@diamond-air.at

## WORK INSTRUCTION

WI-MSB-D4-064

# „INSTALLATION OF A HIGH FLEXIBLE ALTERNATOR CABLE“

## **I GENERAL INFORMATION**

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

The installation of a high flexible alternator cable to prevent breakage of the alternator ring terminal.

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

Diamond Aircraft DA40 Airplane Maintenance Manual, Doc. No. 6.02.01, latest effective issue.

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

- a) The work must be carried out by a certified aircraft service station or a certified aircraft maintenance mechanic. In case of doubt, contact Diamond Aircraft Industries.
- b) All works, particular those that are not especially described in this work instruction, have to be carried out in accordance with the referenced maintenance manual.

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

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

None.

**II.2 Special Tools:**

None.

**II.3 Material:**

Qty	Description	Part Number
1	Cable Assembly Alternator, G1000	D4D-2406-15-00-SB

**II.4 Recommended consumables**

Qty	Description	Part Number
A/R	Cable Tie	PLT2SM30
A/R	Cable Tie	PLT1MM30

**III INSTRUCTIONS**

1	Remove engine cowlings in accordance with the Airplane Maintenance Manual (AMM).
2	Disconnect airplane main battery in accordance with the AMM.
3	Disconnect ECU backup battery in accordance with the AMM.
4	Disconnect alternator excitation battery in accordance with the AMM.
5	Remove cover of relay junction box, if necessary remove coolant radiator in accordance with the AMM.

- 6 Disconnect alternator cable and the shield drain at the alternator as shown in the figure below.  
**NOTE:** The figure shows a TAE 125-02-99 engine installation, whereby the shield is connected to a different point, compared to the TAE 125-01.

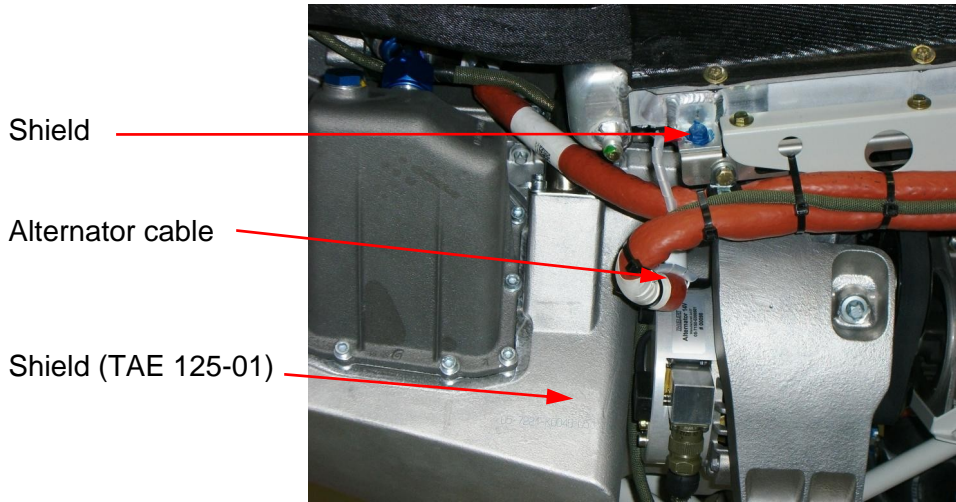
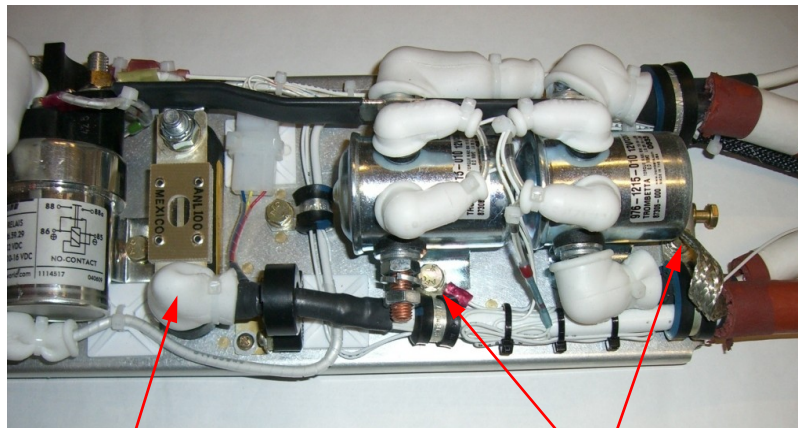


Figure 1

- 7 Disconnect the alternator cable and the shield drain at the relay junction box as shown in the figure below. If necessary, remove the cable clamps.



Alternator cable

Figure 2

Shields

8 Disconnect the current sensor at the inline connector and remove sensor assembly as shown in the figure below. If necessary, cut the cable tie.

Disconnect

Remove two screws

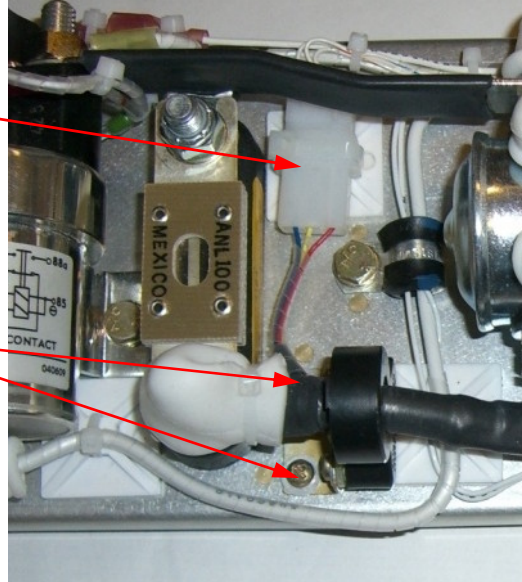


Figure 3

9 Remove the alternator cable clear of the airplane.

10 Install the new alternator cable (D4D-2406-15-00-SB) as described in the steps below.

11 Connect the current sensor assembly at the inline connector and install sensor assembly into its position as shown in the figure below.

Connect

Install the two screws,  
prior removed

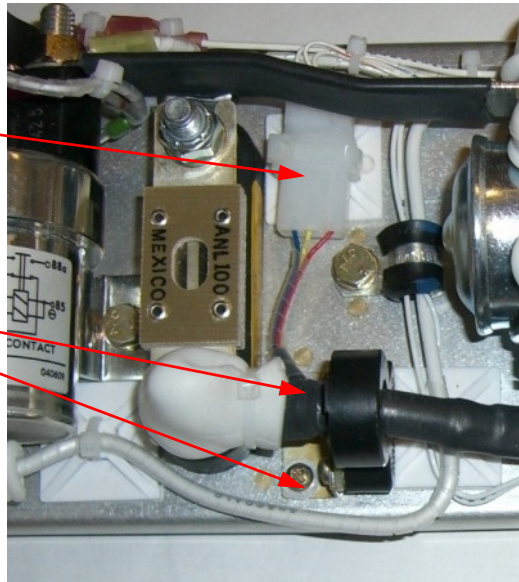
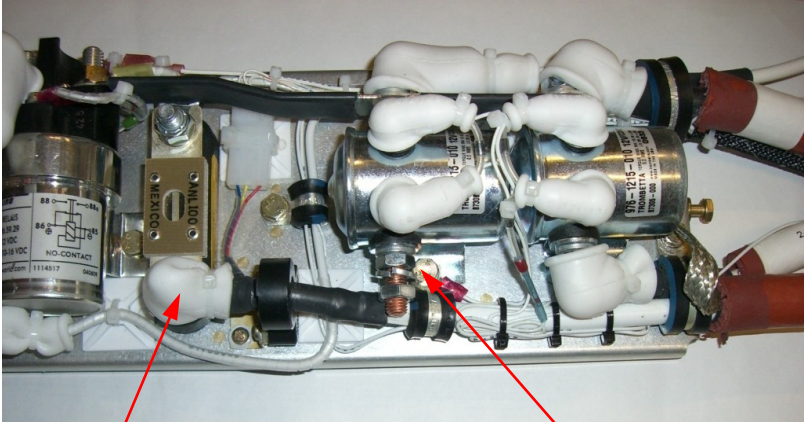
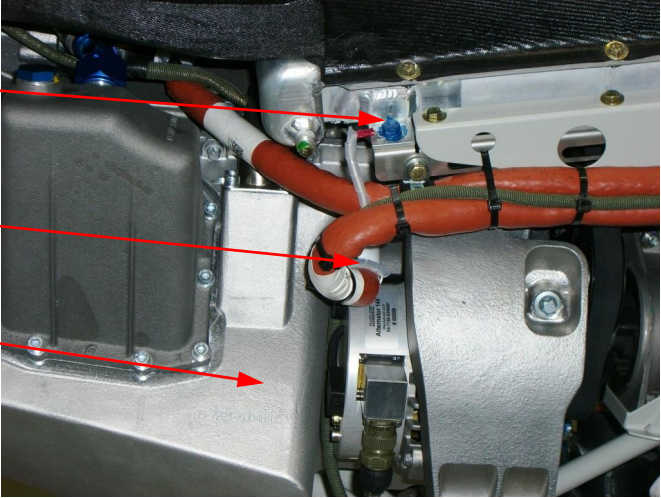


Figure 4

12	<p>Connect the alternator cable and the shield drain in the relay junction box as shown in the figure below and install the cable clamps if prior removed.</p>  <p style="text-align: center;">Figure 5</p> <p>Alternator cable                      Shield</p>
13	<p>Connect the alternator cable and the shield drain at the alternator as shown in the figure below.</p> <p><b>NOTE:</b> The figure shows a TAE 125-02-99 engine installation, whereby the shield is connected to a different point, compared to the TAE 125-01.</p>  <p style="text-align: center;">Figure 6</p>
14	Install the cover of the relay junction box.
15	If removed, install the coolant radiator in accordance with the AMM.
16	Clean working area and check for foreign objects.
17	Connect the alternator excitation battery in accordance with the AMM.
18	Connect the ECU backup battery, in accordance with the AMM.
19	Connect the airplane main battery, in accordance with the AMM.
20	Perform functional check of all systems in working area.
21	Make necessary entries into aircraft logs.