

RECOMMENDED SERVICE BULLETIN

RSB 42-094

I TECHNICAL DETAILS

I.1 Category

Recommended.

I.2 Airplanes affected

Type: DA 42, DA 42 M

Serial numbers: 42.004 through 42.391, 42.394 through 42.396, 42.399 through 42.402, 42.405 through 42.409, 42.412 through 42.416, 42.427
42.M001, 42.M002, 42.M004, 42.M006 through 42.M019, 42.M022 through 42.M026
42.AC001 through 42.AC145, 42.AC148, 42.AC 150, 42.AC151

I.3 Date of effectivity

22-Nov-2011

I.4 Time of Compliance

At owner's discretion.

I.5 Subject

Installation of a stiffener on the alternator cable.

ATA-Code: 24-00

I.6 Reason

In some cases cracks on the alternator ring terminal due to high cycle fatigue were observed. This could possibly lead to failure of the cable and continuous discharging of the main battery during flight if not corrected. Diamond has developed a retrofitable stiffener which reinforces the ring terminal to prevent cracks. This Service Bulletin describes the installation of the stiffener.

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 42-459/c, which has been approved under the authority of EASA Design Organization Approval ref. EASA.21J.052.

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-RSB 42-094, latest effective issue.
WI-RSB 42-094 is attached to this Service Bulletin.

I.10 Mass (Weight) and CG

The change in mass and CG is negligible.

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

See WI-RSB 42-094, latest effective issue.

II.2 Special Tools

None.

II.3 Labour Effort

Approx. 1.5 hours.

II.4 Credit

None.

II.5 Reference Documents

Diamond Aircraft DA 42 Series Airplane Maintenance Manual, Doc. No. 7.02.01, 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 is 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.



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EXECUTION REPORT SERVICE BULLETIN RSB 42-094

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, Sign

Please fax the completed form to Fax No. +43-2622-26700-1369 or e-mail to
airworthiness@diamond-air.at

WORK INSTRUCTION

WI-RSB 42-094

Installation of an Alternator Cable Stiffener

I GENERAL INFORMATION

I.1 Subject

Installation of a stiffener that supports the ring terminal of the alternator cable.

I.2 Reference Documents

Diamond Aircraft DA 42 Series Airplane Maintenance Manual (AMM), Doc. No. 7.02.01, latest effective revision.

I.3 Remarks

- a) The work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
- b) All work, particular that is not especially 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) It is recommended to print this Work Instruction in color.
- e) 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

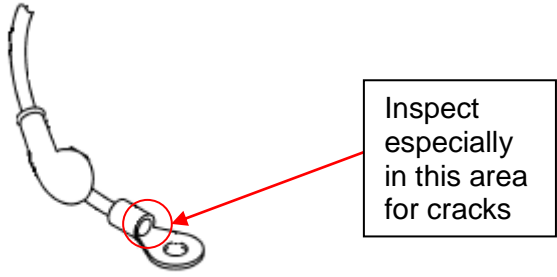


Quantity	Part Number	Description
2	D4D-2406-25-01	Stiffener
4	PLT1MM30	Cable Tie
2x 50 mm	KT-0116354127	Heat shrink
1*	D60-2407-17-00_1	LH Nacelle Alternator Cable
1*	D60-2407-18-00_1	RH Nacelle Alternator Cable

* For replacement only

Material is available from Diamond Aircraft Industries.

III INSTRUCTIONS

WARNING	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.
Note	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 the engine cowlings LH and RH (refer to AMM Chapter 71).
2	Disconnect the airplane main battery in accordance with AMM Section 24-30.
3	Disconnect the alternator cables 24004C4 from the LH alternator and 24006C4 from the RH alternator.

4	<p>Move the insulating boot from the alternator cables back and inspect the ring terminals for cracks.</p> <ul style="list-style-type: none"> If cracks are found, replace the alternator cable with P/N D60-2407-17-00_1 for the LH alternator and P/N D60-2407-18-00_1 for the RH alternator and proceed with item 6 on the affected side. <p>NOTE: At replacement of the alternator cable it is necessary to seal the fire wall hole with the engine harness with fireproof sealant. Make sure that the fire wall is waterproof.</p> <ul style="list-style-type: none"> If there is no crack, install the stiffener acc. this work instruction. <div style="text-align: center;">  <p>Figure 1</p> </div>
5	<p>Install the ring terminal stiffener.</p> <p>NOTE: If necessary bend the stiffener for an optimized installation of the alternator ring terminal. Make sure that the cable has no contact to the cowling or engine mount within 150 mm of the ring terminal.</p> <p>Mount the stiffener onto the ring terminal with 2 cable ties and install a heat shrink with a length of 50 mm acc. to figures 2 and 3.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Figure 2</p> </div> <div style="text-align: center;">  <p>Figure 3</p> </div> </div>
6	<p>Connect the cable to the alternator and install the insulating boot. Make sure that there is no tension on the alternator cable and enough flexibility for the relative motion of the engine.</p>
7	<p>Install the lower cowlings and check the clearance between the alternator cable and the cowling.</p>
8	<p>Connect the airplane main battery in accordance with AMM Section 24-30.</p>
9	<p>Install the upper cowlings (refer to AMM Chapter 71).</p>
10	<p>Clean working areas and check for foreign objects.</p>

11	Check all altered, replaced, repaired parts for proper function.
12	Test all systems in working area for function.
13	Make all necessary entries in the airplane logs.