

MANDATORY SERVICE BULLETIN

NO. MSB-42-058

I TECHNICAL DETAILS

I.1 Category

Mandatory

I.2 Airplanes affected

Type: DA 42

Serial Numbers: all aircraft S/N with TAE 125-01 engine installed, except following engine S/N

02-01-0006	02-01-0137	02-01-0143	02-01-0144	02-01-0165	02-01-0173
02-01-0181	02-01-0194	02-01-0218	02-01-0228	02-01-0273	02-01-0276
02-01-0292	02-01-0303	02-01-0325	02-01-0335	02-01-0350	02-01-0378
02-01-0398	02-01-0402	02-01-0405	02-01-0406	02-01-0432	02-01-0435
02-01-0449	02-01-0450	02-01-0451	02-01-0470	02-01-0476	02-01-0477
02-01-0485	02-01-0488	02-01-0491	02-01-0520	02-01-0524	02-01-0527
02-01-0531	02-01-0537	02-01-0543	02-01-0553	02-01-0588	02-01-0605
02-01-0606	02-01-0608	02-01-0615	02-01-0629	02-01-0634	02-01-0670
02-01-0671	02-01-0701	02-01-0744	02-01-0791	02-01-0878	02-01-0912
02-01-1046					

02-01-1095 and subsequent

I.3 Time of Compliance

Action 1: within the next 100 flight hours and within every 100 flight hours thereafter until Action 2 is carried out

Action 2: not later than 30-Apr-2009

I.4 Date of effectivity

21-May-2008

I.5 Subject

This Service Bulletin addresses the inspection of the fastening torque of the mounting bolts of the right rear engine support bracket and the replacement of these bolts with wire secured bolts.

I.6 Reason

It was found that the powder coating of the rear right engine support bracket does degrade leading to a reduced fastening torque. In some cases the bolts came loose, started to unscrew by themselves and fell into the cowling, which might cause damage to the engine.

In one case the pilot had to shut down the engine because of a failed V-belt, which is assumed to be caused by one of these bolts.

I.7 Concurrent Documents

TAE CENTURION 1.7, Engine Repair Manual RM-02-01, latest effective issue

I.8 Approval

The technical information or instructions contained in this document relate to the Design Change Advisory No. MÄM 42-283, 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 under the authority of DOA No. EASA.21J.052.

I.9 Accomplishment / Instructions

WI-MSB-42-058, latest effective revision must be complied with.

I.10 Mass (Weight) and CG

Negligible

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

Necessary materials are available through DAI.

II.2 Special Tools

None

II.3 Labor effort:

Action 1: Approx. 0,25 hours
Action 2: Approx. 1 hour

II.4 Credit

Action 1: None.
Action 2: 1 hour of labor and credited material stated in WI-MSB-42-058, latest effective revision.

II.5 Reference Documents

DA 42 Series Airplane Maintenance Manual Doc. No. 7.02.01, latest effective issue

III REMARKS

1. All measures must be carried out by a certified aircraft station or a certified aircraft mechanic.
2. Accomplishment of the measures must be confirmed in the log book.
3. In case of any doubt, contact Diamond Aircraft Industries.
4. If material and labor hours are subject to be credited through Diamond Aircraft Industries, the SB must be carried out by an authorized Diamond Service Center and the Warranty Application must be sent not later than 31-May-2009.

Execution Report to SERVICE BULLETIN MSB 42-058

AIRPLANE DATA

Airplane Serial Number: _____

Airplane Registration: _____

Airplane Operator: _____

Hours of operation of airplane: _____

No. of landings: _____

Hours of operation-engine LH: _____

RH: _____

Typical operation of airplane: private, club, training, other _____

Date, Name, Sign

Please fax the completed form to Fax No. +43-2622-26700-369 or e-mail to
airworthiness@diamond-air.at

WORK INSTRUCTION

WI-MSB-42-058

“Wire secured bolts for engine support”

I GENERAL INFORMATION

I.1 Subject:

This Work Instruction describes the inspection of the bolts of the right rear engine support bracket and the replacement of these bolts by wire secured bolts.

I.2 Reference Documents:

Diamond Aircraft DA 42 Series Airplane Maintenance Manual, Doc. No. 7.02.01, latest effective issue
TAE CENTURION 1.7, Engine Repair Manual RM-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.
- b) All work (particularly that which is not specifically described in this work instruction) must 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 Materials:

Material subjected to credit:

Qty	Description	Part Number
8	Hexagon head bolts with hole for lock wire	D60-9071-26-01
8	Washer	DIN 125-A 8,4-A2

Consumables not subjected to credit:

Qty	Description	Part Number
A/R	LOCTITE 243	-
A/R	TEMPO Aviation Zinc Chromate Primer or equivalent	-
A/R	NYCOTE sealant fluid or equivalent	-
A/R	Stainless steel safety wire - Ø 0,032 inch	-
A/R	TORQUE-SEAL Anti Sabotage Inspector's Laquer or equivalent	-

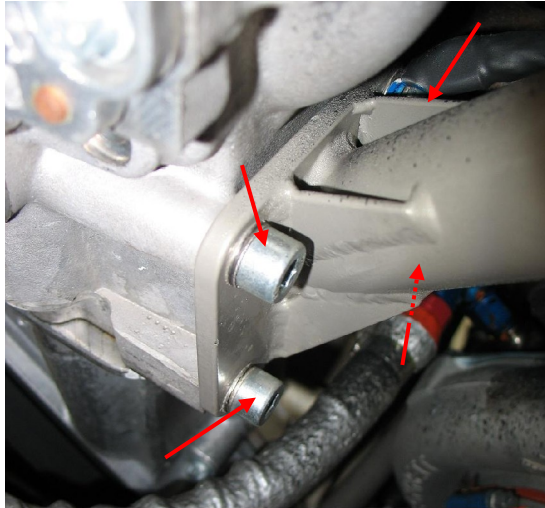
III INSTRUCTIONS

Action 1: Inspection of fastening torque

1	Make sure that the engine is secured: Set ELECT MASTER switch to OFF Set the ENGINE MASTER switch to OFF Set the power lever to 0%
2	Remove cowlings according to AMM, section 71-10.

3

Check the installed attachment of the right rear engine support bracket for the type of used washers. The picture shows only the two rear bolts.

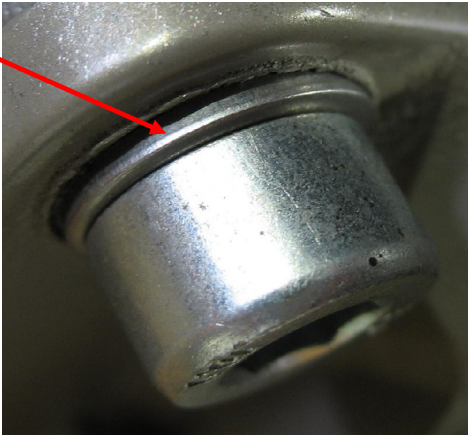


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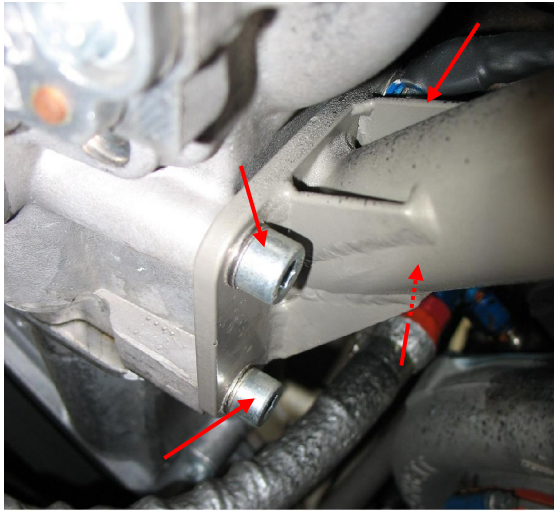


If for the attachment of the right rear engine support bracket Wedge Locking Washers are used as it is shown in the pictures there is no further action required, proceed with item 10 of this section.

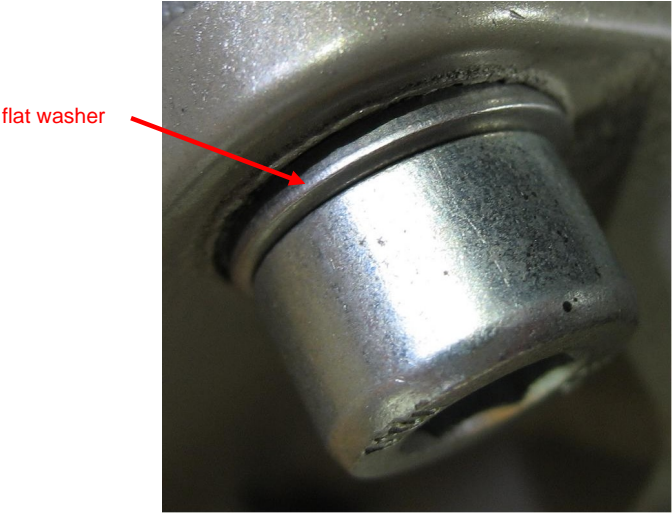
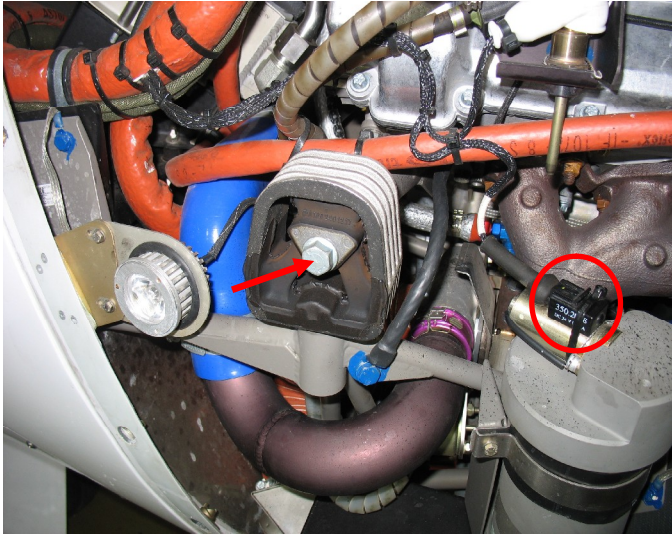


Note: In connection with Wedge Locking Washers two different kinds of screws are used for the attachment of the engine support bracket, hexagon head screws or hexagon socket screws.

5	<p>If for the attachment of the right rear engine support bracket flat washers are used as shown in the picture, proceed with item 6 of this section.</p> <p>flat washer</p> 
6	<p>Retighten the 4 bolts that fix the right rear engine support bracket to the engine with 20 Nm. In case that a bolt already has started to come loose and started to unscrew by itself, remove the bolt, apply LOCTITE 243 screw locking fluid and tighten the bolt with 20 Nm. Apply TORQUE-SEAL Anti Sabotage Inspector's Laquer (or equivalent) to the screw heads.</p> <p>Caution: Do not remove more than one bolt at once.</p>
7	Clean working area and check for foreign objects.
8	Perform functional check of all new altered or repaired parts.
9	Test all systems in working area for function.
10	Install cowlings according to AMM, section 71-10.
11	If the second engine is affected carry out items 1 -10 of this section on the second engine.
12	Make necessary entries in the Airplanes Log.

Action 2: Replacement of the bolts

1	<p>Make sure that the engine is secured: Set ELECT MASTER switch to OFF Set the ENGINE MASTER switch to OFF Set the power lever to 0%</p>
2	<p>Remove cowlings according to AMM, section 71-10.</p>
3	<p>Check the installed attachment of the right rear engine support bracket for the type of used washers. The picture shows only the two rear bolts.</p> 
4	<p>If for the attachment of the right rear engine support bracket Wedge Locking Washers are used as it is shown in the pictures there is no further action required, proceed with item 17 of this section.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Note: In connection with Wedge Locking Washers two different kinds of screws are used for the attachment of the engine support bracket, hexagon head screws or hexagon socket screws.</p>

5	<p>If for the attachment of the right rear engine support bracket flat washers are used as shown in the picture, proceed with item 6 of this section.</p> 
6	<p>Before removing the engine support bracket discharge or lift the engine according to AMM, chapter 71.</p>
7	<p>To gain access unplug the connection of the solenoid of the unfeathering accumulator (see picture) and remove tie-wraps. Remove the bolt of the right rear engine shock mount.</p> 
8	<p>Remove the four bolts which fix the engine support bracket to the cylinder head and remove the engine support bracket.</p>

9

Remove the powder coating from the engine support bracket in the contact area of the four bolts and the cylinder head (e.g. with a sharp knife and sandpaper or metal brush) and roughen the blank steel surface. Clean the blank surfaces and degrease them with clean solvent. Use tape to cover the blank area around the upper forward hole of the engine support bracket where the bonding cable is mounted.

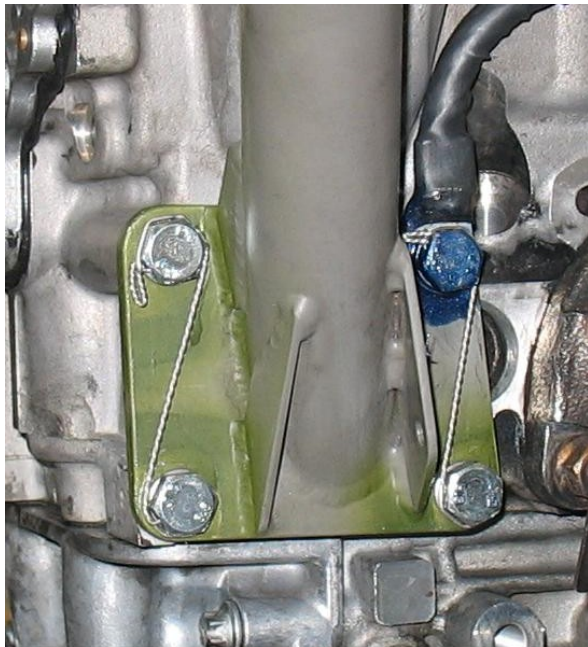


10

Use TEMPO Aviation Zinc Chromate Primer (or equivalent) to cover the area where the powder coating was removed. Clean the blank surface that was protected by the tape with clean solvent. Let the Primer dry as it is advised by its manufacturer.



Note: The Zinc Chromate Primer may also be used to repair damaged coat.

11	<p>After the zinc chromate primer has dried mount the engine support bracket to the cylinder head using bolts P/N D60-9071-26-01.</p> <p>Note: If the thread of the bolts P/N D60-9071-26-01 is not pre-coated with screw locking fluid, apply LOCTITE 243 screw locking fluid.</p> <p>Mount the bonding cable to the upper forward position. Fasten the bolts with a fastening torque of 20 Nm.</p>
12	<p>Seal the blank steel surface of the engine support bracket in the area of the bonding cable with sealing fluid (NYCOTE or equivalent). Secure the bolts using safety wire (see picture).</p> 
13	<p>Attach new tie-wraps where they had been removed. Reconnect the loom to the unfeathering accumulator.</p>
14	<p>Clean working area and check for foreign objects.</p>
15	<p>Perform functional check of all new altered or repaired parts.</p>
16	<p>Test all systems in working area for function.</p>
17	<p>Install cowlings according to AMM, section 71-10.</p>
18	<p>If the second engine is affected carry out items 1 – 17 of this section on the second engine.</p>
19	<p>Make necessary entries in the Airplanes Log.</p>