

# MANDATORY SERVICE BULLETIN

## NO. MSB-D4-056

### I TECHNICAL DETAILS

#### I.1 Category

Mandatory

#### I.2 Airplanes Affected

Type: DA 40 D

Serial Numbers: all

#### I.3 Time of Compliance

Aircraft with more than 200 hours of operation since new:

At next scheduled maintenance action and thereafter at every 200 hours inspection.

Aircraft with less than 200 hours of operation since new:

At every 200 hours inspection.

#### I.4 Subject

Coolant Tank Cap – Pressure Relieve Test

#### I.5 Reason

Some caps showed decreasing relieve pressure values during service. Since a proper relieve pressure is required by TAE, it became necessary to check and adjust the cap's relieve pressure in the field.

#### I.6 Concurrent Documents

None.

### **I.7 Approval**

The technical information or instructions contained in this document relate to the Design Change Advisory No. MÄM 40-279, 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.8 Accomplishment/Instructions**

Comply with WI-MSB-D4-056, latest effective issue.

### **I.9 Mass (Weight) and CG**

No appreciable affect on Mass and CG.

## **II PLANNING INFORMATION**

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

See WI-MSB-D4-056, latest effective issue.

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

See WI-MSB-D4-056, latest effective issue.

### **II.3 Labor Effort**

Preparation of test and equipment and testing for the first time: approx. 1.5 hours.

Recurring testing: approx. 15 minutes additional maintenance time.

### **II.4 Credit**

None

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

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

### **III REMARKS**

1. All measures must be carried out by the manufacturer, 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.

**EXECUTION REPORT**  
for MSB D4-056

## 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, SignPlease fax the completed form to Fax No. \*\*43-2622-26700-369 or e-mail to  
airworthiness@diamond-air.at

## WORK INSTRUCTION

### WI-MSB D4-056

## Coolant Tank Cap – Pressure Relieve Test

### **I GENERAL INFORMATION**

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

Pressure relieve check of coolant tank cap and description of adjustment to meet the required pressure relieve values.

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

DA 40 Series 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.
- 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**

D60-7526-30-29

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

Suitable manual pump with manometer or pressurized-air hose with suitable pressure reduction valve.



Photo shows an example.

### II.3 Material

Qty	Description	Part Number
A/R	Shim washer - Brass	D60-7526-30-30 (0,5 mm) alternative D60-7526-30-31 (0,3 mm) alternative S1450-6B14-010
A/R	Coolant tank cap kit <ul style="list-style-type: none"> <li>• Coolant tank cap (1 pcs)</li> <li>• Shim washers (2 pcs D60-7526-30-30 2 pcs D60-7526-30-31)</li> </ul>	D60-7526-30-29-Kit
1	Oetiker 1-ear-clamp, 13.8 GER	15400032

### III INSTRUCTIONS

**NOTE**

Perform coolant tank cap pressure relieve check before the coolant system pressure test is done. The coolant system pressure test is also required after the pressure relieve check.

1. Drain approx. 1 liter (0.26 US gallons) of the coolant liquid into a clean container.

**NOTE** Since the drained coolant liquid may be reused prevent it from contamination.

2. Open the bleed point and attach the pump to the coolant system by using a hose clamp.

**NOTE** Retain bleed screw and gasket.

**TAE 125-01:**

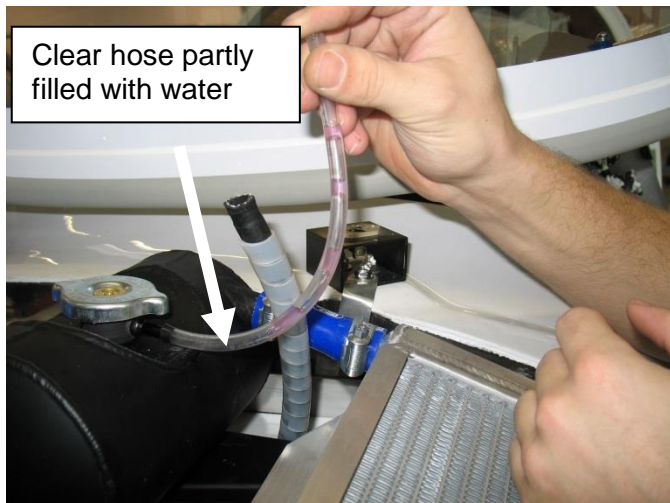


**TAE 125-02-99:**



3. Unplug the breather line and install a clear hose. Fill clear hose partly with coolant liquid or water.

**TAE 125-01:**



**TAE 125-02-99:**




4. Put on the coolant tank cap and pressurize up to release pressure of the cap. Rising bubbles in the clear hose indicate pressure relieve.

**CAUTION** Check for a proper fit of the coolant tank cap.  
**CAUTION** The pressure must not exceed 2.3 bar (33.3 psi) at any time of testing.

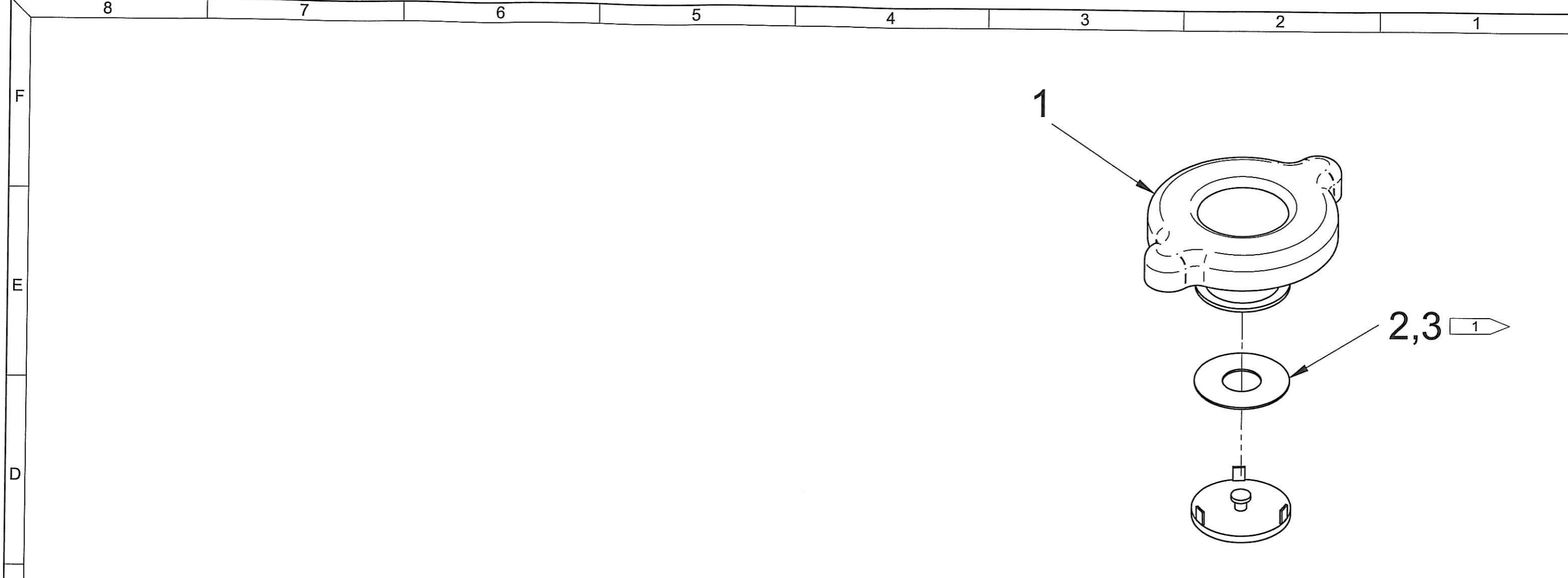
5. Relieve pressure by carefully open the coolant tank cap.

**CAUTION** Be aware of pressurized coolant system which may result in splashing out of coolant liquid and the pressure accelerating the cap upwards.  
**CAUTION** Use extreme caution when opening the cap.  
**CAUTION** Protect your eyes, face and skin against possible splash of coolant liquid.



6.	<p>For <b>both orientations</b> of the cap, the cap's relieve pressure must be within following limits:</p> <p>Minimum relieve pressure: <b>1,8 bar (26.1 psi)</b>          Maximum relieve pressure: <b>2,3 bar (33.3 psi)</b></p> <p><b>CAUTION</b> The pressure must not exceed 2,3 bar (33.3 psi) at any time of testing.</p>
7.	<p>If the caps relieve pressure does not meet the requirements the cap needs to be modified in accordance with drawing D60-7526-30-29.</p> <p>Redo the test procedure (items 4 and 5); add 1 washer each time until the requirements are met for both cap positions.</p> <p><b>NOTE</b> Before doing the pressure testing check the modified cap for proper fit. The sealing plane of the cap must be even and parallel to the tank's sealing plane.</p> <p><b>NOTE</b> It is just necessary to bend one of the 3 latches to remove the lower portion of the cap.</p> <p><b>NOTE:</b> Experience has shown that each latch can be bended (up and back again) 3 to 4 times. It is advised to alter the latches during the adjustment process.</p> <p><b>CAUTION</b> The bent latches must be inspected for cracks and proper fit before the cap gets released to service.</p> <p><b>NOTE</b> If the required relieve pressure is not achievable with by modifying the cap a new cap must be used.</p> 
8.	<p>Unplug all test equipment and reinstall disconnected hose at the breather line using 1 Oetiker 1-ear-clamps.</p>
9.	<p>Refill the system with the coolant liquid.</p>
10.	<p>Bleed the cooling system from air and install the bleed screw and the gasket.</p>

11.	Perform coolant system pressure test in accordance with the AMM.
12.	Clean working area and check for foreign objects.
13.	Test all systems in working area for function.



**Notes:**

1 Anzahl der Scheiben Pos. 2 oder Pos. 3 oder in Kombination nach Bedarf um einen Ablassdruck von 1,8 bis 2,3 bar in beiden Deckelstellung zu erreichen.

Shim washers item 2 or item 3 or any combination as required to achieve a relieve pressure of 1,8 to 2,3 bar (26.1 psi to 33.3 psi) at both cap positions.

Pos.	QTYL	QTYR	Part Number	Description	Specification	Supplier
3	alt.	-	D60-7526-30-31	Washer 0,3mm		
2	alt.	-	D60-7526-30-30	Washer 0,5mm		
1	1	-	49090019	1,8 bar cap		Fa. KTM

Approved : <i>C. Jutte</i> Date: 6 FEB 2007	Checked: <i>B. Jäger</i> Date: 05 FEB 2007	General Tolerance : ISO 2768		Scale: <b>1:1</b>
Next Higher Assembly : <b>D60-7529-30-00</b>		Title : <b>Coolant tank cap - mod</b>		
		Drawing Number: <b>D60-7526-30-29</b>		
"a" MAM 42-228a 26.01.07 Schuster ". ." MAM 42-228 07.12.06 Kremnitzer		DA 42 Twin Star		Sheet <b>1</b> from <b>1</b>
Rev.	Change	Date	Name	Saved under : <b>D60-7526-30-29.asm</b>

Weight: 0,016 kg  
Calculated Weight: calculated