

# RECOMMENDED SERVICE BULLETIN

## RSB 42NG-057

### **I TECHNICAL DETAILS**

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

Recommended.

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

Type: DA 42 NG, DA 42 M-NG  
Serial numbers: 42.N001 through 42.N039  
42.MN001, 42.MN002, 42.MN003 and 42.MN006

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

29-Aug-2016

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

Within 100 flight hours from the date of effectivity but not later than 31-Aug-2017.

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

Inspection and if necessary replacement of Fuel Filter Drain Adapter.

ATA-Code: 28-00

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

Due to an unfavorable combination of production tolerances on the fuel filter drain adapters, little wall thickness in the area between the fitting body and the M8 thread is possible. Installing such a fuel filter drain adapter in combination with high tightening torque might lead to small cracks, causing fuel pressure warnings and potentially fuel leakage during operation of the aircraft. DAI has improved the fuel filter drain adapter design which is more tolerant against inappropriate tightening during installation.

This Service Bulletin describes the inspection of the fuel filter drain adapter for sufficient wall thickness and if necessary its replacement with a new part.

#### **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 42-394, 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 42NG-057, latest effective issue.

**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 42NG-057, latest effective issue.

Material is available from Diamond Aircraft Industries.

**II.2 Special Tools**

None.

**II.3 Labour Effort**

Approx. 1 hours.

**II.4 Credit**

None.

**II.5 Reference Documents**

DA 42 NG Airplane Maintenance Manual, Doc. No. 7.02.15, 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 that which 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.

## EXECUTION REPORT TO SERVICE BULLETIN RSB 42NG-057

### AIRPLANE INFORMATION

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 42NG-057

### **I GENERAL INFORMATION**

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

Inspection and if necessary replacement of Fuel Filter Drain Adapter.

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

DA 42 NG Series Airplane Maintenance Manual, Doc. No. 7.02.15, 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**

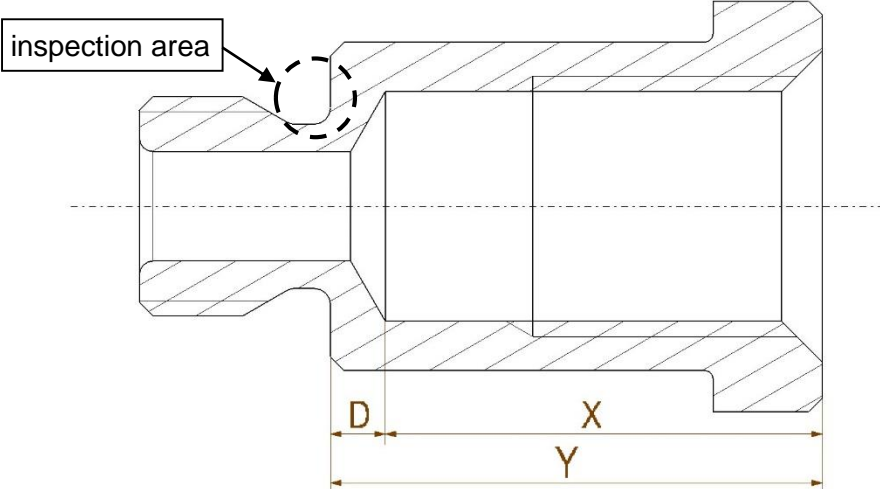
None.

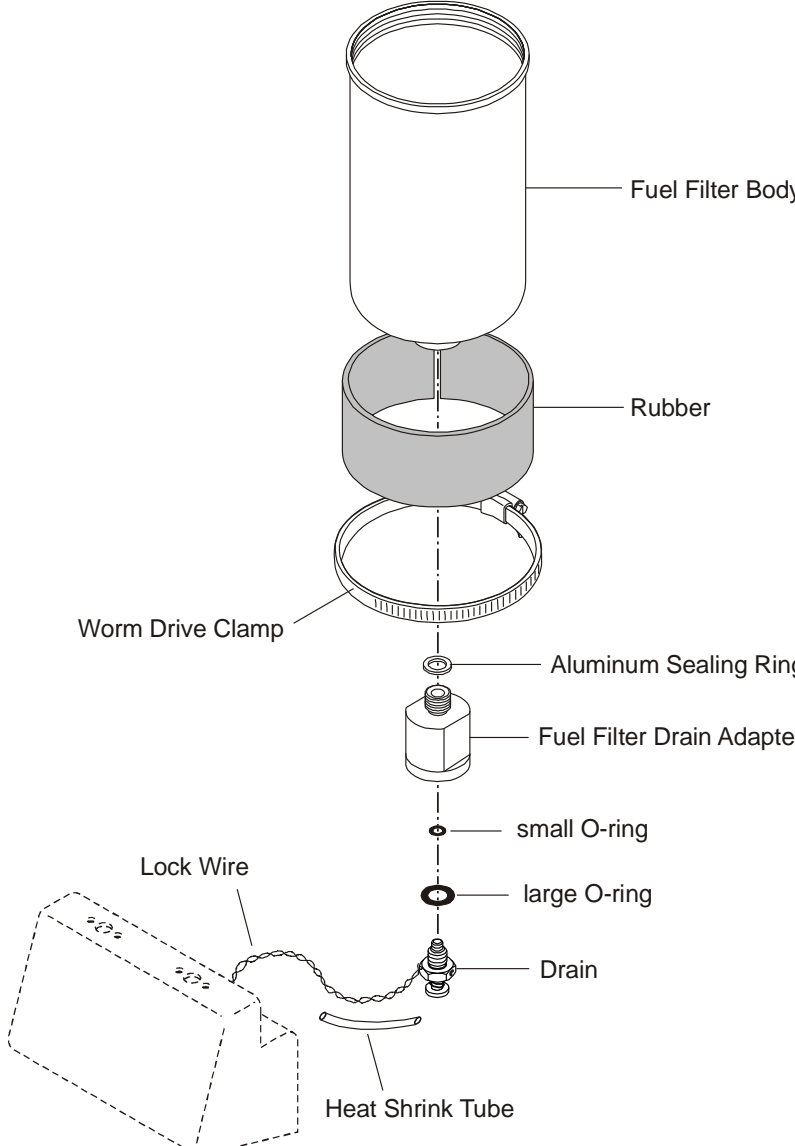
#### **II.3 Material**

Quantity	Part Number	Description
1 per engine	D64-7320-00-02	Fuel Filter Drain Adapter (only required in case of replacement)
2	DIN7603A-8x11,5-AL	Aluminum sealing ring
2	DIN3771-7.66X1.78FP_	Large O-ring – fuel drain valve
A/R	DIN3771-2.5X1.78FPM_	Small O-ring – fuel drain valve

Material is available from Diamond Aircraft Industries.

### III INSTRUCTIONS

1	Make sure the engine is safe.
2	Remove the fuel filter access panel.
3	Remove the fuel filter element: <ul style="list-style-type: none"> <li>• Drain the fuel from the fuel distribution system.</li> <li>• Remove the safety wire and the heat shrink tube from the filter bowl.</li> <li>• Unscrew the filter body together with the fuel drain valve assembly from the filter assembly.</li> </ul>
4	Remove the fuel drain valve from the fuel filter drain adapter.
5	Remove fuel filter drain adapter from the fuel filter bowl. NOTE: The connection between fuel filter drain adapter and fuel filter bowl is secured with Loctite 243. Use a hot air gun when removing the fuel filter drain adapter to prevent the thread from damage.
6	Examine the fuel filter drain adapter for cracks in the area between the fitting body and the M8 thread (see below for inspection area). <ul style="list-style-type: none"> <li>• If cracks are found replace the fuel filter drain adapter with a new one. Proceed with item 8.</li> </ul>
7	Determine wall thickness D of the fuel filter drain adapter, refer to the drawing below: <ul style="list-style-type: none"> <li>• Measure distance Y and distance X of the fuel filter drain adapter.</li> <li>• If distance D, the difference between distance Y and distance X, is greater or equal than 1.7mm reinstall the fuel filter drain adapter.  <math display="block">D = Y - X \geq 1.7 \text{ mm} \rightarrow \text{Reinstall fuel filter drain adapter.}</math> </li> <li>• If distance D, the difference between distance Y and distance X, is less than 1.7mm replace the fuel filter drain adapter with a new one.  <math display="block">D = Y - X &lt; 1.7 \text{ mm} \rightarrow \text{Replace fuel filter drain adapter.}</math> </li> </ul> 

<p>8</p>	<p>Install the fuel filter drain adapter to the new fuel filter bowl (refer to the drawing):</p> <ul style="list-style-type: none"> <li>• Use a new aluminum sealing ring.</li> <li>• Make sure the aluminum sealing ring is positioned centrally when tightening the fuel filter drain adapter.</li> <li>• Apply Loctite 234 to the thread.</li> </ul> 
<p>9</p>	<p>Install the fuel drain valve to the fuel filter drain adapter (refer to the drawing below):</p> <ul style="list-style-type: none"> <li>• Replace large O-ring of the fuel drain valve.</li> <li>• Replace small O-ring of the fuel drain valve if necessary.</li> <li>• Torque the fuel drain valve hand tight with approx. 1-3 Nm.</li> </ul>
<p>10</p>	<p>Install the filter body assembly into the fuel filter cap.</p> <p>NOTE: Make sure that the integral sealings at the new fuel filter body are not damaged.</p>
<p>11</p>	<p>Secure the fuel filter drain valve to the composite fuel filter bracket with lock wire.</p> <ul style="list-style-type: none"> <li>• Put a piece of heat shrink tube over the lock wire to avoid the lock wire to chafe on the fuel filter bowl.</li> </ul>

12	Clean working area, check for foreign objects.
13	Test all systems in working area for function.
14	Install fuel filter access panel.
15	Repeat items 1 to 14 on the other engine.
16	Carry out an engine test in accordance with AMM Section 71-00.
17	Inspect the fuel system for leakage.
18	Make all necessary entries in the airplane logs.