

OPTIONAL SERVICE BULLETIN

OSB 42NG-088

I TECHNICAL DETAILS

I.1 Category

Optional.

I.1 Airplanes affected

Type: DA 42 NG, DA 42 M-NG

Serial numbers: 42.N001 through 42.N067
42.N100 through 42.N265
42.N300 through 42.N477
42.N479 through 42.N489
42.MN001 through 42.MN042
42.MN050 through 42.MN059
42.MN100 through 42.MN112
42.NC001 through 42.NC007
All airplanes converted to DA 42 NG via OSB 42-068
All airplanes converted to DA 42 M-NG via OSB 42-081

I.2 Date of effectivity

08-May-2023

I.3 Time of Compliance

At owner's discretion.

I.4 Subject

Retrofit installation of new low-pressure fuel pumps.

ATA-Code: 28-00

I.5 Reason

Diamond Aircraft has introduced a new low pressure fuel pump to replace the existing fuel pump, that is no longer available as a new part. This service bulletin describes the modification of the installation for aircraft already in service when the new fuel pump is installed for the first time.

I.6 Concurrent Documents

None

I.7 Approval

The technical information or instruction contained in this document relate to the Design Change Advisories No. MÄM 42-1219/c, MÄM 42-1262/a and MÄM 42-1268, which have 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.8 Accomplishments / Instructions

See WI-OSB 42NG-088, latest effective issue.

Note: This Service Bulletin allows for installation of the new fuel pumps on one side only (LH or RH) as well as both sides.

II Mass (Weight) and CG

The change in mass and CG is negligible.

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

See WI-OSB 42NG-088, latest effective issue.

II.2 Special Tools

None.

II.3 Labour Effort

Approx. 3 hours per engine.

II.4 Credit

None.

II.5 Reference Documents

DA 42 NG Airplane Maintenance Manual, Doc. No. 7.02.15, latest effective issue incl. Temporary Revision AMM-TR-MÄM 42-1219/a or later.

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 OSB 42NG-088

AIRPLANE INFORMATION

Airplane Serial Number _____

Airplane Registration _____

Airplane Operator _____

Hours of operation of airplane _____

Number of landings _____

Hours of operation – engine LH _____

RH _____

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

Date, Name, SignPlease send the completed form to executionreports@diamondaircraft.com

WORK INSTRUCTION

WI-OSB 42NG-088

I GENERAL INFORMATION

I.1 Subject

Retrofit installation of new low-pressure fuel pumps.

I.2 Reference Documents

DA 42 NG Airplane Maintenance Manual, Doc. No. 7.02.15, latest effective issue.
Temporary Revision AMM-TR-MÄM 42-1219/a or later.

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) 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

Note: For installation of the new fuel pumps on both engines, use two times the quantity listed in the following table.


| For all airplanes | | |
|--|-------------------------------------|--|
| Quantity | Part Number | Description |
| 2 | D64-9028-11-01 | Fuel Pump |
| 2 | D64-2811-00-51 | Fuel Pump Bracket |
| 6 | DIN 7603-A12x18-AL | Sealing Ring, Flat |
| 4 | DIN 7603-A14x20-AL | Sealing Ring, Flat |
| 2 | DIN 7603-C14x20-CU | Sealing Ring, Flat |
| 4 | LN 9037-04 020 | Hexagon Screw |
| 2 | LN 9037-06 024 | Hexagon Screw |
| 4 | DIN 125A-6.4-A2 | Washer |
| 2 | DIN 125A-4.3-A2 | Washer |
| A/R | MS20995C032 or LN 9424-1.4314.9-0,8 | Lock Wire |
| If MÄM 42-735 is not installed: | | |
| 2 | D64-2810-00-03_1 | Fuel Filter Assy |
| If MÄM 42-1182 (OSB 42NG-085) is not installed: | | |
| 2 | 282080-1 | Connector, 2 Socket (Relay Panel Assy) |
| 4 | 183035-1 or 282403-1 | Socket (Relay Panel Assy) |
| 8 | 281934-4 | Rubber Seal |
| 2 | 282104-1 | Connector (Fuel Pump) |
| 4 | 183024-1 | Pin (Fuel Pump) |
| 10 | PLT1MM30 or MS3367-4-9 | Cable Tie |
| If MÄM 42-480 is not installed: | | |
| 2 | 1583386514 | Check Valve |
| 2 | D64-2811-00-50 | Nut, Plug, Drilled |
| A/R (1 LH) | D64-7311-00-01_1 | Fuel Pump Upper Plate LH |
| A/R (1 RH) | D64-7310-00-01_1 | Fuel Pump Upper Plate RH |
| If MÄM 42-600 (WI-OSB 42-068-VI of OSB 42-068) is not installed: | | |
| 1 | D67-9028-00-01 | Bypass Valve Assy |
| 1 | A23927-02 | Bypass Line |
| 1 | 918014 or EVL 9/16" UNF | Fitting, Tee, Swivel Nut Run |

Material is available from Diamond Aircraft Industries.

III INSTRUCTIONS

WARNING DO NOT GET FUEL ON YOU. FUEL CAN CAUSE SKIN DISEASE. DO NOT ALLOW FIRE OR SPARKS NEAR FUEL. FUEL BURNS AND BURNING FUEL CAN CAUSE INJURY TO PEOPLE AND DAMAGE TO EQUIPMENT.

Note All pictures and diagrams show the fuel pump assembly for the LH engine.

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|---|--|
| 1 | Incorporate AMM-TR-MÄM 42-1219/a into the Airplane Maintenance Manual or use an AMM revision in which AMM-TR-MÄM 42-1219/a has been incorporated. |
| 2 | Incorporate the applicable AFM-TR-MÄM 42-1219 into the Airplane Flight Manual or use an AFM revision in which AFM-TR-MÄM 42-1219 has been incorporated. |
| 3 | <p>Make sure the airplane is safe.</p> <ul style="list-style-type: none"> • Set the ENGINE MASTER switch to OFF. • Set the ELECT. MASTER switch to OFF. • Set the power lever to 0%. |
| 4 | Disconnect the airplane main battery i.a.w. AMM Section 24-31. |
| 5 | Make sure that both FUEL SELECTOR levers are set to OFF. |
| 6 | Pull all circuit breakers of the electrically driven fuel pumps (2 LH and 2 RH). |
| 7 | Remove Maintenance Cap 1 of the LH (RH) nacelle. Refer to AMM section 52-40. |
| 8 | <p>Remove the low pressure fuel pump assembly i.a.w.</p> <ul style="list-style-type: none"> • AMM Section 28-20 or • AMM Section 28-21 if MÄM 42-600 is installed. |
| 9 | <p>Prepare the fuel pumps:</p> <ul style="list-style-type: none"> • Discard the black plastic sleeves from the new fuel pumps, if installed. • Install included pump fitting with included copper seal to new fuel pumps.  <p>New fuel pump D64-9028-11-01 with plastic sleeve installed and pump fitting in separate bag.</p> |

Assemble the low-pressure fuel pumps assembly i.a.w. AMM Section 28-21.

Note: Use the instructions for airplanes with MÄM 42-1219 installed.

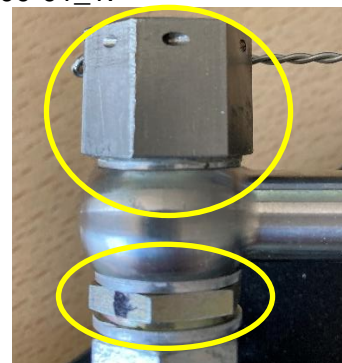
Note: All sealing rings must be replaced with new parts.

Do the following during the installation:

- Replace the fuel pump brackets with fuel pump bracket D64-2811-00-51. Use new bolts. Discard the old bolts.
- If MÄM 42-480 is not installed, replace the hollow bolts on the outlet side with check valves and plug nuts. Replace the fuel pump upper plate LH with D64-7311-00-01_1 or RH with D64-7310-00-01_1.



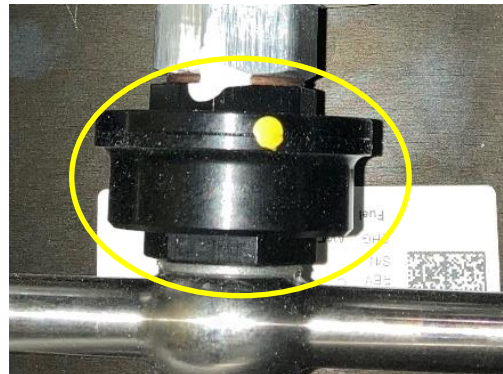
MÄM 42-480 not installed



MÄM 42-480 installed

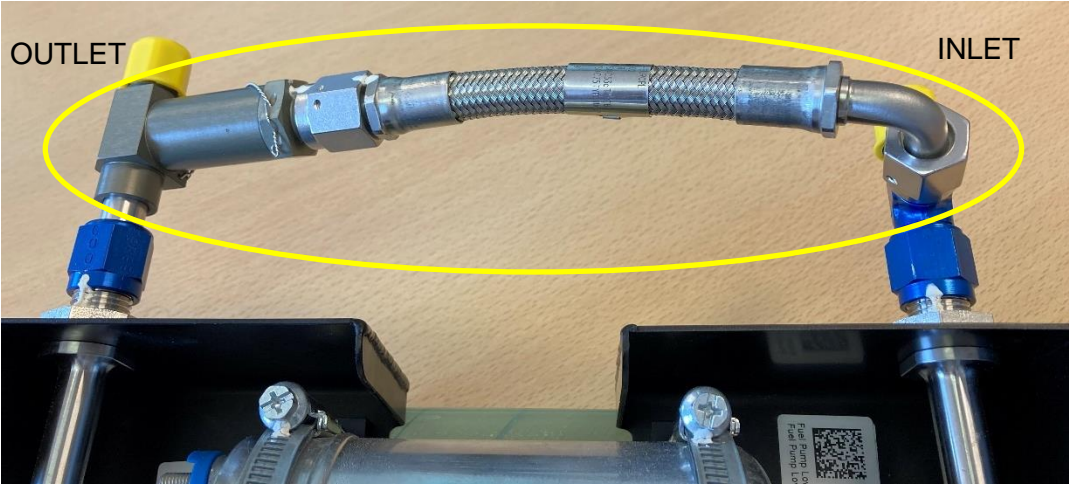


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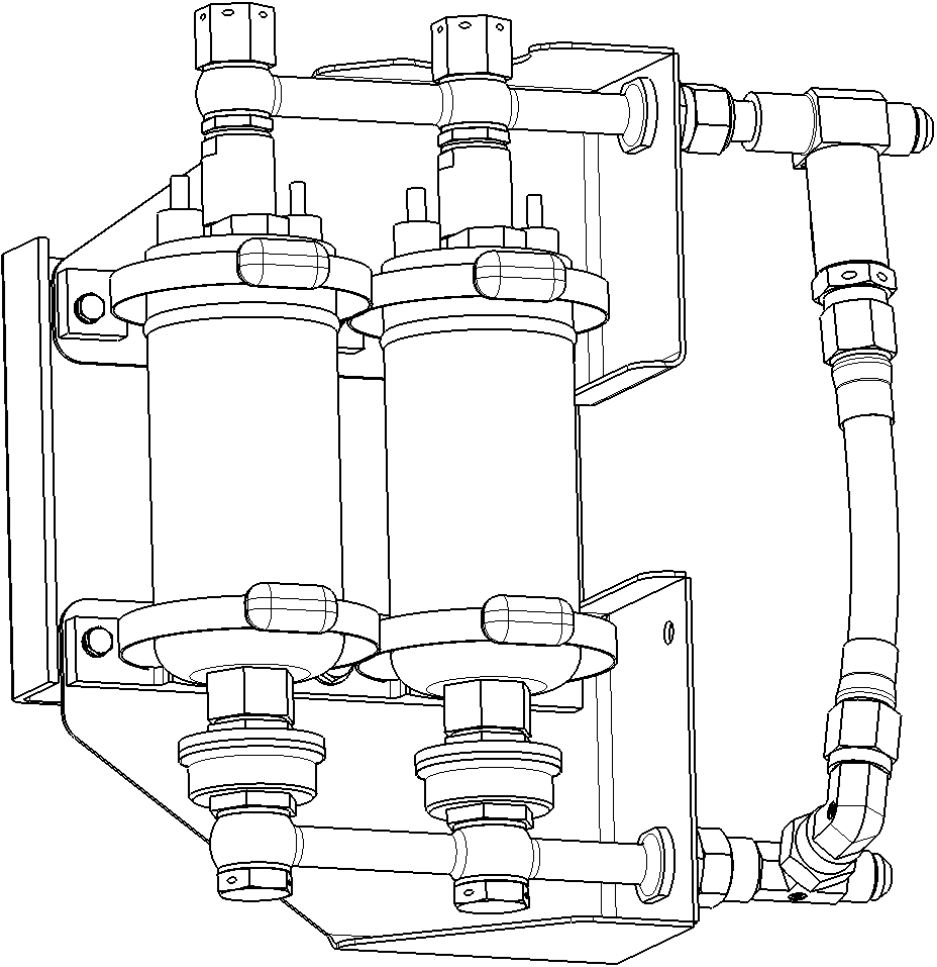
- If MÄM 42-735 is not installed, replace the pre-filters according to the material list.



Larger pre-filter D64-2810-00-03_1

- If MÄM 42-600 is not installed, install the bypass fuel line acc to the picture below:
 - Install the T-fitting on the inlet.
 - Install the bypass valve on the outlet.
 - Connect the T-fitting with the bypass valve with the bypass fuel line.
 - Tighten all fittings
 - Secure the fuel line fittings with safety wire.

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|-----------|--|
| |  <p>OUTLET</p> <p>INLET</p> <p>Bypass valve, bypass fuel line and T-fitting</p> |
| <p>11</p> | <p>If MÄM 42-1182 (OSB 42NG-085) is not installed, replace fuel pump electrical connectors according to OSB 42NG-085.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>MÄM 42-1182 not installed</p> </div> <div style="text-align: center;">  <p>MÄM 42-1182 installed</p> </div> </div> |

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| 12 | <p>Install the low-pressure fuel pump assembly in the nacelle i.a.w. AMM Section 28-21. Note: Torque the connections i.a.w. AMM Section 28-21.</p>  <p>LH shown, RH mirrored</p> |
| 13 | Repeat steps 7 through 12 on the fuel system of the other side, if required. |
| 14 | Connect the airplane main battery i.a.w. AMM Section 24-31. |
| 15 | Reset the fuel pump circuit breakers. |
| 16 | <p>Do an engine ground test according to AMM Section 05-28 on each engine, where the fuel pumps were replaced.</p> <p>Do the following steps, when the engine is running:</p> <ul style="list-style-type: none"> • Set the ECU VOTER switch to ECU A • Monitor the PFD for a fuel pressure warning • Set the ECU VOTER switch to ECU B • Monitor the PFD for a fuel pressure warning • Set the ECU VOTER switch to AUTO • Set the FUEL PUMPS switch to ON • Monitor the PFD for a fuel pressure warning |
| 17 | Examine all the fuel pump assembly for fuel leaks. |
| 18 | Install Maintenance Cap 1 on the LH (RH) nacelle. Refer to AMM section 52-40. |

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| 19 | Clean working areas, check for foreign objects. |
| 20 | Check all altered, replaced, repaired parts for proper function. |
| 21 | Test all systems in working area for function. |
| 22 | Do a maintenance check flight in accordance with AMM Section 05-28. |
| 23 | Do all necessary entries in the airplane logs. Note: Record on which side the new fuel pumps are installed. |