

OPTIONAL SERVICE BULLETIN

OSB D4-098/1

supersedes RSB D4-098

I TECHNICAL DETAILS

I.1 Category

Optional.

I.2 Airplanes affected

Type: DA 40 D with a TAE 125-02-99 engine.

Serial numbers: 40.080, 40.084
D4.001 through D4.399
40.DS001 through 40.DS125

I.3 Date of effectivity

09-Dec-2014

I.4 Time of Compliance

At owner's discretion.

I.5 Subject

Installation of new ECU 05-7611-001904

I.6 Reason

This Service Bulletin describes the installation of the new ECU 05-7611-001904.

Because the dimensions of the new ECU have changed slightly, an inspection for insufficient clearance between the manifold pressure tubes and moving parts is required after the installation of the new ECU.

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 40-771/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

See WI-OSB D4-098, latest effective issue.

I.10 Mass (Weight) and CG

No Change.

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

See WI-OSB D4-098, latest effective issue.

II.2 Special Tools

None.

II.3 Labour Effort

Approx. 1.5 hours.

II.4 Credit

None.

II.5 Reference Documents

DA 40 Series Airplane Maintenance Manual, Doc. No. 6.02.01, 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, in 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 D4-098/1****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, SignPlease fax the completed form to Fax No. +43-2622-26700-1369 or e-mail to
airworthiness@diamond-air.at

WORK INSTRUCTION

WI-RSB D4-098

I GENERAL INFORMATION

I.1 Subject

Installation of new ECU 05-7611-001904

I.2 Reference Documents

DA 40 Series Airplane Maintenance Manual, Doc. No. 6.02.01, 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 that which is not especially 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

D4D-7153-01-00_2 Rev. "d"

II.2 Special Tools

None.

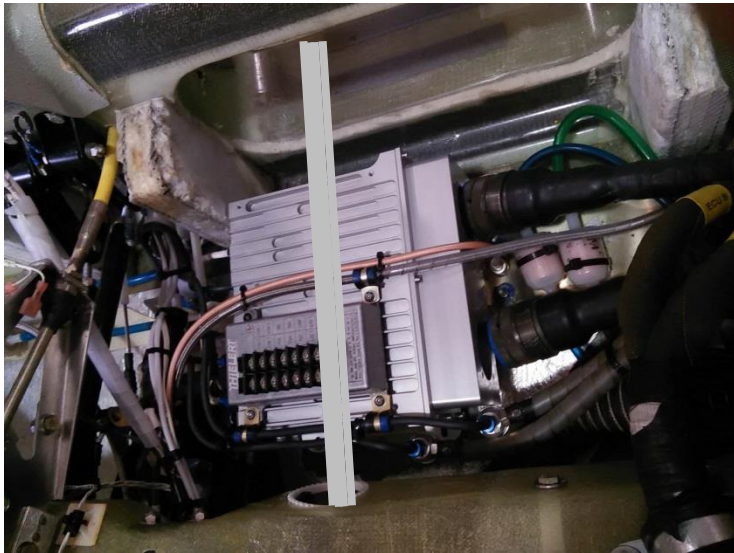
II.3 Material

NOTE: The material in this table is required for adjustment to reach the required clearance (refer to step 10).

Quantity	Part No.	Description
a.r.	DIN 9021B-M5	Washer
a.r.	LN 9037-M5x16	Hexagon screws

Material is available from Diamond Aircraft Industries.

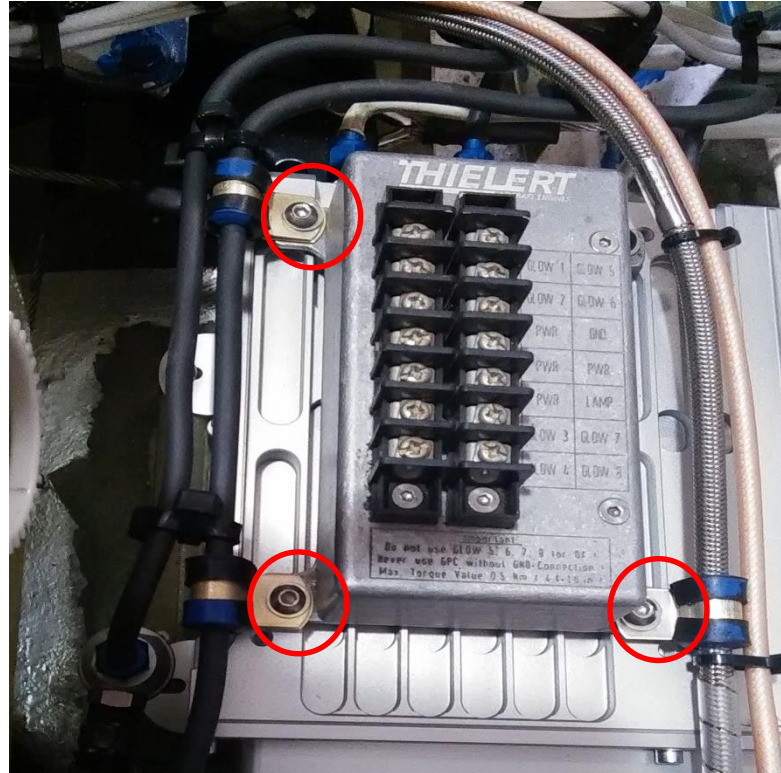
III INSTRUCTIONS

1	Remove pilot seat i.a.w. AMM Section 25-10.
2	<p>Disconnect the passenger floor heating hose from the foot well lining (refer to grey line in picture below).</p> 
3	Remove the glow control box from the ECU.
4	Disconnect both MAP lines from the ECU.
5	Remove the MAP tubes from the MAP hose.
6	Replace the ECU with the new ECU 05-7611-001904.
7	<p>If RSB D4-083/1 or MSB D4-104 is not installed: Install water separators i.a.w. MSB D4-104.</p> <p>Note Compliance with RSB D4-083 does not constitute compliance with RSB D4-083/1 or MSB D4-104.</p>
8	Connect the water separator assemblies to the MAP hoses with an 13.8 Oetiker I-ear clamp.
9	Install the glow control box on the new ECU.


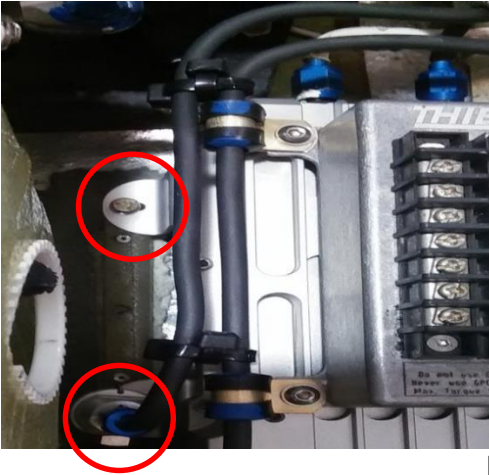
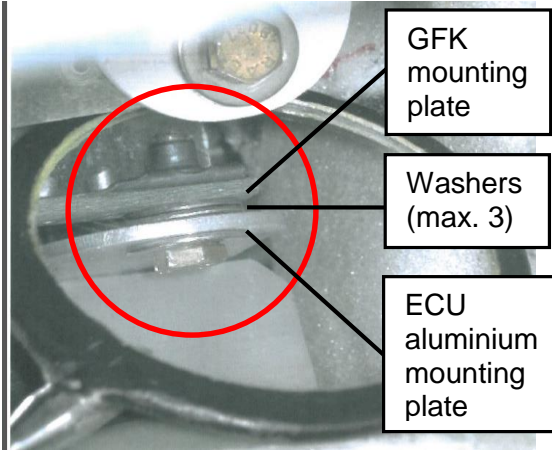
10

Install the manifold pressure adapter tubes A and B.

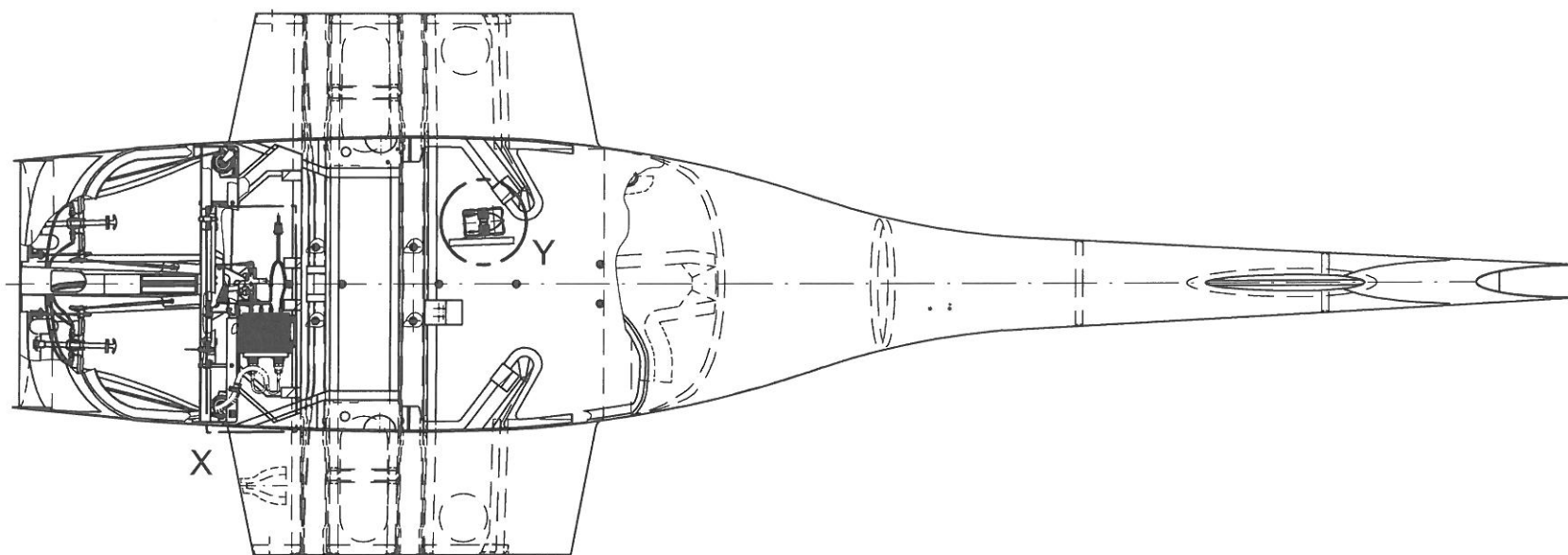
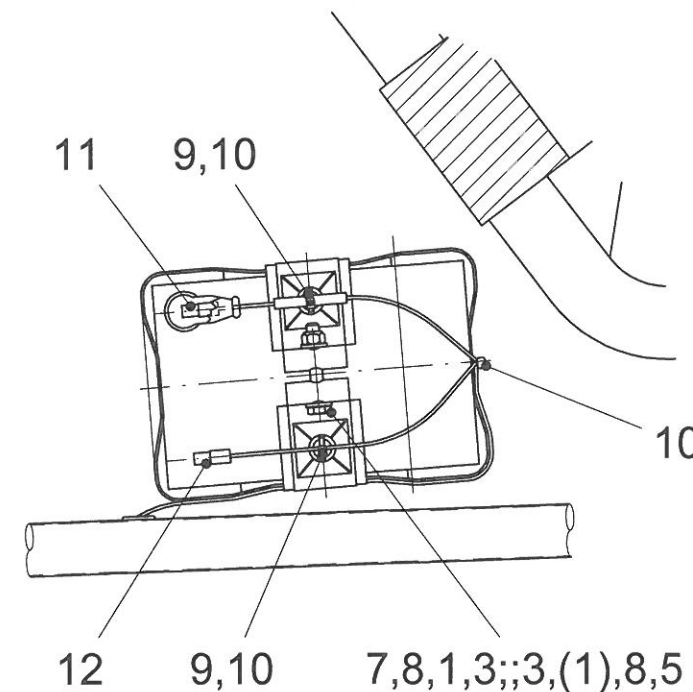
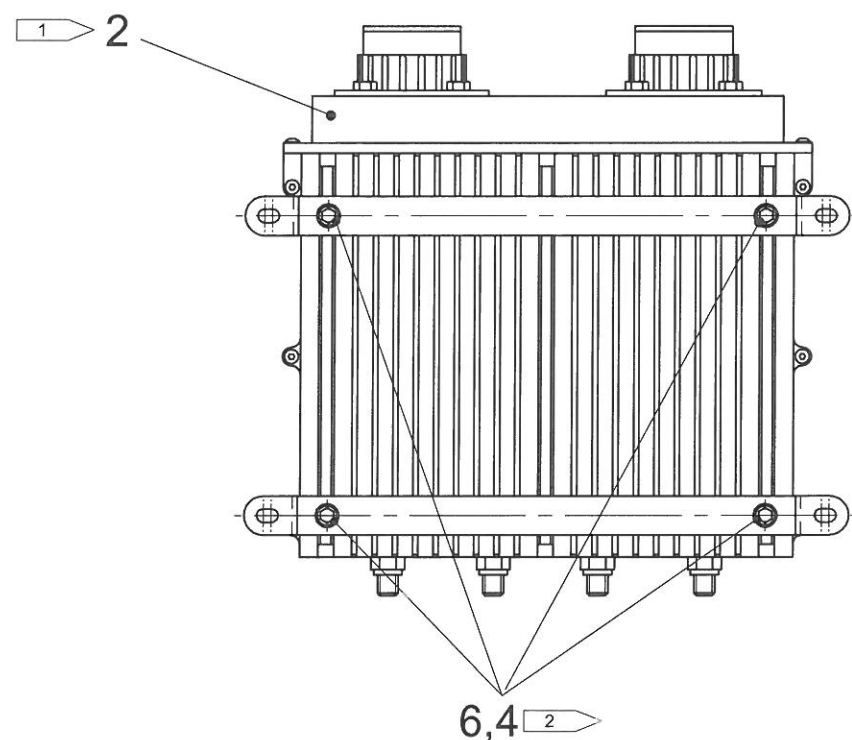
- Connect the manifold pressure tubes A and B with the water separators.
- Connect the manifold pressure tubes A and B on the ECU fittings.
- Install the 3 clamps MS21919WDG4 with ISO 7380 M4X12-A2 screws with the DIN 125 AM4-ZP washers on the ECU (secure with Loctite 243 or equivalent) and fix the tubes with cable tie i.a.w. picture 1.



Picture 1

11	<p>Make sure that the manifold pressure tubes have at least 3mm clearance to the rudder bell crank and rudder cables in all position i.a.w. picture 2.</p> <ul style="list-style-type: none"> If necessary bend the manifold pressure tubes for an optimized routing on the ECU. <p>CAUTION Bend the manifold pressure tubes without kinking and a minimum bend radius of 10 mm.</p>  <p style="text-align: center;">Picture 2</p> <ul style="list-style-type: none"> If the minimum clearance is less than 3 mm, replace screws with LN 9037-M5x16mm hexagon screws, install washer (max. 3 washers per screw) i.a.w. picture below, until the minimum clearance is 3 mm between the MAP lines and the rudder bell crank. For positioning of screws and washers, refer to picture 3. <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Picture 3</p>
12	Install the passenger floor heating hose from the foot well lining.
13	Clean working area, check for foreign objects.
14	Install the pilot seat i.a.w. AMM Section 25-10.
15	Clean working area, check for foreign objects
16	Check all altered, replaced, repaired parts for proper function.
17	Test all systems in working area for function.
18	Make all necessary entries in the airplane logs.

REVISION					
REV	SH	ZONE	DESCRIPTION	DATE	APPROVAL
-	01	ALL	MÄM 40-479 NEW DRAWING, SUPERSEDES D4D-7153-01-00_1.	19.11.2010	JÜTTE
A	01	ALL	MÄM 40-771b ITEM 2 WAS D4D-7603-00-02 AND FLAG NOTE 2 WAS LOCTITE 263.	05.11.2014	SCHEIKL
B	01	ALL	MÄM 40-771c IN VIEW ECU BOX: VIEW UNDER ITEM NUMBERS 4, 6 CORRECTED TO 6, 4.	09.12.2014	SCHEIKL
C	01	ALL	MÄM 40-794 ITEM 11 AND 12 NEW ADDED.	22.01.2015	SEE TB
D	01	ALL	MÄM 40-814 ITEM 25 WAS D60-7614-40-00.	29.09.2015	SEE TB

DETAIL Y
1:2,5ECU BOX: VIEW UNDER
1:2

FLAG NOTES

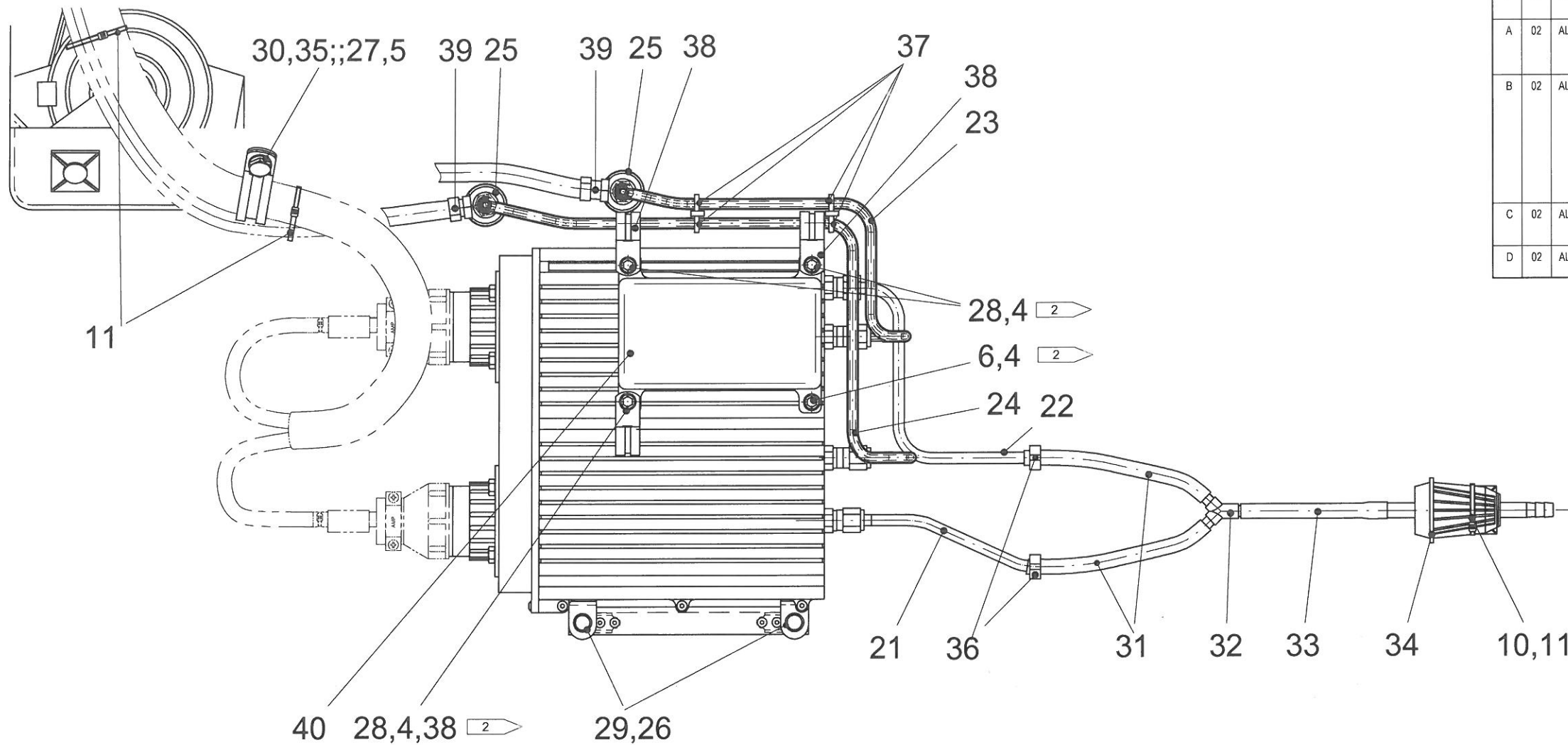
- 1 SUPPLIED WITH ENGINE SOFTWARE SPEC. REFER TO D4D-9072-00-01.
- 2 SECURE WITH LOCTITE 243.

12	1	-	D4D-2403-16-00	ECU BACKUP BATTERY GND CABLE				
11	1	-	D4D-2403-15-00	ECU BACKUP BATTERY + CABLE				
10	6	-	PLT 2SM30	CABLE TIE		4,8x188mm		Fa. Matik
9	3	-	ART.NR. 0502 648	SOCKET FOR CABLE TIE		4,8mm		Fa. Würth
8	2	-	DIN 125A-M6	WASHER				
7	1	-	LN 9037-M6x40	HEXAGON SCREW				
6	5	-	ISO 7380 M4x8 A2	ALLEN SCREW				
5	2	-	DIN 985-M6	SELF-LOCKING NUT				
4	8	-	DIN 125 AM4-ZP	WASHER				
3	2	-	820-2811-02-02	BOLT WITH HOLE				
2	2	-	D4D-9071-53-01	ECU FADEC 14V				
1	1	-	D4D-2560-96-00	HOLDING BAND				

ITEM	QTYL	QTYR	PART NUMBER	DESCRIPTION	MATERIAL TYPE	H.T.	MATERIAL SIZE	SPECIFICATION																																																																																																												
<table><tr><td colspan="2">DIMENSIONS</td><td colspan="2">METRIC</td><td colspan="2">IDENTIFICATION MARKINGS</td><td colspan="3">Diamond Aircraft Industries</td></tr><tr><td colspan="2">FIRST ANGLE PROJECTION</td><td colspan="2">FORMAT</td><td colspan="2">CLASSIFICATION:</td><td colspan="3">NAME / SIGN / DATE</td></tr><tr><td colspan="2">IF NOT OTHERWISE SPECIFIED GEOMETRIC DIMENSIONING AND TOLERANCING ACC. TO ISO 2768-mK</td><td colspan="2">A2</td><td colspan="2">INTERCHANGEABLE PART</td><td colspan="3">PROJECT</td></tr><tr><td colspan="2">DIMENSIONS IN mm</td><td colspan="2">3,2</td><td colspan="2">THIS DRAWING WAS PRODUCED USING</td><td colspan="3">TITLE</td></tr><tr><td colspan="2"></td><td colspan="2">FINISH IN MICRO-METER</td><td colspan="2">SOFTWARE: SOLID EDGE ST6</td><td colspan="3">DAIA</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">FILENAME</td><td colspan="3">D4D-7153-01-00_2</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">D4D-7153-01-00_2d.dft</td><td colspan="3">CODE</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">710197</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">SCALE</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">1:20</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">SH</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">01 OF 02</td></tr></table>									DIMENSIONS		METRIC		IDENTIFICATION MARKINGS		Diamond Aircraft Industries			FIRST ANGLE PROJECTION		FORMAT		CLASSIFICATION:		NAME / SIGN / DATE			IF NOT OTHERWISE SPECIFIED GEOMETRIC DIMENSIONING AND TOLERANCING ACC. TO ISO 2768-mK		A2		INTERCHANGEABLE PART		PROJECT			DIMENSIONS IN mm		3,2		THIS DRAWING WAS PRODUCED USING		TITLE					FINISH IN MICRO-METER		SOFTWARE: SOLID EDGE ST6		DAIA							FILENAME		D4D-7153-01-00_2							D4D-7153-01-00_2d.dft		CODE									710197									SCALE									1:20									SH									01 OF 02		
DIMENSIONS		METRIC		IDENTIFICATION MARKINGS		Diamond Aircraft Industries																																																																																																														
FIRST ANGLE PROJECTION		FORMAT		CLASSIFICATION:		NAME / SIGN / DATE																																																																																																														
IF NOT OTHERWISE SPECIFIED GEOMETRIC DIMENSIONING AND TOLERANCING ACC. TO ISO 2768-mK		A2		INTERCHANGEABLE PART		PROJECT																																																																																																														
DIMENSIONS IN mm		3,2		THIS DRAWING WAS PRODUCED USING		TITLE																																																																																																														
		FINISH IN MICRO-METER		SOFTWARE: SOLID EDGE ST6		DAIA																																																																																																														
				FILENAME		D4D-7153-01-00_2																																																																																																														
				D4D-7153-01-00_2d.dft		CODE																																																																																																														
						710197																																																																																																														
						SCALE																																																																																																														
						1:20																																																																																																														
						SH																																																																																																														
						01 OF 02																																																																																																														

DETAIL X

FD



REVISION					
REV	SH	ZONE	DESCRIPTION	DATE	APPROVAL
-	02	ALL	MÄM 40-479 NEW DRAWING, SUPERSEDES D4D-7153-01-00_1.	19.11.2010	JÜTTE
A	02	ALL	MÄM 40-771/b ITEM 23 WAS D4D-7153-12-00_2 AND ITEM 24 WAS D4D-7153-14-00_2. POSITION OF ITEM 37 CHANGED.	05.11.2014	SCHEIKL
B	02	ALL	MÄM 40-771/c IN PARTLIST ITEM 29a NEW ADDED. IN SECTOR C5 ITEM NUMBERS 26, 29 CORRECTED TO 28, 26. IN SECTOR C6 ITEM NUMBERS 5, 28, 38 CORRECTED TO 28, 4, 38. IN SECTOR E4 ITEM NUMBERS 5, 28 CORRECTED TO 28, 4 AND 5, 7 CORRECTED TO 6, 4. IN SECTOR F6 ITEM NUMBERS 30, 35, 27, 6 CORRECTED TO 30, 35, 27, 5.	09.12.2014	SCHEIKL
C	02	ALL	MÄM 40-794 REVISION LEVEL RAISED DUE TO CHANGES ON SHEET 1.	22.01.2015	SCHEIKL
D	02	ALL	MÄM 40-814 ITEM 25 WAS D60-7614-40-00.	29.09.2015	SEE TB

40	1	-	05-7151-E0004 01	GLOW PLUG CONTROL (GPC) D4				D4D-9072-00-01
39	2	-	13.8 GER	I-OR CLAMP				
38	3	-	MS21919WDG4	CLAMP				
37	4	-	PLT1MM30	CABLE TIE				
36	2	-	15400028	OETIKER I-EAR CLAMP 9,5				Fa. Oetiker
35	1	-	RSGU1	ALU-HOSE CLAMP		25/15		
34	1	-	PUROL 207.095.002 KI 13	FUEL FILTER				Fa. Matik
33	1	-	299TOI-004	HOSE PVC BLUE		Ø 8x1,5x80mm		
32	1	-	YS6	PLASTIC BINDER				
31	2	-	299TOI-004	HOSE PVC BLUE		Ø 8x1,5x95mm		
30	1	-	LN 9037-M6x20	HEXAGON SCREW				
29a	4	-	LN 9037-M5x16	HEXAGON SCREW			IF REQUIRED	
29	4	-	LN 9037-M5x14	HEXAGON SCREW				
28	3	-	ISO 7380 M4x12-A2	ALLEN SCREW				
27	1	-	DIN 9021B-M6	WASHER				
26	4	-	DIN 9021B-M5	WASHER				
25	2	-	D60-9076-14-01	WATER SEPARATOR WITH MEMBRANE				
24	1	-	D4D-7153-14-00_03	MANIFOLD PRESSURE TUBE A				
23	1	-	D4D-7153-12-00_03	MANIFOLD PRESSURE TUBE B				
22	1	-	D4D-7153-11-00	STATIC LINE A				
21	1	-	D4D-7153-10-00	STATIC LINE B				

ITEM	QTYL	QTYR	PART NUMBER	DESCRIPTION	MATERIAL TYPE	H.T.	MATERIAL SIZE	SPECIFICATION																																																																																																																																							
<table><tr><td colspan="2">DIMENSIONS</td><td colspan="2">METRIC</td><td colspan="2">IDENTIFICATION MARKINGS</td><td colspan="3">Diamond Aircraft Industries GmbH</td></tr><tr><td colspan="2">FIRST ANGLE PROJECTION</td><td colspan="2">FORMAT</td><td colspan="2">DP-S-17-00001</td><td colspan="3">NAME / SIGN / DATE</td></tr><tr><td colspan="2"></td><td colspan="2">A2</td><td colspan="2">CLASSIFICATION:</td><td colspan="3">PROJECT</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">NONE</td><td colspan="3">DA 40 D</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">INTERCHANGEABLE PART</td><td colspan="3">TITLE</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">NO</td><td colspan="3">ECU INSTALLATION</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">THIS DRAWING WAS PRODUCED USING</td><td colspan="3">DWG. ORG.</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">SOFTWARE: SOLID EDGE ST6</td><td colspan="3">DAIA</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">FILENAME</td><td colspan="3">D4D-7153-01-00_2</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">D4D-7153-01-00_2d.dft</td><td colspan="3">CODE</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">710197</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">SCALE</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">1:2</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">SH</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3">02 OF 02</td></tr></table>									DIMENSIONS		METRIC		IDENTIFICATION MARKINGS		Diamond Aircraft Industries GmbH			FIRST ANGLE PROJECTION		FORMAT		DP-S-17-00001		NAME / SIGN / DATE					A2		CLASSIFICATION:		PROJECT							NONE		DA 40 D							INTERCHANGEABLE PART		TITLE							NO		ECU INSTALLATION							THIS DRAWING WAS PRODUCED USING		DWG. ORG.							SOFTWARE: SOLID EDGE ST6		DAIA							FILENAME		D4D-7153-01-00_2							D4D-7153-01-00_2d.dft		CODE									710197									SCALE									1:2									SH									02 OF 02		
DIMENSIONS		METRIC		IDENTIFICATION MARKINGS		Diamond Aircraft Industries GmbH																																																																																																																																									
FIRST ANGLE PROJECTION		FORMAT		DP-S-17-00001		NAME / SIGN / DATE																																																																																																																																									
		A2		CLASSIFICATION:		PROJECT																																																																																																																																									
				NONE		DA 40 D																																																																																																																																									
				INTERCHANGEABLE PART		TITLE																																																																																																																																									
				NO		ECU INSTALLATION																																																																																																																																									
				THIS DRAWING WAS PRODUCED USING		DWG. ORG.																																																																																																																																									
				SOFTWARE: SOLID EDGE ST6		DAIA																																																																																																																																									
				FILENAME		D4D-7153-01-00_2																																																																																																																																									
				D4D-7153-01-00_2d.dft		CODE																																																																																																																																									
						710197																																																																																																																																									
						SCALE																																																																																																																																									
						1:2																																																																																																																																									
						SH																																																																																																																																									
						02 OF 02																																																																																																																																									