

DAI OSB 42-124 DAI OSB 42NG-062 Page 1 of 3 02-Feb-2017

OPTIONAL SERVICE BULLETIN OSB 42-124 OSB 42NG-062

I TECHNICAL DETAILS

I.1 Category

Optional.

I.2 Airplanes affected

Type:DA 42, DA 42 M, DA 42 NG, DA 42 M-NGSerial numbers:42.004 and subsequent42.AC001 and subsequent42.M001 and subsequent42.N001 through 42.N068, 42.N100 through 42.N217, 42.N21942.NC001 through 42.NC00642.MN001 through 42.MN040 and 42.MN050 through 42.MN052

I.3 Date of effectivity

02-Feb-2017

I.4 <u>Time of Compliance</u>

At owner's discretion

I.5 <u>Subject</u>

Retrofit installation of single piece heater valve bowden cable and alternate air valve bowden cable.

ATA-Code: 21-40

I.6 <u>Reason</u>

The heating and alternate air single piece Bowden cable improves smoothness, handling and reliability of the levers.

I.7 <u>Concurrent Documents</u>

None.

I.8 <u>Approval</u>

The technical information or instructions contained in this document relate to the Design Change Advisories No. MÄM 42-739 and MÄM 42-933, 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.9 Accomplishments / Instructions

See WI-OSB 42-124/WI-OSB 42NG-062, latest effective issue.

I.10 Mass (Weight) and CG

None.

II PLANNING INFORMATION

II.1 Material and Availability

See WI-OSB 42-124/WI-OSB 42NG-062, latest effective issue.

II.2 Special Tools

None.

II.3 Labour Effort

Approx. 12 hours.

II.4 <u>Credit</u>

None.

II.5 <u>Reference Documents</u>

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

DA 42 NG Airplane Maintenance Manual, Doc. No. 7.02.15, latest effective issue.

III <u>REMARKS</u>

- 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.



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EXECUTION REPORT TO SERVICE BULLETIN OSB 42-124 OSB 42NG-062

AIRPLANE INFORMATION

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. +43-2622-26780 or e-mail to executionreports@diamond-air.at



WORK INSTRUCTION WI-OSB 42-124 WI-OSB 42NG-062

I GENERAL INFORMATION

I.1 Subject

Retrofit installation of single piece heater valve bowden cable and alternate air valve bowden cable.

I.2 <u>Reference Documents</u>

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

DA 42 NG Airplane Maintenance Manual, Doc. No. 7.02.15, latest effective issue

I.3 <u>Remarks</u>

- 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

D64-7103-00-00_01 Rev. "-"

D64-7613-10-00_04 Rev. "a"

II.2 Special Tools

None.



II.3 Material

Quantity	Part No.	Description
2	D67-9021-43-01	Heating Bowden Cable
6	DAI-9071-03-01	Screw Nipple
2	D67-7613-10-20	Lever Heat Valve
1	D67-7613-11-08	Bracket Bowden Cable
6	DIN7337A-3,2x6,7-A2	Blind Rivet
4	DIN439-BM6-B	Hexagon Nut
4	DIN6797-J6.4-ZP	Tooth lock washer
2	ISO15983-3,2x16-A2	Blind Rivet
1	D67-7163-00-04	Alternate Air Bowden Cable Bracket
1	D67-7163-02-00	Alternate Air Control Lever assy
2	D67-9071-63-02	Alternate Air Bowden Cable
1	DS BU1-08-05-0355-B	Bushing
1	DS BU2-08-05-0225-N	Bushing
5	DIN125-A5,3-A2	Washer
6	DIN125-A6,4-A2	Washer
4	DIN934-M6-A2	Hexagon Nut
3	DIN985-M5-A2	Hexagon Nut self-locking
2	DIN985-M6-A2	Hexagon Nut self-locking
1	DIN9021-5,3-A2	Washer
1	LN 9037-05020	Screw, hexagon Head
1	LN 9037-M5x42	Screw, hexagon Head
1	LN 9037-M5x54	Screw, hexagon Head

Material is available from Diamond Aircraft Industries.

III INSTRUCTIONS

1	Remove pilot and copilot seats i.a.w. AMM section 25-10.
2	Remove engine control assy i.a.w. AMM section 76-00.
3	Remove the alternate air control lever.
4	Remove the LH and RH nacelle maintenance cap ECU i.a.w. AMM section 52-40.
5	Remove engine cowlings i.a.w. AMM section 71-00.



6	Remove the LH unfeathering accumulator from engine mount. Note: Do not disconnect hose.
7	Remove the RH charged air hose between turbo charger and intercooler.
8	Drill out one rivet of the bowden cable firewall grommet on LH and RH nacelles. Slide sheet metal half shells aside to gain better access to the bowden cable lead through.
9	Remove sealant from the LH and RH lead -through.
10	Remove the bowden cable grommets from the LH and RH grommet (2 pcs per bowden cable).
11	Disconnect the heating-, defrost- and alternate air bowden cables located inside the engine compartment.
12	Push back the bowden cables through the firewall into the nacelle.
13	Disconnect heating-, defrost- and alternate air bowden cables from bowden cable relay lever assembly, positioned on the front bulkhead.
14	Disconnect the bowden cables from the engine control assy and from bowden cable relay lever assembly.
15	Disconnect the bowden cables from alternate air control lever and the LH bowden cable relay lever assembly.
16	Remove the bowden cable wire from the bowden cables.
17	Insert the wire of the new Bowden cables heating D67-9021-43-01 and defrost bowden cable D67-9071-63-02 in the old Bowden cable wrapper.
18	Replace the old bowden cable wrapper by the new one. Use the wire to grind the wrapper from the nacelle to the cockpit. Not: Make sure that the wire stays in place.
19	Guide the bowden cables through the firewall.
20	Connect the heating and defrost bowden cables with hexagon nut DIN439-BM6-B and tooth lock washer DIN6797-J6.4-ZP to the heating and defrost valve in the engine compartment.
	DIN125-A6,4-A2.
21	Install the bowden cable bushings at LH and RH lead -through 2 pcs per bowden cable.
22	Apply a small amount of sealant on the bushings. Slide the sheet metal half shells back in place and install rivet ISO15983-3,2x16-A2.
23	Install alternate air control lever i.a.w. drawing D64-7103-00-00_01. Adapt glas insert plate and center console to new hole pattern i.a.w. alternate air bowden cable bracket D67-7163-00-04.



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Drill out the rivets from the old bowden cable bracket in the engine control assy and discard bracket.









26	Drill holes for new bowden cable bracket on marked position.
27	Position the new bowden cable bracket D67-7613-11-08 and install it with rivets DIN7337A-3,2x6,7-A2.
28	Remove the axle from the heating-, defrost and brake lever.
29	Reassemble the axle with new heating and defrost levers D67-7163-02-00 i.a.w. drawing D64-7613-10-00_04 page 2 Section B-B. Note: Take care of correct reassembly sequence of bushings and washers.
30	Guide bowden cables through the center console to their final installation position.
31	Connect the alternate air bowden cables to the alternate air lever.
32	Reinstall the engine control assy and connect new heating and defrost bowden cable.
33	Make sure that all bowden cables are adjusted and for function properly.
34	Attach bowden cables with cable ties where necessary.
35	Install the LH unfeathering accumulator to the engine mount.
36	Install the RH charged air hose between turbo charger and intercooler.
37	Install the LH and RH nacelle maintenance cap ECU i.a.w. AMM section 52-40.
38	Install pilot and copilot seats i.a.w. AMM section 25-10.
39	Install engine cowlings i.a.w. AMM section 71-00.
40	Clean working areas, check for foreign objects.
41	Check all altered, replaced, repaired parts for proper function.
42	Test all systems in working area for function.
43	Make all necessary entries in the airplane logs.



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Γ			EL AC	NOTES											
			FLAC	BNOTES											
			$\left 1 \right\rangle$	CENTERING POSITION F	FOR POWER LEVER, ITEM 8 AND 9.										
				FIX BOTH POWER LEVEL	R WITH THIS CENTERING HOLE										
				WHILE ASSEMBLING ALL	LPARIS.										
			$\left 2\right\rangle$	CENTERING POSITION F	OR THE RUDDER TRIM, ITEM 24.										
F				FIX THE LEVER ASSY WI	ITH THIS CENTERING HOLE										
				WHILE ASSEMBLING THE	E SPINDLE.										
			$ 3\rangle$	APPLY MOLYCOTE LONG	GTERM W2 ON SPINDLE THREAD.										
			4	USE ONE TO TWO WASH	HER AS REQUIRED. THE SPINDLE HA	S									
				TO BE INSTALLED WITH	A PLAY BETWEEN 0,05 AND 0,2 mm.										
			$\left 5 \right\rangle \right $	TEM 26 HAS TO BE CENT	TERED IN ACC. TO FLAG NOTE 2.										
_			1	NSTALL ITEM 19 ON TH	IE SPINDLE THREAD WHILE THE MILL	ED									
			F	PART OF THE UPPER SPI	INDLE THREAD TURNS TO THE LEFT	SIDE.									
			6)	URN THE FLAT (MILLED)	PIN SIDE OF THE HALL SENSOR INT	OTHE									
				DIRECTION OF THE LEVE	R THREAD FOR THE SETSCREW. TW	0				_	10 1	DIN 0004D		WASHED	DA
			ŀ	HALL SENSOR PINS ON C	ONE AXIS HAVE TO BE TURNED AROL	JND 180°				-	49 1	DIN 9021B-	0.4-PA		42
			1	NACC. TO THE SETSCRI	EW POSITION OF THE HALL SENSOR	LEVER.					48 4	DIN 7985 M	2 x 4 - A2	SUREW, CHEESE HEAD, CROSS RECESS	A2
			[7]F	ROUTE WIRES ALONG GR	ROOVE. APPLY SILICONE BLACK INTO	D GROOVE.					47 8	DIN 7985 M	2 x 12 - A2	SCREW, CHEESE HEAD, CROSS RECESS	AZ
Еİ											45 4	DIN 7337A-	3,2x6,7-A2	BLIND RIVET	AZ
				DIN 71803-C8, DIN 71805-	B8 AND DIN 71805-S8 TOGETHER AR	E					44 4	DIN 7337-3	.2x9.7-AL	BLIND RIVET	AL
			U	111 / 100203-100.							42 2	DIN 125A-2	.2-A2	WASHER	AZ
			9 9	ECURE CONNECTION A	CC. TO DP-S-14-00005						41 6	DIN 125A -	4.3 - A2	WASHER	A2
			U	SE ADHESIVE ACC. DM-S	S-02-00004 CLASS 1 TYPE 2 GRADE 1						40 4	ISO 7380-N	14x12-A2	FILLISTER HEAD SCREW	A2
			10		ITEM 64 IE REQUIRED						39 1	DS GWS5-1	105-C	THREAD BOLT	CRES
										3	38a A/	R DIN 988-Ø8	x14-0,1	SHIM WASHER	ST2 K50
-											38 A/	R DIN 988-Ø8	x14-0,2	SHIM WASHER	ST2 K50
			r								37 1	DIN 915-M4	x6-A2	SOCKET SET SCREW	A2
		99	1	DIN 915 M6x6-A2	HEX SOCKET SCREW WITH DOG POINT						36 1	BU2-19-09-	0255-B	BUSH	
		98	1	DIN 125-6,4-A2	WASHER						35 1	BU2-19-09-	0170-B	BUSH	
		97	1	VD 232 A 02 2	SPRING						34 1	BU2-19-09-	0095-B	BUSH	
		96	1	LN 9037-05042	HEXAGON SCREW						33 1	BU2-19-09-	0065-B	BUSH	
		05	-	DC DUD 40 08 0400 D	DEBUELING						32 1	BU2-19-09-	0060-B	BUSH	
)		90	2	DS BU2-12-06-0190-B	DS BUSHING						21 4	DA4-7613-1	5.04	COVER PLATE THROTTLE HANDLE	EN AW 6061 T6
		94	1	DS BU2-12-08-0038-B	DS BUSHING						51	DA4-7013-1	J-04		
		93	1	D64-7613-11-52	RUDDER TRIM BRAKE RH						30 2	D64-7613-1	6-12	HALL SENSOR LEVER	1.4301
		92	1	D64-7613-11-51	RUDDER TRIM BRAKE LH						29 1	D64-7613-1	1-00_02	POWER LEVER FRAME ASSY	
		91	4	DIN125A-3,2-A2	WASHER						28 2	D64-7613-1	0-19	DECOUPLE SHEET	EN AW 6061 T6
		90	4	DIN 965-M4x16-A2	CROSSHEAD SCREW							000 7040 0	0.54		3 2315 71
		89	4	DIN 71805-S8	SAFETY CLIP						2/	D60-7613-6	0-54		2 2215 71
-		88	4	DIN 71805-B8	BALL CONNECTOR						26 1	D60-/613-6	0-53		0.2015.71
		00	-	DIN 7 1000-00							25 1	D60-7613-5	0-50_1	UPPER COVER	3.2310.71
		87	4	DIN 71803-C8	BALL STUD						24 1	D60-7513-4	2-00	LEVER ASSY	
		86	1	D60-7103-60-00	FRICTION KNOB ASSY						23 1	D60-7613-1	8-00	INDICATOR BACKGROUND ASSY	1.4301
		85	2	60618-1	PIN						22 1	D60-7613-1	5-00	BRACKET FOR SPINDLE	
		84	1	1-480319-0	CONNECTOR, 2 PINS						21 2	D60-7613-1	0-73	THROTTLE HANDLE	3.3535.24
		83	0.7m	TSA-0-8	EXPANDO					3	20 1	D60-7613-1	0-72	THROTTLE HANDLE RH GFC 700	3.3535.24
		82	2m	M22759/16-24-9	WIRE, 24 AWG						19 1	D60-7613-1	0-71X02	THROTTLE HANDLE (GO AROUND)	3.3535.24
		80	1	FT500-480	LABEL, HEAT SHRINKABLE						18 1	D60-7613-1	0-51	SPINDLE NUT	CAST BRONZE
		79	2	ISO 15983 - 4x10 - A2	BLIND RIVET, PROTRUDING HEAD						17 1	D60-7613-1	0-50	COIL SPRING	
		78	4	181949-2	FASTON						16 1	D60-7613-1	0-36	SPINDLE	1.4305
		77	1	D60-7613-10-38	PARKING BRAKE KNOB SHORT						15 1	D60-7613-1	0-39	PARKING BRAKE KNOB LONG	3.2315.72
		76	1	D64-2403-52-00	HARNESS: BH LOAD SENSORS						14 2	D60-7613-1	0-34	THREADED HANDLE	3.2315.72
		75	1	D64-2403-51-00	HARNESS I H LOAD SENSORS						13 2	D60-7613-1	0-33	HANDLE	3.2315.72
1		7.0	1	D64-2403-51-00							12 1	D60-7613-1	0-32_01	RUDDER TRIM KNOB	3.2315.71
		74	4	D04-2403-40-00	CARLESS, THROTTLE QUADRANT						11 2	D60 7613 1	0.18	SWITCH-BRACKET	PA 6
		73	4	PL125-M30							11 2	D00-7313-1	0-10	Simonale	1110
		12	3	PLITMM30	CABLE THE WRAP						10 1	D60-7613-1	0-17	LEVER	3.3535.25
		/1	1	p/311122-SWITCH	GFC700-SWITCH						9 2	D67-7613-1	0-20	LEVER HEAT VALVE, ENGINE CONTROL	3.3535.25
		70	1	p7-311122-NUT	GFC-700-NUT		+				8 1	D60-7613-1	0-12X02	RH POWER LEVER	3.2315.71
		69	1	p7-311122	GFC-700-WASHER						7 1	D60-7613-1	0-10X02	POWER LEVER GFC700	3.2315.71
		68a	8	DIN 934-M2-A2	HEXAGON NUT				SECURE I WITH LOO	PER DP-3-14-00005 CTITE 243	6 1	D60-7613-1	0-02	COVER SHEET VERTICAL TRIM BACKWARD	AL
		68	8	DIN 985-M2-ZP	HEXAGON NUT, SELF-LOCKING						5 1	D60-7613-1	0-01	VERTICAL TRIM INDICATOR	AI
		67	4	D64-7613-10-70	2 SIGNAL HALL ANGLE SENSOR				RANGE	E +/- 30°	4 1	D41-7613-1	4-00	TUBE ASSY	CRES
		66	3	CCS25-S8-C	P-CLIP	PC					3 4	D41-7613-1	3-00	BUSH ASSY	CRES
		65	1	CCS19-S8-C	P-CLIP	PC					2 5	D41-7613-1	0-30	TUBE	EN AW 5754 H22
		64	9	BN 806-20-8.2-0.8	COMPRESSION WASHER	ST BLACK			BOSSA	RD		D44 7042 4	0.14		EN AW 6061 T6
		63	10	BN 1206-M8x10	HEXAGON SKT HEAD CAP SCREW	10.9	<u> </u>		BOSSA	RD	4	D41-7613-1	0-14		
1		62	3	BN 1206-M6x10	HEXAGON SKT HEAD CAP SCREW	10.9			ROSSOR		EM QT	Y PAR	T NUMBER	DESCRIPTION	MATERIAL TY
		61	4	MS51957-21	SCREW	CRES			00000		DIMENOIS		TRIC	IDENTIFICATION MARKINGS	Diamond
		0.0	9	IN 9348 - 04	HEXAGON NUT	1.0721					UIMENSIO	NO ME	RIC	DR 5.17.00004	AIRCRAFT Industres GridH
		50	0	LN 0338 M5		1.0721				FIR	ST ANGLE	PROJECTION	FORMAT		NA
	-	50	4	LN 0026 040514		VVL 1.7224.3						\rightarrow		CLASSIFICATION:	
		50	8	LN 5020-0400K								(A2	NONE DRAWN:	0.1
		70	8	100 / 380-M4X35-A2		AZ						γ			1.9.
		56	4	150 / 380-M3x12-A2	FILISTER HEAD SCREW	AZ					IE NOT	THERMISE		INTERCHANGEABLE PART YES	WI. VOI
		55	4	LJIN6/9/J-5,3-A2	GROWN WASHER	AZ					SPECIFIED	GEOMETRIC	1	THIS DRAWING WAS PRODUCED USING CHECKED	D: 12 CAPR
		54	7	DIN125A-5.3-A2	WASHER	A4						ONING AND		SOFTWARE: CATIA	1 " I gan
		53	5	DIN 985-M5-A2	HEXAGON NUT	A2					ISO 2	768-mK			
		52	1	DIN 976-M5x40-A2	THREAD BOLT	A2							FINISH IN	FILENAME	ED.
		51	7	DIN 965A-M4x12-A2	CROSSHEAD SKC SCREW	A2					DIMENSI	ONS IN mm	μm	KELEASE	1
		50	4	DIN 915-M3x6 A2	SETSCREW	A2									<i>/</i>
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	REV	SH	ZONE		DESCRI	PTION		DATE	
		01	ALL	MÄM 42-739 NEW DRAWIN ITEM 29 REPL ITEM 9 REPLA	G, SUPERSEDI ACED WITH NE CED WITH DA	ES D64-7613-11-00_ WER VERSION; 62 DESIGN.	3;	23.02.16	
	A	ALL	ALL	MÄM 42-947 ITEM 12 REPL SECURED VIA ONE INSTANC ITEM 99.	ACED WITH NE FLAG NOTE 9 E OF ITEM 37 I	WER VERSION ANI	D		F
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