

MANDATORY SERVICE BULLETIN NO. MSB 42-074/3

Supersedes MSB 42-074/2

I TECHNICAL DETAILS

I.1 Category

Mandatory.

I.2 Airplanes affected

Type: DA 42 / DA 42 M

Serial Numbers: 42.004 through 42.010, 42.012 through 42.031, 42.033 through 42.059, 42.061 through 42.177, 42.179 through 42.338, 42.340 through 42.351, 42.353 through 42.357, 42.359 through 42.378, 42.380 through 42.385, 42.386, 42.388, 42.394, 42.396, 42.399, 42.404, 42.405 42.406, 42.407, 42.408, 42.416, 42.AC001 through 42.AC120, 42.AC122 through 42.AC120, 42.AC138, 42.AC142 through 42.AC145, 42.AC148, 42.AC150, 42.AC151 42.M001 through 42.M007, 42.M009, 42.M010, 42.M017, 42.M027

I.3 Date of Effectivity

08-Oct-2009

I.4 Time of Compliance

Within the next 100 flight hours from the date of effectivity but not later than 30-Apr-2010.

I.5 <u>Subject</u>

Reinforcement of the supporting structure in NLG-Box (ATA-Code: 53).

I.6 Reason

On NLG maintenance in a few cases damages were detected. To prevent damage to the supporting structure a reinforcement is provided.



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 42-336/c, 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 under the authority of DOA No. EASA.21J.052.

I.9 Accomplishment/Instructions

Comply with WI-MSB 42-074, Rev. 2 or later.

Note: Prior compliance with MSB 42-074 through MSB 42-074/2 is equivalent to complying with the instructions contained in this Service Bulletin.

I.10 Mass (Weight) and CG

Negligible.

II PLANNING INFORMATION

II.1 <u>Material & Availability</u>

Material acc. to WI-MSB 42-074, Rev. 2 or later. WI-MSB 42-074 is attached to this Service Bulletin.

II.2 Special Tools

None.

II.3 Labor Effort

4.5 hours of labor effort.5 hours of labor effort, if Oxygen System is installed.

II.4 <u>Credit</u>

Material as listed in WI-MSB 42-074, Rev. 2 or later and 4.5 hours of labor (5 hours, if Oxygen System is installed).



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

WI-MSB 42-074 which is attached to this document.

DA 42 Series Airplane Maintenance Manual, Doc. No. 7.02.01 (latest effective issue) for DA 42 and DA 42 M.

III <u>REMARKS</u>

- 1. All measures must be carried out by a certified aircraft service station or a certified aircraft maintenance mechanic.
- 2. All works, particular those that are not especially described in this service bulletin, must be carried out in accordance with the referenced maintenance manual.
- 3. Accomplishment of the measures must be confirmed in the log book.
- 4. If material and/or labor hours are subject to be credited through Diamond Aircraft Industries, the Service Bulletin must be carried out by an authorized Diamond Service Center and the Warranty Application incl. Work Report must be sent not later than 30 days after the end of time of compliance.
- 5. In case of doubt, contact Diamond Aircraft Industries GmbH.



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EXECUTION REPORT TO SERVICE BULLETIN MSB 42-074/3

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:	I	priv	ate, 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



Diamond Aircraft Industries GmbH N. A. Otto-Straße 5 A-2700 Wiener Neustadt

WORK INSTRUCTION WI-MSB 42-074 "NLG-Box Reinforcement"

I GENERAL INFORMATION

I.1 Subject:

Reinforcement of the supporting structure in NLG-Box (ATA-Code: 53).

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

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

I.3 <u>Remarks:</u>

- a) The work must be carried out by a certified aircraft service station or a certified aircraft maintenance mechanic.
- b) All works, particular those that are not especially described in this work instruction, must be carried out in accordance with the referenced maintenance manual.
- c) In case of doubt, contact Diamond Aircraft.

II DRAWINGS, SPECIAL TOOLS & MATERIALS

II.1 Drawings:

None.

II.2 Special Tools:

None.



II.3 Material:

Quantity	Description	Part No.
1	CFRP-Reinforcement LH	D60-5340-61-00-SB
6	Bolt	LN 9037-M6x26
6	Nut	DIN 985-M6-A2
6	Washer	DIN 9021-6.4-A2
118 g	Resin (100 pt)	L20
32 g	Hardener (27 pt)	H91
17 g	Cotton Flakes	
	Filling of the Oxygen system	

III INSTRUCTIONS

1.	Incorporate AMM-TR-MÄM 42-336/a into the Airplane Maintenance Manual
	incorporated yet.
2.	If an oxygen system is installed, empty the oxygen system in acc. with AMM (Chapter 35).
3.	Perform Tap Test on inside of NLG-Box around RH brace in acc. with AMM (Chapter 51).
	Note: Use Acoustic Zoning Sheet interpretation of Tap Test results (Sketch 1).
4.	If a delamination is detected and
	 can be covered by a circle with diameter smaller than 25mm (1in) -> acceptable damage
	 cannot be covered by a circle with diameter smaller than 25mm (1in) -> repair in acc. with AMM
5.	Disassemble partly Nose Gear Folding Stay Assembly to get access to the bolts of
	the LH brace.
	Perform AMM Section 32-20-00, 7B (Disconnect the Nose Gear Folding Stay
	Assembly), steps 1-11 and step 13.
6.	Check the NLG Tubular Pivot Assembly for wear. If there is a gap between the
	Gudgeon and the Tubular Pivot (cf. WI-MSB 42-070 Step 4) contact Diamond
	Aircraft Industries GmbH.
7.	Remove the 6 nuts and washers of the LH brace on the outside of the NLG-Box.



8.	Check position of CFRP-Reinforcement using bolts of the LH brace and mark
	bonding area +10mm (0.4in) around Reinforcement.
	Note: If necessary trim lower edge of CFRP-Reinforcement to fit in place.
9.	Remove bolts of the LH brace.
	Note: Detate brace easy to get esseen to all holts
10	Grosse new Mex26mm belts and old M6 puts (only for fixing while curing) as
10.	releasing agent
11	Prepare NI G-Box for bonding in acc. with AMM (Chapter 51)
11.	repare NEG-box for bonding in acc. with Alvivi (Chapter 51).
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40	Demonstrate has been CEDD Deinforcement and menors handling outfood of
12.	Remove peel ply from CFRP-Reinforcement and prepare bonding surface of Deinforcement for bonding in and with AMM (Chapter 51)
10	Apply a thin cost of rooin (1.20/H01) on bonding surfaces of NLC Poy and
13.	CEPP Reinforcement
	Note: 1 20/401 mixture: 100 parts resin and 27 parts hardener (by weight)
	Sunnlier: Hevion Specialty Chemicals Stuttgart GmbH
	Follow the instructions given in the material data sheet and obey the
	material safety data sheet



14. Fill indentation in area of mounting holes with thickened resin (L20/H91 filled with cotton flakes) in acc. with AMM (Chapter 51). Note: L20/H91 mixture: 100 parts resin and 27 parts hardener (by weight). Supplier: Hexion Specialty Chemicals Stuttgart GmbH. Follow the instructions given in the material data sheet and obey the material safety data sheet. Insert new 26mm long bolts from the inside of the NLG-Box. 15. Note: If necessary replace thickened resin on the outside of the NLG-Box around the bolts before bonding. Apply thickened resin (L20/H91 filled with cotton flakes) on bonding surface of 16. CFRP-Reinforcement in acc. with AMM (Chapter 51). Note: L20/H91 mixture: 100 parts resin and 27 parts hardener (by weight). Supplier: Hexion Specialty Chemicals Stuttgart GmbH. Follow the instructions given in the material data sheet and obey the material safety data sheet. Bond CFRP-Reinforcement in place using new bolts for positioning. 17. 18. Install greased nuts on new bolts. Note: Bonding gap between NLG-Box and CFRP-Reinforcement must be between 1mm and 3mm (0.04in to 0.12in).



19. 20. 21. 22. 23. 24. 25.	Install 4 self-tapping screws in 3mm (0.12in) holes of CFRP-Reinforcement to establish correct bonding gap. Note: Bonding gap between NLG-Box and CFRP-Reinforcement must be between 1mm and 3mm (0.04in to 0.12in). Remove escaped resin around bonding area. Pre-cure bonding in acc. with AMM (Chapter 51). Remove the 4 self-tapping screws installed in step 19. Post-cure bonding 4 hours at 65°C (149°F). Remove the 6 nuts of the LH brace and ensure that the bolts are free to rotate. Install the new M6 nuts and washers of the LH brace on the outside of the NLG-Box.
26	Install the Nose Gear Folding Stay Assembly in acc. with AMM (Chapter 32)
27.	If an oxygen system is installed, perform an operational test in acc. with AMM
	(Chapter 35) which includes the filling procedure.
28.	Clean working area and check for foreign objects.
29.	Perform functional check of altered, repaired and new parts.
30.	Test all systems in working area for function.
31.	Make all necessary entries in the airplane logs.



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SKETCH 1: ACOUSTIC ZONING RH WALL - NLG Box

