Repair Instruction
RA 1000-51

Classification of Repair acc. to Part 21A.435: Major: ☒ Minor: ☐

A/C Type:	A/C Variants:	Type Cert. Data Sheet.:
DG-1000	DG-1000M	EASA.A.072
Applicable for Serial No.(s):	All, excluding drive mount10M112 version i and j	

1. Reason for the Repair:

On a DG-1000M there were on repeated occasions cracks in the engine mount 10M112 near the propeller head.

2. Instructions:

2.1 Inspections

Inspection Instruction Nr. 1 for TM1000-51

2.2 Structural Changes to the Aircraft

a) Welding of the engine mount according to DG Flugzeugbau working instruction SA1
b) Carrying out the TN1000-51

3. Weight and Balance

influence negligible

4. Required/applicable Documents

Following documents are required to perform this repair:

Pos.	Document No.	Document Type and Title
1	Inspection Instruction no. 1 for TM1000-51-01b	Inspection Instruction no. 1 for TM1000-51
2	SA1	DG Flugzeugbau working instruction SA1 (welding)
3	TM1000-51 FE-29-01-01d	Technical note 1000/51

5. Caution

Only drive mounts with an outside diameter of 40mm of the main tubes are allowed to be repaired.
The drive mounts with an outside diameter of 38.1 mm of the main tubes are not allowed to be repaired.
They must be replaced by a new drive mount, according to TN 1000/37.

6. Implementation and Certification

Actions of these repair instructions must be performed and released according to ML.A.801 (b) 1.

7. Repair implementation

7.1 Required Jigs/Gauges/Tools/Equipment

Jigs and Gauges

Following jigs and gauges are required to perform this repair:

Pos.	Jig/Gauge No.	Designation
1	W66	Tool for V-belt tensioning
2	-	Temporary fixture

Tools

Following tools are required to perform this repair:

Pos.	Designation
1	Allen key wrench width 3+4mm
2	Ratchet
3	Socket wrench size 17 mm

Pos.	Designation
4	Socket wrench size 22 mm
5	Pneumatic grinder
6	TIG welding machine

Measuring and Testing Equipment

Following measuring and testing equipment is required to perform this repair:

Pos.	Designation
1	Calliper

Pos.	Designation
2	Spring scale min 100N (22lbs)

7.2 Preparing Actions

a) Remove the belts according to maintenance manual section 4.10.2 (Mounting and tensioning of the drive belts).
b) Cover the fuselage before grinding to prevent dust from entering the engine compartment.
c) Disconnect all electrical contacts of the engine prior to welding to prevent damage to the electrical system during welding (label contacts).
d) Before welding, cover the fuselage with wet cloths to prevent damage from sparks and welding beads.

7.3 Repair Instruction

Welding according to DG Flugzeugbau procedure instruction SA1, material and weld seams according to drawing 10M112. The parallelism between the propeller mount and the main support tubes must be maintained, see Figure 1, if necessary a temporary fixture must be produced.

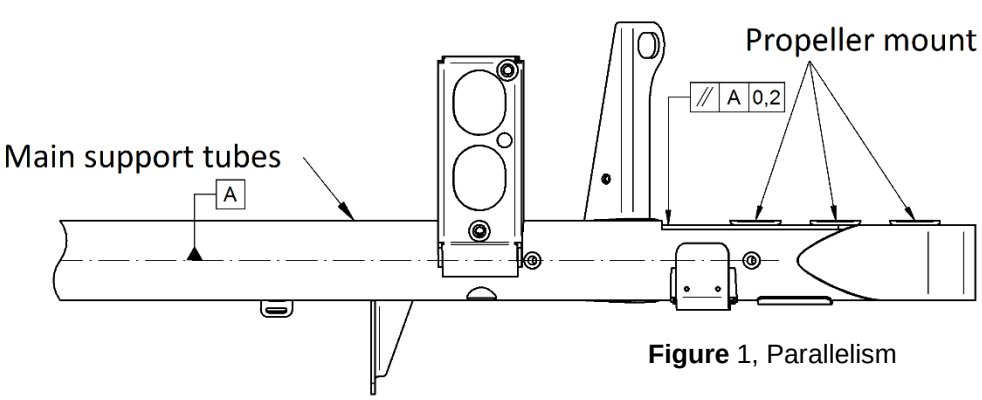


Figure 1, Parallelism

For the definition of the cracks, see inspection instructions no. 1 for TN1000-51. In general, parts that are damaged during the repair must be replaced in accordance with drawing 10M112.

No.	Action Step	Action Description	Impl. Note	Insp. Note
1	Remove paint	Remove paint in the repair area.		
2	End Localization	Locate the ends of the cracks. If the end is in the solid material, the end should be drilled off with a 3 mm drill .		
3	Grinding out the cracks	Grind out cracks completely, so that a V-groove is created.		
4	Welding the cracks	Weld cracks with a V-seam. Close the end of the crack.		

7.4 Final Actions, Final Inspection and Functional Test

No.	Action Step	Action Description	Impl. Note	Insp. Note
1	Check parallelism	Check parallelism with Temporary fixture		
2	Apply corrosion protection	Paint engine mount with DD paint gloss black, e.g. Feycolor FRANKODUR 2500 DD 2K finish coating		
3	Reconnect all electrical contacts of the engine	Reconnect all electrical contacts of the motor.		
4	Installing the belts	Install the belts according to maintenance manual, section 4.10.2 (Mounting and tensioning of the drive belts)		

Bruchsal, date:
10.03.2025

These instructions have been approved by EASA together with the major change as described in TM1000-51.

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