Inspection Instruction No. 1 for TM 1000-51

A/C Type:	A/C Variants:	Type Cert. Data Sheet.:
DG-1000	DG-1000M	EASA.A.072
Applicable for Serial No.(s): All		

1. Reason/Subject of Inspection:

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

2. Instructions:

2.1 Inspections

Check critical points on the drive mount for cracks.

2.2 Structural Changes to the Aircraft

If cracks are detected, they must be repaired in accordance with the applicable repair instructions.
Case A: If cracks occur at these points, RA 1000-51 must be carried out.
Case B: If cracks 1-4 occur, RA 1000-10M112-2 FE33-01 must be carried out.
If cracks 5 occur, RA 1000-10M112l FE-33-06 must be carried out.
Case C: If reinforcing plates have already been welded on and cracks still occur in the plates, the repair instruction the RA 1000-51 must be carried out.

More detailed description of the cases in section 4.3

3. Implementation and Certification

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

4. Implementation of the inspection

4.1 Required Jigs/Gauges/Tools/Equipment

Tools

Following tools are required to perform this repair:

Pos.	Designation	Pos.	Designation
1	Allen key wrench width 3+4	3	Securing paint
2	Loctite 243		

Measuring and Testing Equipment

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

Pos.	Designation	Pos.	Designation
1	Magnifying glass min 10x magnification	3	Mirror
2	Focusable torch		

4.2 Preparatory work

Note: To carry out these installation instructions, it is not necessary to dismantle the propeller, and detaching the gas strut and spindle drive from the drive.

Removing the belt covers

a) Extend the powerplant to gain access to the powerplant.
b) Remove the screws with an Allen key width 3+4
c) Remove the belt covers towards the front.

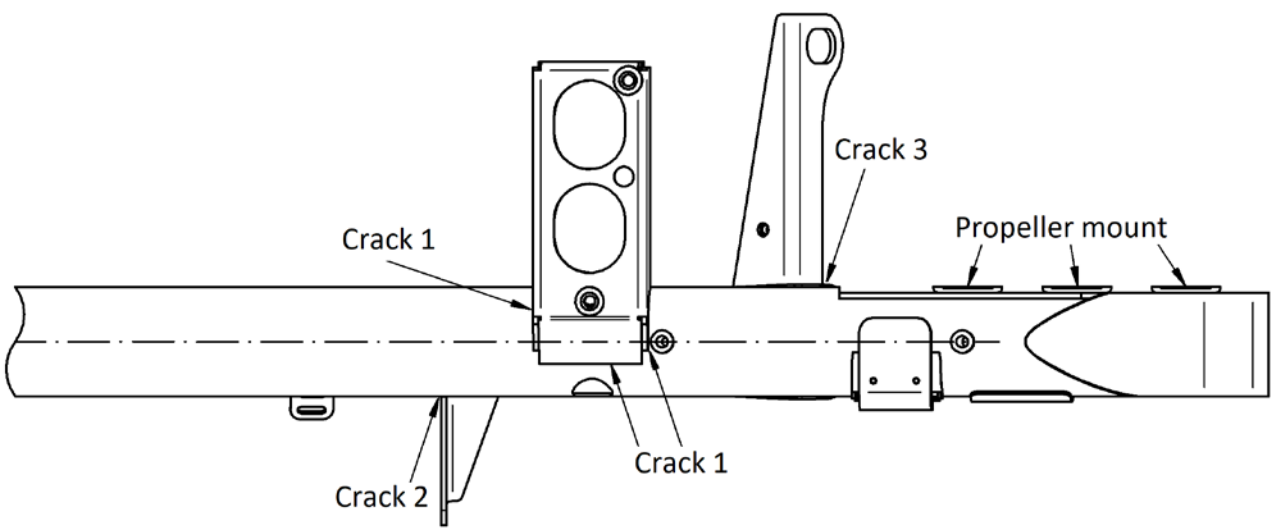
4.3 Inspection Instruction

The first thing to check is whether the repair instruction RA 1000-10M112-2 FE33-01 has been carried out. This can be recognized by the welded-on reinforcement plates on the drive mount.

1. Use a powerful torch to inspect all welded joints and tubes of the upper drive mount for any cracks (using a mirror if necessary). The areas marked in the picture below are particularly at risk and should be examined thoroughly.
2. The weld seams marked in the picture should also be inspected for cracks. Cracks usually start at the weld seams and often run along them first.
3. In the case of suspicious areas that cannot be clearly identified as cracks:
   Mark the crack with a sharpie and then carefully sand down the paint (glass bead blasting is ideal).
   Then check again using a torch and magnifying glass.
4. if there are cracks, mark both ends of the crack after the inspection

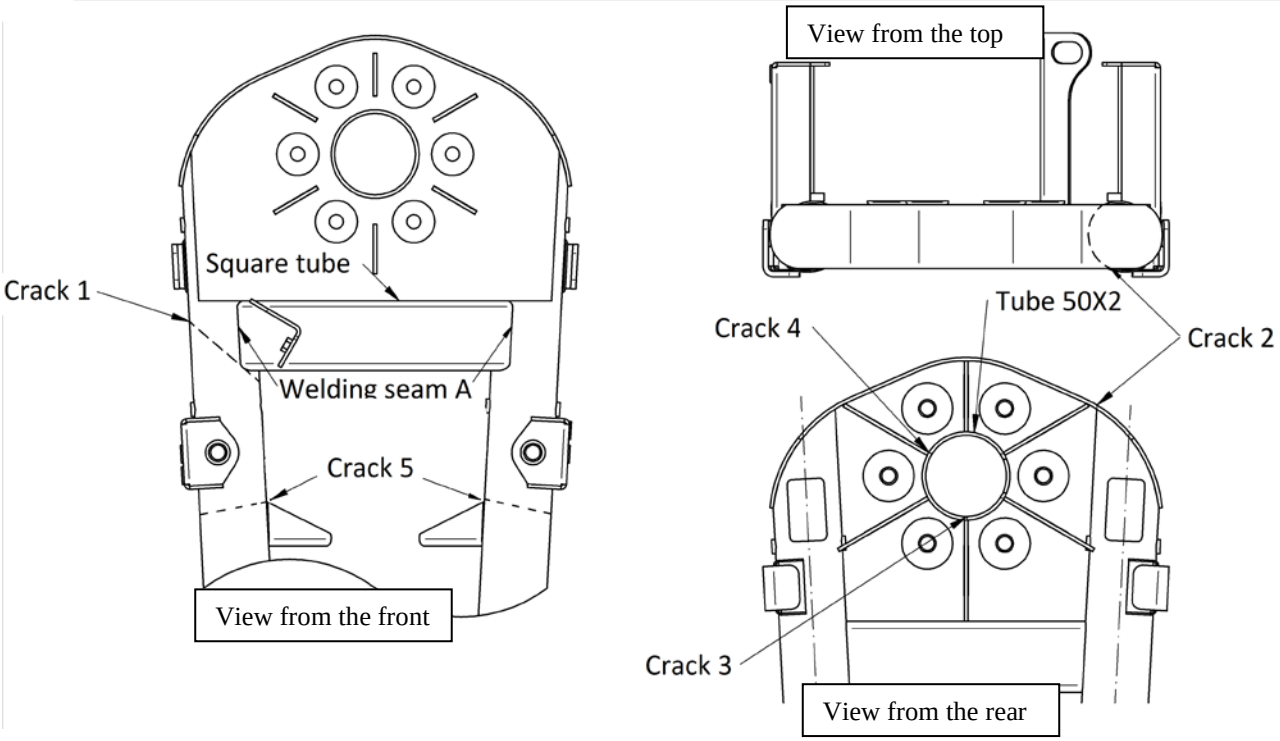
If you find a crack, the drive may no longer be operated

A) Cracks that can occur with both versions



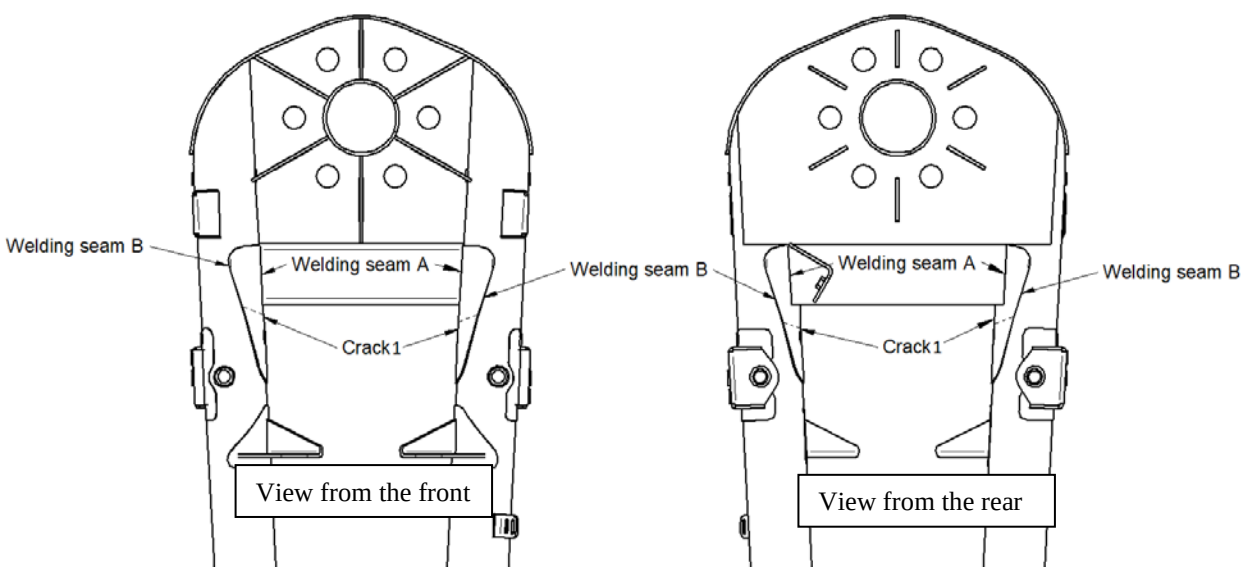
Cracks 1, 2 and 3 are cracks in the weld seam. They occur at the base of the welded plates and can extend from the weld seam into the plates.
If the repair instruction RA100-10M112-2 has been carried out, the weld seams of the reinforcement plates must also be checked here.

B) Without reinforcement plates



Crack 1 runs right through the pipe. It usually starts at the weld seam A.
Crack 2 runs downwards at the weld seam of the plate to the pipes.
Crack 3 are cracks in the weld seam between the tube 50x2 and the stiffening ribs (may occur on all ribs).
Crack 4 are cracks in the tube 50x2.
Crack 5 run from radiator brackets through support tubes.

C) With reinforcement plates



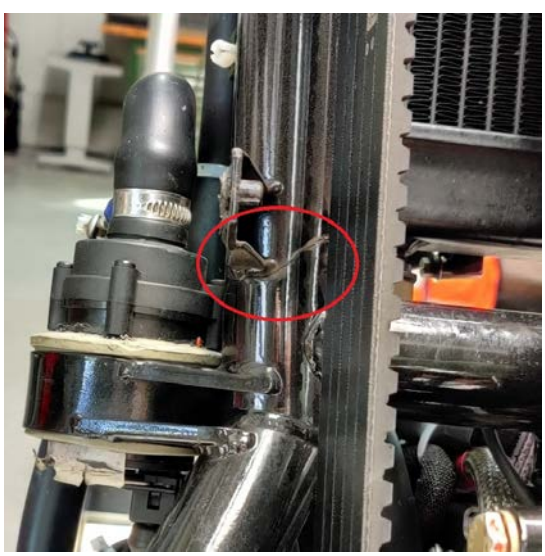
Crack 1 runs below the weld seam through the reinforcing plate (see photos)
Crack 2 - 4: Analogous to point B

Photos examples of cracks





Case B crack 1





Case A crack 2/3

4.4 Accomplishment Instruction

If no cracks have been detected, the belt covers shall be remounted.
This is done as follows:

a) Place the belt covers from the front.
   Ensure that the covers fit in the retaining brackets.
b) When mounting the belt covers, secure the screws with Loctite 243 and mark with securing paint, see maintenance manual section 4.9.

Recommendation: Use new screws and rosettes as the rosettes in particular may break due to drive vibrations.

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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