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LBA anerkannter Herstellungsbetrieb IB 25
LBA anerkannter Luftfahrttechnischer Betrieb IIA 279

Subject: Airbrake - locking - system at wing root

Concerning: DG-300 (Elan) serial no. 3 E 1 to 3 E 264

Accomplishment: measure 1 prior to next take-off
measure 2 before next annual inspection, but not later than Dec. 31. 1989

Reason: During inspection there was found at some DG-300 (Elan), that the bulkheads 3 FE 11 and 3 FE 12 next to the wing-root have loosened due to insufficient glue-connection with the wing shell.
So the over-center-lock of the airbrakes may be not reliable and at speeds faster than 200 km/h (108 kts) and simultaneous accelerations the airbrakes may extend self-reliant and antisymmetric.

Measure 1: At the rigged glider, the locking-force of the airbrakes has to be measured at the handle in the cockpit with a spring-balance and adjusted if necessary. The force should be higher than 15 daN (see maintenance manual page 9 pt. 1.5.2).
After derigging, the airbrake of each wing has to be locked and to be unlocked at the automatical control-connection at the wing-root by using a plumbing-pliers. Therefore protect the connection by wrapping cloth around.
Check, if the wing-root shows deformations and if the control-system shows movement in spanwise direction.
If both is not the case, the glider may be used with the following restrictions until measure 2 has been executed:

a) never exceeding speed VNE is limited to 200 km/h (108 kts).

b) no aerobatics are allowed.

The data-placard has to modified by the enclosed sticker. On the covering glass of the ASI a red mark (tape) has to be attached at 200 km/h (108 kts)

Measure 2: Repair or reinforce bulkheads 3 FE 11 and 3 FE 12 according to drawing 3 F 37, repair instructions and to the DG-300 repair manual.

Necessary materials:

Measure 1: placard for restrictions (enclosed)

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Measure 2: Drawing 3 F 37 (enclosed)
Repair-instructions (enclosed)

Polyester resin and hardener

Epoxy-resin and hardener GE 162 / C 260

or MGS 160 / H 160 A

or MGS 285 / H 286

Rohacell 51, Divynicell 60 or ply-wood 5 mm thick

fibre glass fabric Interglas 92140

Note: Measure 1 may be executed by the owners himself

Measure 2 has to be executed by an authorized repair shop.

The measures are to be entered in the aircraft-log refering to TN 359/14.

Author

Bruchsal 4
09.01.1989

Dipl.-Ing. (FH) Alwin Güntert

Type-certification inspector

Dipl.-Ing. Wilhelm Dirks

LBA approved:
The German original of TN has been approved by the LBA under the date of 14. Feb. 1989 and is signed by K. U. l
The translation into English has been done by best knowledge and judgement.
In any case of doubt the German original is authoritative.

INSTRUCTIONS FOR REPAIR

1. **Unlock** airbrakes.
2. Continue work according to drawing 3 F 37 as follows:
   - work cut-out Z into wing root
   - unscrew 3 F 26/2 from wing-root and dismount PVC-hose
   - grind wing root according to drawing
   - build rib 1,2,3 by using the drawing as model
   - grind 3 FE 11 and 3 FE 12 and inner fabric of wing shells in the repair area
   - adapt rib 1,2,3 into wing by sanding the contour
   - fix rib 1 and 2 with some polyester resin at correct position (only at 2-3 small spots)
   - prelaminate fabric X (5 x 92140 ✳)
   - apply some resin, thickened with cottonflocks, into the corners of repair area and add fabric X
   - fix rib 3 with some ployester resin in the wing-root
   - close the root with fabric Y (5 x 92140 ✳)
   - after hardening open the holes for 3 F 26/2 again, pull the hose out and fix it to 3 F 26/2. Reinstall 3 F 26/2 back to the root
3. Temper the repaired area for 18 hours with 54°C. The air-brakes have to be **unlocked.**
4. Rig the glider and check the locking-force of the airbrakes. If necessary, adjust the lock (see maintenance manual page 9 pt. 1.5.2).