



THE GLIDING FEDERATION OF AUSTRALIA

GFA AN 56
(ISSUE 6)

AIRWORTHINESS ADVICE NOTICE

TYPE AFFECTED: DG-100 (including Elan)
DG-100G (including Elan)
DG-200
DG-200/17
DG-200/17C

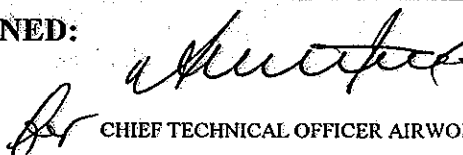
SUBJECT: Miscellaneous airworthiness information.

BACKGROUND: Applicable to the DG-200, DG-200/17 and DG-200/17C (**Note:** NOT applicable to the DG-100 and DG-100G), this issue of AN 56 adds a Section 6 to Approved Modifications (optional installation of a parking brake combined with a "Piggott Hook" airbrake securing device).

APPROVED MODIFICATIONS:

1. *SIMPLIFIED CG RELEASE REMOVAL.* The relatively small access hole for the belly release makes removal of the release at each annual inspection difficult. The cut out in the seat shell can be enlarged in accordance with Figure 1 to make removal of the release easier.
2. *USE OF WEDEKIND SAFETY SLEEVES.* Glaser-Dirks Technical Notes 301/16 for the DG-100 series and 323/7 for the DG-200 series describe the optional fitment of Wedekind Safety Sleeves to the L'Hotellier couplings.
3. *INSTALLATION OF A NOSE HOOK.* DG Flugzeugbau Technical Notes 301/19 for the DG-100 series and 323/10 for the DG-200 series describe the installation of a nose hook for improved aerotow handling. The installation of a nose hook is strongly recommended.
4. *RETROFIT OF NEW WING TIPS.* DG Technical Note No. 301/20 informs about the possibility of fitting different wing tips to the DG 100 wings to improve performance.

SIGNED:


CHIEF TECHNICAL OFFICER AIRWORTHINESS



For and on behalf of:

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OF AUSTRALIA

5. *CANOPY SECURING SYSTEM FOR IMPROVED CANOPY JETTISON SIMILAR TO "RÖGER HOOK".* DG Technical Notes No. 301/21 (DG-100) and No. 323/11 (DG-200) inform about the optional installation of a "Röger hook" to improve canopy jettison in an emergency. This hook is mandatory for all new designs and definitely is a low cost safety feature.

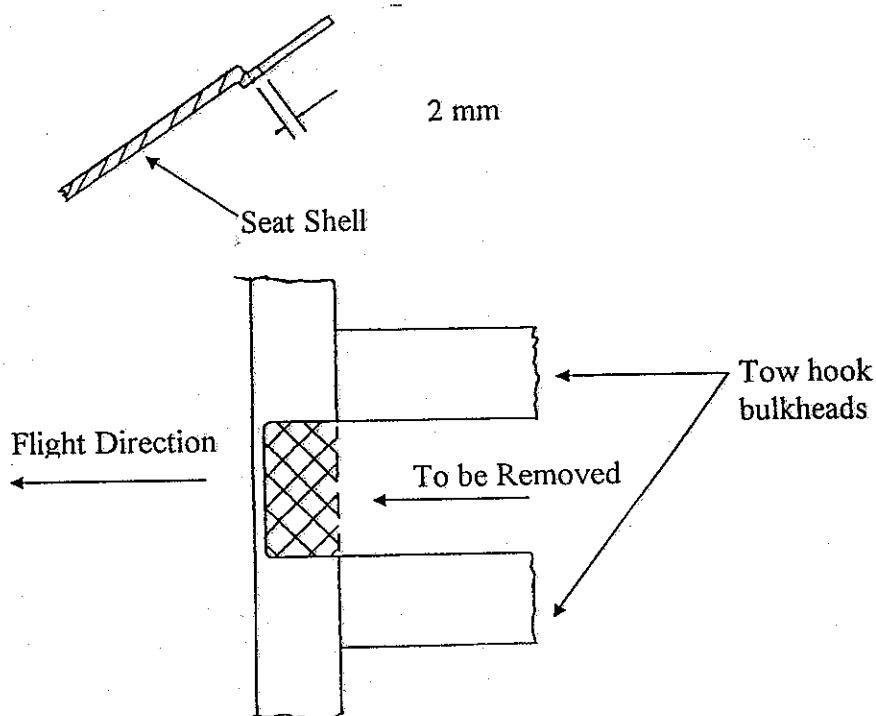


FIGURE 1 RELEASE CUT OUT

6. *OPTIONAL PARKING BRAKE COMBINED WITH AIRBRAKE SECURING DEVICE (DG-200, DG-200/17 and DG-200/17C ONLY).* A parking brake has been developed to avoid the necessity to hold the airbrake lever with harness straps, etc, to operate the wheelbrake.

The Piggott Hook avoids inadvertent deployment of the airbrakes if they have not been locked before take-off.

The Piggott Hook is combined with the parking brake.

DG-Flugzeugbau Technical Note No 323/12, together with associated drawing and amended flight manual pages, form part of this AD.

MAINTENANCE TIPS:

1. *BOTTOM RUDDER HINGE.* When reinstalling the rudder special care must be taken to ensure that the special washer of 18 mm outside diameter is refitted. The design of the bearing mount is

such that if the washer is not fitted and the bearing falls out of its mount the rudder will fall off.

2. *RUDDER FLUTTER.* One case of rudder flutter has been reported on a DG-100G Elan in Australia. Factory experience during the development of the DG-400 indicates the following items should be considered during maintenance as they may lead to rudder flutter:

Degradation of the rudder structure may affect flutter. Special care should be taken to ensure there is no failure of the FRP laminates.

The gap between the fin and the rudder may be enlarged. This changes the airflow around the rudder and may excite flutter. The gap may be closed by heating the FRP (contact DG for times and temperatures) or the gap may be sealed using vee tapes. (see Figure 2 and Figure 3)

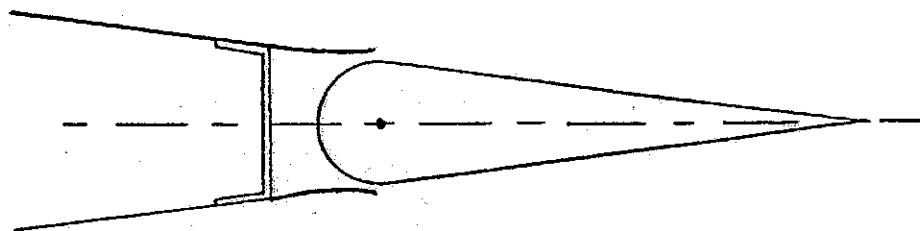


FIGURE 2. EXPANDED FUSELAGE SKINS

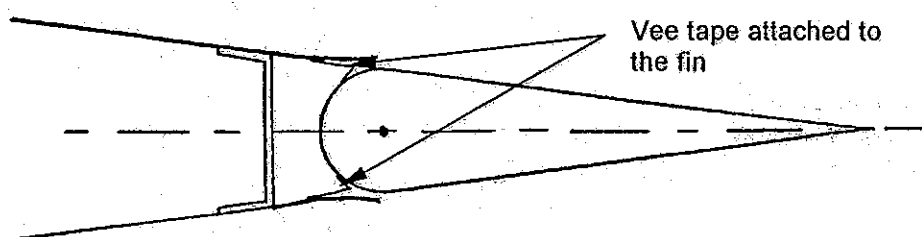


FIGURE 3. THE USE OF VEE TAPE

3. *RUDDER FAILURE.* There has been one reported case of a DG-200 rudder failing in flight. The failure may have resulted from prior damage in a ground loop or heavy landing therefore it is recommended that this area be closely inspected at each annual inspection and after any heavy landings or ground loops.

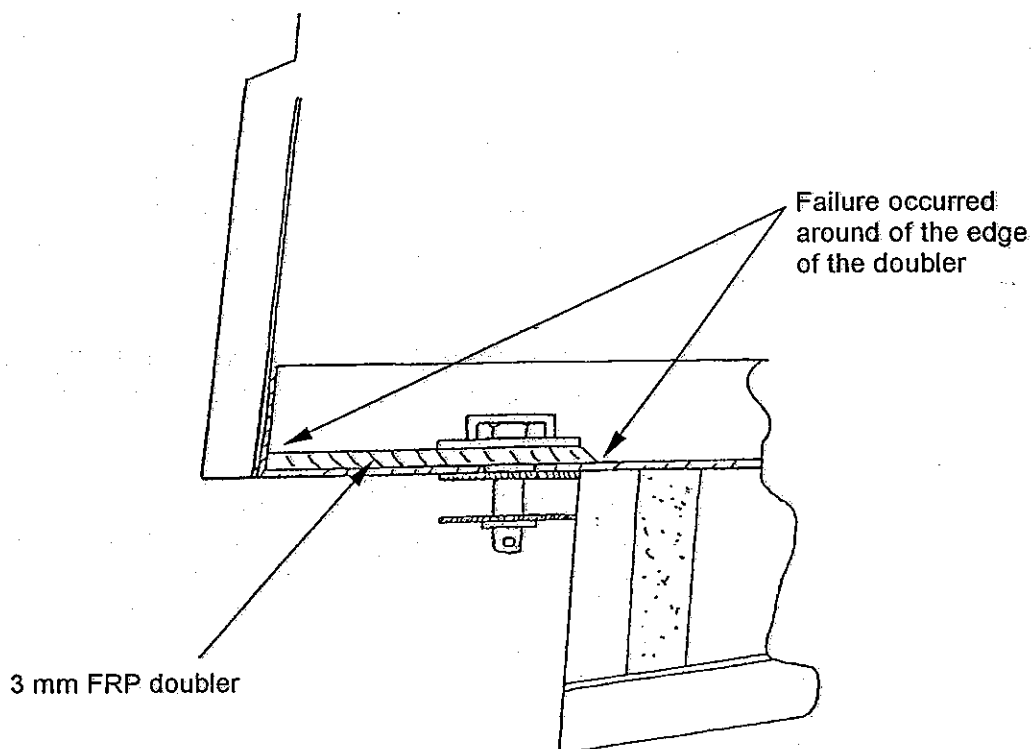


FIGURE 4. SIDE VIEW OF RUDDER

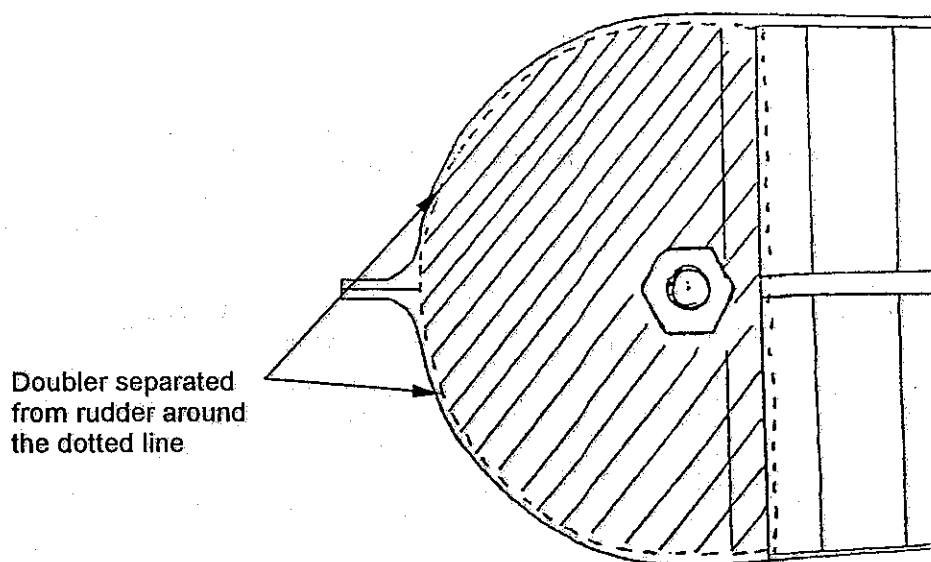


FIGURE 5. PLAN VIEW OF RUDDER HINGE

4. *UNDERCARRIAGE LOCKING.* DG Service Information 1-91 gives information for checking the adjustment and possible modifications to ensure the undercarriage locks down properly.

5. *REPLACEMENT OF THE SSC 6 BEARINGS IN THE CONTROL COLUMN.* DG Service Information 1-92 gives procedures for replacing the SSC 6 bearings in the control column.


6. *LOCKING OF THE HORIZONTAL TAILPLANE.* DG Service Information 5-93 give procedures for replacing the locking wire should it become damaged (not DG-100).
7. *WATERBAGS FOR THE DG-100 AND DG-100G.* DG Service information 7-94 gives details of a replacement waterballast bag as the original bags are no longer available.
8. *AIRBRAKE LEVERS IN DG-100 AND DG-100G TO SERIAL NUMBER 103.* DG Service information 08-94 describes the optional installation of new divebrake arms with ball bearing pivots to reduce freeplay.
9. *GELCOAT CRACKS.* DG Service information 10-95 gives service information on the repair of gelcoat cracks which may be caused by flight at very cold temperatures.
10. *REPLACEMENT OF THE UNDERCARRIAGE GAS STRUT.* DG Service Information 12/96 describes procedures which make the removal and installation of the gas strut much easier.

- Subject : Parking brake combined with an airbrake securing device (Piggott-hook)
- Effectivity : DG-200, DG-200/17, DG-200/17C
- Accomplishment : None, optional
- Reason : The Piggott-hook avoids inadvertent deployment of the airbrakes, in case they mistakenly haven't been locked.
The Piggott-hook is combined with a parking brake
- Instructions : 1. Installation of parts 2R21 and 8St81/1 according to drawing 2R20.
a) Remove the screw connection between pushrod 2St11/1 and the rod end of pushrod 2St23/1. Place part 8St81/1 on the fork of 2St11/1 and reinstall the screwed connection. Use a selflocking nut M6 SSN003 and screw M6x24 LN9037, shortened to 18mm. Mount the screw from bottom to top.
b) Remove the screw connection between pushrod 2St12/1 (maintenance manual diagramm3) and the rod end of pushrod 2St23/2. Replace by a selflocking nut M6 SSN003 and screw M6x24 LN9037, shortened to 18mm. Mount the screw from bottom to top.
c) Mark and roughen the gluing area at the fuselage for bracket 2R21 and glass fibre fabric according to drawing 2R20. Glue in the bracket using epoxy resin thickened with cotton flocks. To facilitate the adjustment fix a 6mm plate with tape to the pushrod and let the bracket rest on this plate. Adjust the distance A between pushrod and bracket 2R21 by the epoxy resin (thickened with cotton flocks), if the distance between bracket and fuselage shell is more than 2mm add sheets of wood 5x5mm with the necessary thickness at the marked places in drawing 2R20.
d) apply 3 layers of glass fibre fabric 92125, 70 x 240mm according to drawing 2R20
2. Exchange the flight manual pages 1 (DG-200), 17/1 (DG-200/17), 17C1 (DG-200/17C), 14 (all models), new issue January 2001, marked with TN 323/12.
- Material : Fight manual pages see instruction 2
Drawing 2R20
8St81/1
2R21
2 bolts M6x24 LN9037 shortened to 18mm
2 selflocking nuts M6 SSN03
Epoxy resin see list in repair manual
Cottonflocks
Glass fibre fabric Interglas, type 92125
- Weight and balance : Influence negligible
- Remarks : Instruction No. 1 is to be executed by the manufacturer or by a licensed workshop and to be inspected and entered in the aircraft logs by a licensed inspector.


Bruchsal, date:
January 2001

LBA – approved:

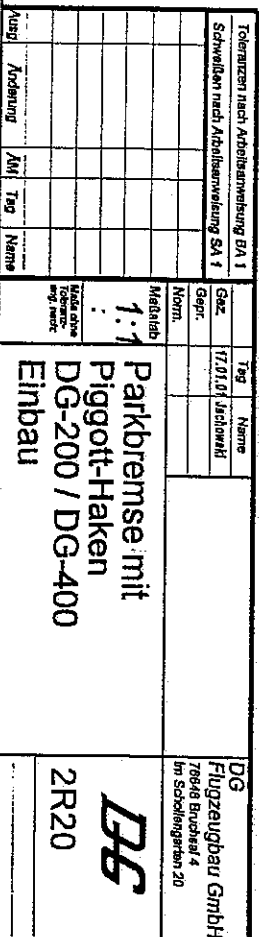
Author:
Dipl. Ing. Wilhelm Dirks



Type certification
inspector:
Dipl. Ing. Swen Lehner



The German original of this TN has been approved by the LBA under the date of Feb. 7, 2001 and is signed by Mr. Blumie ~~Mr. Fendt~~. The translation into English has been done by best knowledge and judgement.



DG-200 Manual

Manual contents and amendments

No.	Page	Description	Date	Signat.
1	Manual p.22	Main pin securing	June 80	
2	Manual p.22 Maint.-m. p.18 diagr. 6	Automatic self connection for the elevator control	Sept. 80 Sept. 80 Sept. 80	
3	Manual. P.13, 14 Maint.-m. cover, p.6, 7, 18	Automatic trimm control and wheel brake control connected to the airbrake handle	Sept. 80 Sept. 80 Sept. 80	
4	Manual p.13a	Single piece canopy	Sept..80	
5	Maint.-m., diagr.7	Spring mounted landing gear	Sept. 80	
6	Manual p.22 Maint.-m. p.7	Waterballastsystem	Sept. 80 Sept. 80	
7	Manual p.3, 27, 28 Maint.-m. p.0, 7, 7a, 7b, 10, 13	Technichal Note No. 323/5	Febr. 85	
8	Flight-m. 12, 17/12, 12a, 13a Maint.-m. diagr. 3a	Marking of canopy emergency release and ventilation (TN 323/6)	June1986	
9	Maint.-m. 0, 7c	Airbrakes (TN 323/9)	Oct. 1996	
10	Flight-m. 11, 17, 27	Installation of an additional tow hook for aerotow (TN 323/10)	April 1998	
11	Flight-m. 14	Installation of a parking brake combined with an airbrake securing device (Piggott-hook) (TN323/12)	January 2001	

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Trim:**Automatic trim control**

To adjust the trim you have to pull the small release handle at the control stick and to place the control stick in the desired position.

When you let go the release handle your aircraft is trimmed to the adjusted control stick position.

Airbrake handle/ Optional parking brake combined with an airbrake securing device (Piggott-hook):**Airbrake handle - blue**

The wheel brake is operated at the end of the airbrake handle travel.

Optional parking brake combined with an airbrake securing device (Piggott-hook):

Pull the airbrake handle back to actuate the wheelbrake and push the handle to the cockpit wall. A detent will engage in one of 4 notches to hold the system in this position.

In case the airbrakes mistakenly haven't been locked, a detent engages in one of 4 notches to avoid inadvertent deployment of the airbrakes. To open and to close the airbrakes the operating handle must be rotated into the cockpit so far, that the detent passes the notches.