

AIRWORTHINESS ADVICE NOTICE

TYPE AFFECTED: DG-400.

SUBJECT: Miscellaneous airworthiness information.

BACKGROUND: This issue of AN 74 adds a defect which was discovered in the exhaust system of an imported aircraft.

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.

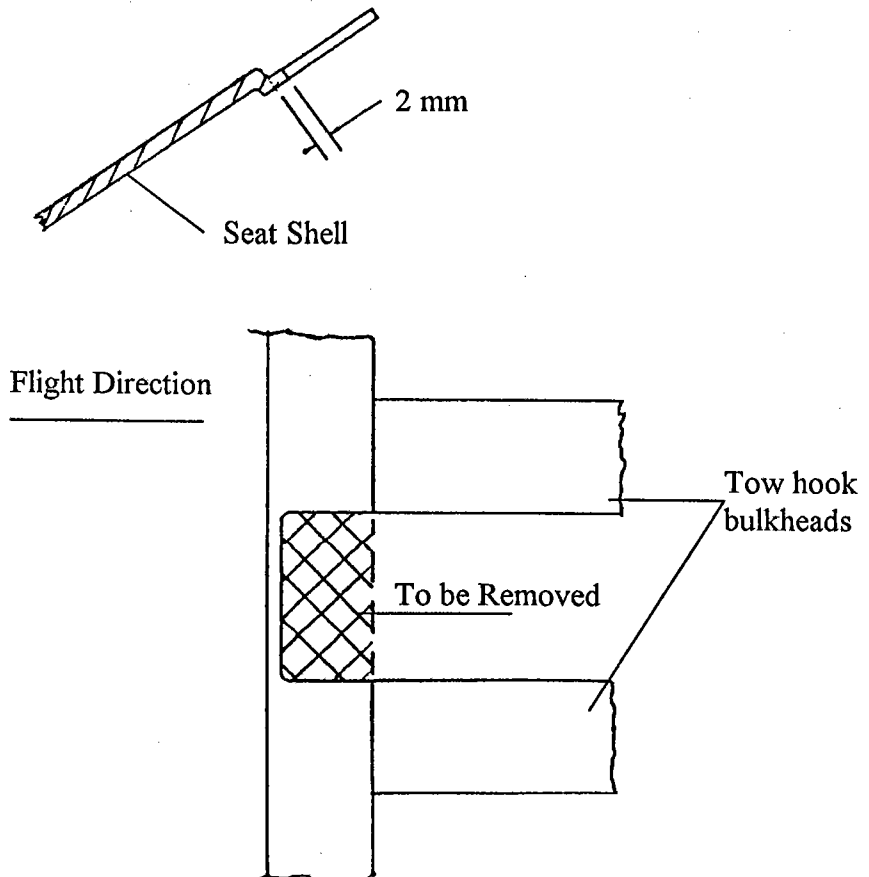


FIGURE 1 RELEASE CUT OUT

SIGNED:

SENIOR TECHNICAL OFFICER AIRWORTHINESS

For and on behalf of:

**THE GLIDING FEDERATION
OF AUSTRALIA**

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2. *OPTIONAL AUTOMATIC PROPELLER BRAKE.* Glaser-Dirks Technical Note 826/23 describes the optional installation of an automatic propeller brake and engine extension and retraction system. Copies of the TN are available from the GFA Secretariat.
3. *REPLACEMENT IGNITION UNIT.* Glaser-Dirks Technical Note 286/27 describes the installation of modified Ducati electronic ignition units to replace the original Bosch unit which is no longer available. In the event of failure of the original Bosch units the replacement Ducati units must be used. Copies of the TN are available from the GFA Secretariat.
4. *USE OF WEDEKIND SAFETY SLEEVES* Glaser-Dirks Technical Note 826/28 describes the optional fitment of Wedekind Safety Sleeves to the l'Hotellier couplings. Copies of the TN are available from the GFA Secretariat.
5. *OPTIONAL NOISE ABSORBING FAIRING.* Glaser-Dirks Technical Note 826/29 describes the optional installation of a noise reducing fairing. Copies of the TN are available from the GFA Secretariat.
6. *OPTIONAL QUIETER PROPELLER.* DG Flugzeugbau Technical Note 826/29 describes the optional installation of the propeller fitted to the DG-800. Installation of the propeller requires installation of the noise absorbing fairing and together they reduce engine noise by 2.5 dB(A). Copies of the TN may be obtained from the GFA Secretariat.
7. *ENGINE COOLING AIR GUIDE.* DG Technical Note No. 826/38 informs about the optional installation of a GFRP cooling air guide instead of the original part made of aluminium, which may get cracks due to fatigue.
4. *CANOPY SECURING SYSTEM FOR IMPROVED CANOPY JETTISON SIMILAR TO "RÖGER HOOK".* DG Technical Note No. 826/39 informs 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.
5. *OPTIONAL PARKING BRAKE COMBINED WITH AIRBRAKE SECURING DEVICE.* A parking brake was developed to avoid the necessity to hold the airbrake lever to operate the wheelbrake, e.g. when starting the engine.

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 826/40, together with associated drawing and amended flight manual pages, may be obtained from the GFA Secretariat.

MAINTENANCE TIPS:

1. *FUEL COCK REPLACEMENT.* The steadily increasing use of alcohol in automotive fuels around the world has caused a number of problems with the original DG-400 fuel cock. In Australia most fuels contain no alcohol so the mandatory replacement of the fuel cock in Europe has been made optional in Australia.

DG-400 operators need to be on their guard to ensure that any fuel they use contains no alcohol as its use is increasing in Australia. It is therefore recommended that the fuel cock be replaced with the later model as a guard against the accidental use of fuel with an alcohol content. Copies of the Glaser-Dirks Technical Note 826/14 which details the changing of the fuel cock are available from the GFA Secretariat on request.

2. *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.

3. *PROPELLER MAINTENANCE.* In 1985 Glaser-Dirks provided a letter giving guidance of the maintenance of the propeller. The text of the letter is reproduced here so that the information is not lost.

Propeller

In the DG-400 flight manual we refer to the Owners manual of the Hoffmann Composite Propeller see sect. 6.8.

The important actions concerning yearly inspections and maintenance are as follows:

Yearly inspection: see 5.3. You have to dismount the propeller for inspection especially for cracks at the hub boss. After reassembling the propeller you should check the blade track see 4.1.6. After the first flight after reassembling the propeller, you have to check the torque of the propeller bolts again see 4.1.5.

25 hours inspection: Check the torque of the propeller bolts see 4.1.5.

Additionally to the instructions given in the propeller manual the Hoffmann company strongly recommends to check the torque of the

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propeller bolts if you operate your aircraft in varying temperature and humidity conditions. Especially high ambient temperature and low humidity are subject to cause shrinkage of the wooden propeller and thus loss of torque (prestress) which may lead to failure of the propeller bolts.

Torque moment: 1.5 daNm (11 ftlb)

4. *BATTERIES FOR MOTORGLIDER ELECTRICAL SYSTEM.*
DG-Flugzeugbau (TN No. 826/37, 866/7, 873/15) has tested new batteries. DG recommends to use only these new approved batteries for their motorgliders. Copies of the Technical Notes are available from the GFA office on request.

DEFECTS

During an inspection of an imported DG-400, corrosion was found in the engine muffler. As the engine is an inverted model and the muffler is mounted up high, this corrosion is able to fall down and gather up against the side of the piston or in the combustion chamber. As the layer of corrosion was reported to be about 3-4 mm thick in the #2 exhaust port, ingress of this amount of rust particles could have resulted in big problems, possibly seizure, if an attempt had been made to start the engine.

It is important to check for this defect if inspecting a glider which has been parked or stored for some time.