



GFA AIRWORTHINESS DIRECTIVE

CANCELLED 28.03.2017

**REFER TYPE CERTIFICATE HOLDERS
CURRENT DATA**

TYPE AFFECTED: DG-400

SUBJECT: Use of unleaded fuel, increase in service life and manual amendments.

BACKGROUND: High Octane (Premium) unleaded of at least 95 RON may be used provided the fuel drain sealing ring is replaced.

Overseas testing has shown that the service life may be increased to 12 000 hours.

The manuals have been updated to reflect latest practice.

DOCUMENTATION: DG Technical Note NT 826/35 which forms part of this AD.

ACTION REQUIRED:

1. Before the next Annual Inspection and before using unleaded fuel the drainer sealing ring must be replaced in accordance with Instruction 1 of NT 826/35. Parts may be obtained from DG Flugzeugbau or their Australian Agent.
2. Before 1 October 1997 amend the Flight and Maintenance Manuals by replacing pages 0.1 and 19 in the Flight Manual and pages 0.2, 2, 3, 29, 29a, 46d and 53 with pages dated March 1997. These pages must be complied with in all future servicing. Attention is drawn to the improved procedures for using Loctite.

Pages may be obtained from the GFA Secretariat.

3. The service life of the DG-400 is increased to 12 000 hours provided the life extension inspections required in Section 2.4 of the DG-400 Maintenance Manual are complied with.

SIGNED: Jonathon Shand

For and on behalf of:

CHIEF TECHNICAL OFFICER AIRWORTHINESS

THE GLIDING FEDERATION
OF AUSTRALIA

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WEIGHT AND BALANCE: Not affected

IMPLEMENTATION: Installation of the sealing ring must be completed by persons rated for Annual Inspections on the DG-400.

Manual amendments may be completed by the Certificate Holder.

Life extension inspections may be completed by persons rated for Airworthiness Surveys on the DG-400.

COMPLIANCE: The requirements of this GFA Airworthiness Directive are mandatory. This Directive is issued pursuant to the Rules and Regulations of the Gliding Federation of Australia.

Life extension inspections may be completed by persons rated for Airworthiness Surveys on the DG-400.

COMPLIANCE:

The requirements of this GFA Airworthiness Directive are mandatory. This Directive is issued pursuant to the Rules and Regulations of the Gliding Federation of Australia.

DG Flugzeugbau GmbH

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LBA anerkannter Entwicklungsbetrieb IEB 8

Technical note TN 826/35

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Subject: Use of unleaded fuel, increase of service life, manual revision

Effectivity: DG-400, all serial numbers

Accomplishment: Instruction 1,4: Prior to refuelling unleaded fuel, at latest by 01.10.97
Instruction 2,3: As desired

- Reason:
1. Because leaded fuel will soon not be available, tests have been executed to find out whether it can be replaced by unleaded fuel. It was most important to check if the GFRP fuel tank would be damaged by some components added in high portions to the unleaded fuel, especially MTBE. In addition the drainer valve sealing ring designed for aviation gasoline may be affected. All other parts of the fuel system are from automotive origins and are therefore suitable for unleaded fuel.
The tests showed that the GFRP fuel tank tolerates unleaded automotive fuel of present quality as well as leaded automotive fuel used in the past. AVGAS 100 LL was also tested and proved to be the least aggressive fuel.
The drainer valve sealing ring is not resistant to automotive fuel and must be replaced.
Moreover the Bombardier-Rotax company confirmed in the meantime that contrary to the manual, engines for motorgliders can be operated with unleaded automotive fuel with minimum 95 octane (RON).
 2. The results of fatigue tests have demonstrated that the service life can be extended to 12.000 h flight hours. The access holes necessary for the inspections have been installed during production.
 3. When securing with Loctite, some items must be considered, which have not previously been included in the maintenance manual.
 4. Manual revision

- Instructions:
1. Exchange of the drainer sealing ring for a sealing ring partno. 60504402.
To accomplish this empty the fuel tank: Therefore use the separate electric fuel pump system and empty the tank through the tank filler opening.
Note position of the drainer valve thread in the landing gear box, then remove the drainer valve using a 13 mm socket wrench. Press the drainer valve sleeve to direction „open“ and dismantle the sealing ring using a pointed but not sharp edged tool. The new sealing ring can be installed without a tool: Put the ring over the flange edge, roll it down to the groove and check proper position of the sealing. Before reinstallation remove old sealing tape on the drainer's thread. Then roll up tightly minimum three windings with new sealing tape (winding direction clockwise when you look on the thread end). The sealing tape must not interfere with the sealing ring, after winding check operation of the drainer valve. When reinstalling the drainer valve take care to screw in deep enough to avoid interference with the landing gear. Refuel the fuel tank and check for leaks.
 2. Instead of leaded automotive fuel with min. 96 octane (RON) as per flight manual leaded and unleaded fuel with min. 95 octane (RON), e.g. „EURO-Super“, can also be used. Operating the engine with unleaded fuel „Super Plus“ with 98 octane (RON) is not necessary and not recommended. If there is no unleaded fuel with 95 octane (RON) available (e.g. in USA) it is possible to mix unleaded fuel with min. 92 octane (RON) with AVGAS 100 LL, mixing ratio 50:50.

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Empty the fuel tank for extended storage periods (more than 3 months). Don't use this fuel in the motorglider again.

3. Regard the instructions for securing with Loctite. Check the lifetime of any Loctite in your possession
4. Exchange the following manual pages against the new pages dated march 1997, marked TN 826/35. Regard the marked changes.

Flight manual
0.1, 19

Maintenance manual
0.2, 2, 3, 29, 29a, 46d, 53

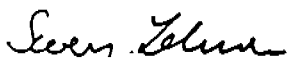
Material: Manual pages, s. instruction 4
Drainer valve sealing ring partno.60504402
Sealing tape for drainer valve thread 0,1x12mm DIN DVGW, partno. 70000370

Weight and Balance: Not affected

Bruchsal 4, den 10.04.1997

LBA approved:

The German original of this TN has been approved by the LBA under the date of 0.5. Juni 1997 and is signed by Mr. Fendt. The translation into english has been done by best knowledge and judgement.



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Type certification inspector: Dipl. Ing. Wilhelm Dirks