

## GFA AIRWORTHINESS DIRECTIVE

**TYPE AFFECTED:** DG-400.

**SUBJECT:** Replacement of the propeller shaft and drive belt retaining ring and amendment of the maintenance manual.

**BACKGROUND:** Overseas experience has shown that the propeller shaft may fail even when modified in accordance with Issue 1 of GFA AD 453 (TN 826/25).

It is also possible for the drive belt to damage the front retaining ring and come off the upper pulley thereby damaging the propeller.

**DOCUMENTATION:** DG Flugzeugbau GmbH Technical Note 826/32 which forms part of this AD.

**ACTION REQUIRED:**

1. Before 1 May 1997 the propeller shaft and the front drive belt retaining ring must be replaced in accordance with Instruction 2 of TN 826/32.
2. When Action 1 of this AD is completed the maintenance manual must be updated in accordance with the Instruction 1 of TN 826/32 and Drawing 4M29 must be filed in the back of the maintenance manual.

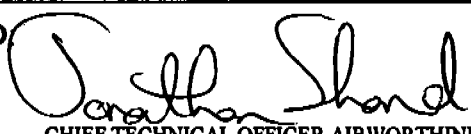
Manual pages and drawing 4M29 may be obtained from the GFA Secretariat.

**WEIGHT AND BALANCE:** Not affected.

**IMPLEMENTATION:** Replacement of the propeller shaft and retaining ring may be performed by persons rated for annual inspections on the DG-400.

Manual amendments may be performed by the Certificate Holder.

**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.

<b>SIGNED</b>  CHIEF TECHNICAL OFFICER AIRWORTHINESS		For and on behalf of:  THE GLIDING FEDERATION OF AUSTRALIA	
GFA AD 467	ISSUE: 1	26 August, 1996	Page 1 of 3

## DG Flugzeugbau GmbH

Postfach 4120 PLZ D-76625

Tel.: 0 72 57 / 89-0, Fax 89 22

Im Schollengarten 20

D-76646 Bruchsal-Untergrombach

Technical note

No. 826/32

Page 1 from 1

SUBJECT : Powerplant - propeller shaft

EFFECTIVITY : DG-400 all serial no's

ACCOMPLISHMENT : Latest Dec. 31st. 1996

REASON : 1. In spite of the improvements introduced with TN 826/25 another propeller shaft failed. In the meantime a new shaft with larger toothed surface was designed for the DG-800.  
This shaft is to be installed to all DG-400's to prevent further accidents. The larger toothed surface allows lower tensioning torque of the shaft without the risk of the shaft rotating.

2. In some cases the drive belt damaged the front retaining rings at the pulleys and came off the upper pulley, also damaging the propeller.  
Therefore stronger retaining rings must be installed.

INSTRUCTIONS : 1. Exchange the following manual pages against the new issues July 1996:  
0.2, 1, 2, 14 a, 37, 38

2. Exchange the propeller shaft incl. the bearings against the new shaft 8 M 24 and the front drive belt retaining rings 4 M 12/2 and 4 M 14/2 according to working instruction no. 1 for TN 826/32.

3. File drawing 4 M 29 as enclosure to the maintenance manual.

MATERIAL : Manual pages see above  
Drawing 4 M 29  
Working instruction no. 1 for TN 826/32  
Parts see working instruction

WEIGHT AND BALANCE : Influence negligible

REMARKS : Instruction No. 2 is to be executed by the manufacturer or by a licensed workshop. All instructions are to be inspected and entered in the aircraft logs by a licensed inspector

Bruchsal 4, July 19th 1996

Author:

LBA - approved:

The German original of this TN has been approved by the LBA under the date of July 24th 1996 and is signed by Mr. Walter. The translation into English has been done by best knowledge and judgement. In any case of doubt the German original is authoritative.

Type certification-inspector:

WI 826/32

DG Flugzeugbau GmbH

Postfach 4120 PLZ D-76625  
Tel.: 0 72 57 / 89-0, Fax 89 22  
Im Schollengarten 20

D-76646 Bruchsal-Untergrombach

WORKING INSTRUCTION No. 1  
for TN 826/32

Page 1 of 1

Designation of parts see drawing 4 M 29

1. Extend the engine, switch off master switch
2. Remove Propeller, drive belt and propellershaft 4 M 24 according to maintenance manual Sect. 4.1.1. - 4.1.3.
3. Remove the upper drive belt pulley from the shaft acc. to sect. 4.2.1 - 4.2.5 old issue July 1984. The bearings may remain on the shaft.
4. Heat the pulley again. Push the preassembled shaft 8 M 24 incl. bearings etc. as far as possible into the pulley allowing assembly of the circlip 75x2.5 DIN 472.
5. Clean the toothed area of the shaft and its aluminium counterpart 4 M 1 with Acetone.
6. Install the assembly to the powerplant again according to sect. 4.1.5 up to 4.1.13 of the maintenance manual (new page 38 issued July 1996).

Install the new stronger drive belt retaining rings 4 M 12/2 and 4 M 14/2 to the front of upper and lower drive belt pulleys. Use bolts M4x10 DIN933-8.8.zn and secure with Loctite 72

7. Execute a test run.

**Material:**

1. Propeller shaft 4 M 24/1 assembled with washer 8 M 24/2, spacer 4 M 25, 2 ball bearings 6009 2Z, circlip DIN 471 45x1,75, bolt M12x20 DIN 933-8.8 zn and one extra nut M 4 DIN 985-8zn
2. Upper drive belt retaining ring 4M12/2
3. Lower drive belt retaining ring 4M14/2
4. 10 bolts M4x10 DIN 933-8.8zn
5. Loctite 72b

Bruchsal, July 1996

Author: *W. Dirks* W. DirksType certification inspector: *A. F. M.*