0 General

0.1 Manual amendments

No.	Page	Description	Date
1	0.5, 0.6, 4.14-4.16 diagrams 7, 11, 12	Manual revision TN 413/2	September 2003
2	0.6, diagrams 1 and 11	Manual revision TN 413/3	May 2004
3	0.4, 0.6, 1.9, diagram 7	Landing gear / over centre lock in extended position TN 413/7	Nov. 2004
4	0.4, 0.5, 0.11, 2.6, 6.2, 6.4, 7.1	Manual revision TN 413/8	January 2005
5	0.4 - 0.6, 0.10, 1.9, 1.10, 4.7-4.9, diagrams 17, 18	landing gear positive locking device TN1000/13	February 2008
6	0.4, 0.6, 0.10, 1.14 diagram 6a	ÄM 1000-02 Fin ballast tank valve and handle	March 2008
7	0.4, 0.5, 0.6, 1.2, 2.6, 4.2, 6.2, diagrams 3, 9, 11, remove page 2.7	Manual revision TN1000/16	May 2008

0.2 List of effective pages

Section	page	issued	replaced/	replaced/	replaced/
0	0.1	March 2002			
	0.2	see manual amendments			
	0.3	"			
	0.4	"			
	0.5	"			
	0.6	"			
	0.7	March 2002			
	0.8	"			
	0.9	"			
	0.10	"	Febr. 2008	March 2008	
	0.11	"	January 2005		
	0.12	"			
1	1.1	March 2002			
	1.2	"	May 2008		
	1.3	"			
	1.4	"			
	1.5	"			
	1.6	"			
	1.7	"			
	1.8	"			
	1.9	"	Nov. 2004	Febr. 2008	
	1.10.	"	Febr. 2008		
	1.11	"			
	1.12	"			
	1.13	"			
	1.14	"	March 2008		
	1.15	"			
	1.16	"			
	1.17	"			
2	2.1	March 2002			
	2.2	"			
	2.3	"			
	2.4	"			
	2.5	"			
	2.6	"	January 2005	May 2008	
	2.7	"	removed May 2008		

0.2 List of effective pages (continued)

Section	page	issued	replaced/	replaced/	replaced/
3	3.1	March 2002			
	3.2	"			
	3.3	"			
	3.4	"			
4	4.1	March 2002			
	4.2	"	May 2008		
	4.3	"			
	4.4	"			
	4.5	"			
	4.6	"			
	4.7	"	Febr. 2008		
	4.8	"			
	4.9	"	Febr. 2008		
	4.10	"			
	4.11	"			
	4.12	"			
	4.13	"			
	4.14	"	Sept. 2003		
	4.15	"	Sept. 2003		
	4.16	"	Sept. 2003		
	4.17	"			
5	5.1	March 2002			
	5.2	"			
6	6.1	March 2002			
	6.2	"	January 2005	May 2008	
	6.3	"			
	6.4	January 2005			
7	7.1	March 2002	January 2005		
8	8.1	March 2002			
9	9.1	March 2002			

0.2 List of effective pages (continued)

diagram	issued	replaced/	replaced/	replaced/
1	Nov. 2001	May 2004		
2	Nov. 2001			
3	Nov. 2001	May 2008		
4	Nov. 2001			
5	Nov. 2001			
6	Nov. 2001	March 2008	March 2008 Not valid for 10-101, and from 10-128 on	
	March 2008			
7	Nov. 2001	Sept. 2003	Nov. 2004	
8	Nov. 2001			
9	Nov. 2001	Jan. 2007		
10	Nov. 2001			
11	Nov. 2001	Sept. 2003	May 2004	May 2008
12	Nov. 2001	Sept. 2003		
17	Febr. 2008			
18	Febr. 2008			
5EP34	25.01.90			
5EP50	17.12.98			
5V18	14.10.94			
10FW2	5.10.99			

1.2 Elevator control and trim system

1.2.1 Control system

see diagram 1

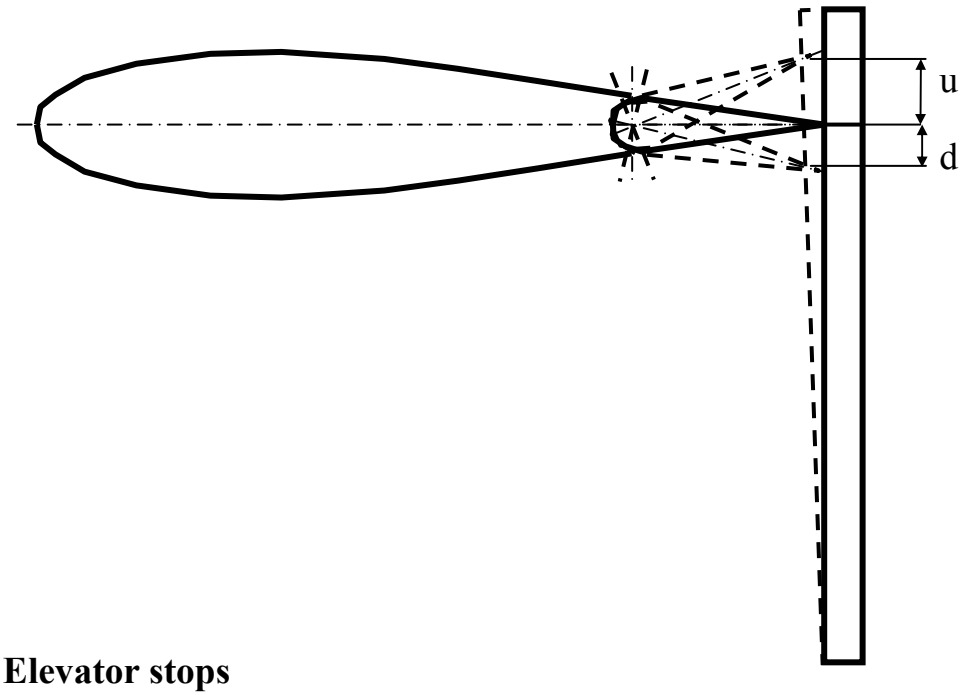
1.2.2 Elevator deflections and tolerances

up:	27°	u= 77 up to 79 mm	(3.03 up to 3.11)
down:	21°	d= 61 up to 63 mm	(2.40 up to 2.48)

measured at 168 mm (6.61 in.) from hinge axis which is directly at the edge of the cut out for the rudder

Measurement:

- Hold a measuring stick with one end on the floor, the stick must be vertical when touching the elevator trailing edge.
- Set the elevator to zero by using a pattern. A drawing for the zero-pattern 10V99 is available from the manufacturer.
- Mark the 0-point on the stick.
- Then measure the up and down deflections according to the sketch.



1.2.3 Elevator stops

The elevator stops are located at the rear control column and can be adjusted with a 10 mm open end wrench.

2.4 Inspection procedure for increase of service time

1. **General**
   The results of fatigue tests of wingspan sections have demonstrated that the service time of GFRP/CFRP gliders and motorgliders may be limited to 12000 hours, if for each individual glider (in addition to the obligatory annual inspections) the airworthiness is demonstrated according to a special multi-step inspection program particularly with regard to the service life.

2. **Dates**
   When the glider has reached a service time of 3000 hours, an inspection must be done in accordance with the inspection program mentioned under point 3. If the results of this inspection are positive or if any defects found have been duly repaired, the service time of the glider is extended by another 3000 hours to a total of 6000 hours (first step).

   The above inspection program must be repeated when the glider has reached a service time of 6000 hours. If the results of this inspection are positive or if any defects found have been duly repaired, the service time of the glider is extended to 9000 hours (second step).

   When the glider has reached a service time of 9000 h the above inspection program must be repeated. If the results of the inspection are still positive, or if any defects found have been duly repaired, the service time may be extended to a total of 10000 hours (third step).

   Proceed analogous when reaching 11000 hours (4. step).

3. Ask the manufacturer for the necessary inspection document.
   When you request the inspection document, the following data should be submitted: Model/Type, Registration, Serial Number and the operating hours at which the inspection will be performed. A charge will be made for the inspection document.

4. The inspection must only be done by the manufacturer or by a licensed repair station or inspector.

5. The results of the inspections have to be recorded in an inspection test report wherein comments are required for each inspection instruction. If the inspections are done outside the manufacturer's facilities, a copy of the records must be sent to the manufacturer for his evaluation and information.

4.2 Replacement of control circuit cables

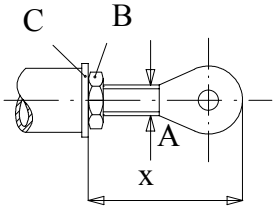
The following cable connections are approved:
3.2 mm dia. control cable construction 7x19 with Nicopress-sleeves 28-3-M Copper and tool No. 51-M850 or 63-V-XPM or 64-CGMP where the M groove is to be used. The above applies to the rudder cables and the tow release cable. The cable for the rudder pedal adjustment and the fin tank valve are 1.6 mm dia. control cable construction 7x7 with Nicopress-sleeves 28-1C Copper and the C groove for tool 64-CGMP should be used.

Attachment of the Nicopress sleeves should only be done using the respective tool. All the procedures and checks noted by the tool manufacturers should be followed.
Please refer to aircraft inspection and repair FAA AC 43.13-1 A.

Note: Control cables according to MIL-W-83420 I/A (was MIL-W-1511A) or ISO 2020 (was LN 9374) should be used.

4.3 Adjustment and servicing of the control circuit

a) In all cases, new self locking nuts DIN985-8zn or LN 9348 should be used.
b) Bolts which are not secured with locking nuts have to be secured with Loctite 243. Before installing the bolt clean the thread and the inside thread. Apply only 1 drop of Loctite on the bolt thread. Too much Loctite may cause damage when you try to loosen the bolt again.
c) With all adjustment work, it should be ensured that the rod ends are not screwed out too far from the pushrod - see sketch below for allowable max. distances for the two sizes used.



A	max. of x	
	mm	inch
M 6	36	1.4
M 8	60	2.36

Note: All lock nuts (B) are secured by a spring washer (C) DIN 6798 I. Be careful not to loose that washer!

Compass

Manufacturer	Type	**Certification No.**
PZL	B - 13	FD 19/77
Ludolph	FK 16	10.410/3
Airpath	C 2300	
Hamilton	H I 400	TSO C 7c Type1
	46 MFK 1	(only as additional equipment.)

The compass should be compensated in the A/C. A deviation table must be installed if deviation is more than 5°.

VHF transceiver

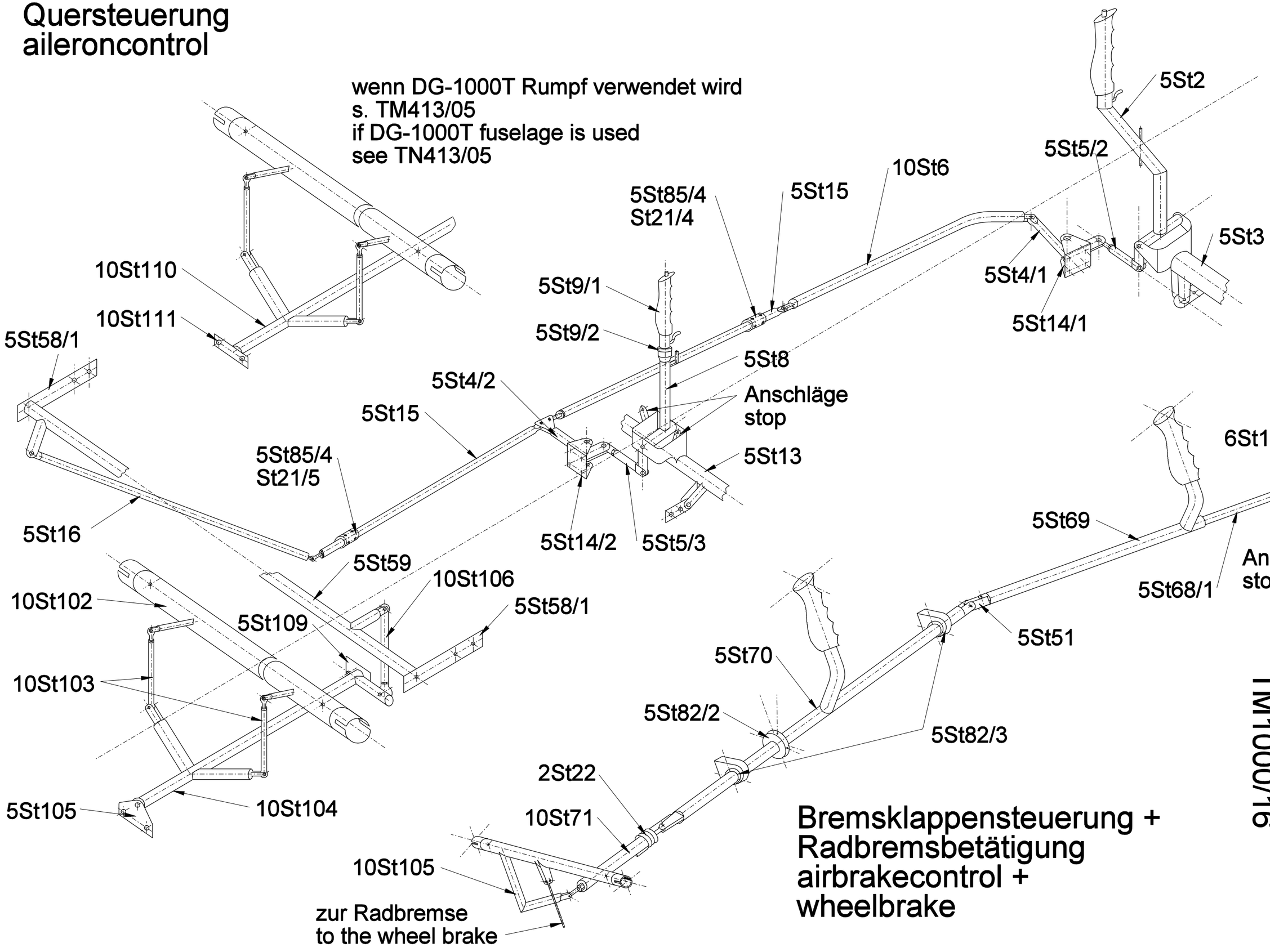
Manufacturer	Type	**Certification No.**
Dittel	FSG-40 S	10.911/45
	FSG-50	10.911/71
	FSG-60 M	10.911/72
	FSG-70,71 M	10.911/81
	FSG-90	10.911/98JTSO
	FSG 2T	LBA.0.10.911/103JTSO
Becker	AR 3201-(1)	10.911/76
	AR 2008/25 (A)	10.911/48
	AR 4201	JTSO-2C37 D, ED-23A
Filser	ATR 720 A	10.911/74
	ATR 720 C	10.911/83
	ATR 600	LBA.0.10.911/106JTSO
	ATR 500	LBA.0.10.911/113JTSO
	ATR 833	EASA.210.0193

or other instruments certified for aircraft use according to TSO or JTSO or ETSO standards may be installed.

Note: Only radios with diameter 58mm (2 ¼ in.) can be installed at the assigned place in the console below the instrument panel.

Quersteuerung
aileroncontrol

wenn DG-1000T Rumpf verwendet wird
s. TM413/05
if DG-1000T fuselage is used
see TN413/05



Bremsklappensteuerung + Radbremsbetätigung
airbrakecontrol + wheelbrake

Steuerung im Rumpf
controls in the fuselage
DG-1000S

Diagramm 3
diagramm 3
Ausgabe: Mai 2008
issued: May 2008
TM1000/16

Festes Fahrwerk, hydraulische Radbremse
fixed landing gear, hydraulic wheelbrake

Diagramm 9
diagram 9

6.4 DIN 125 St zn
M6 DIN 985-8 zn

M6x36 LN9037

5FW4/4

5FW7

Druckfeder, C DIN 17223,
d=12,Dm=64,Lo=215,if=10,ig=11,5
compression spring

X

5FW 12

5FW4/4

5FW7

Ansicht X
View X

Ansicht Y
View Y

FW4/3

FW 4/3

5FW6

10.5 DIN 125

8.4 DIN 125

M8 DIN 985

10.5 DIN 125 St zn

Fahrwerkskasten
landing gear box

Y

TCL Bremszange Typ 30-9
brake assy

5FW 10

Z

10FW 51

5FW4/1

5FW11

5FW15

5FW17/2

5FW 17/1

M6 DIN 985-8zn

6.4 DIN 125 St zn

5FW 5

5FW17/2

5FW 10

5FW 9

Reifen 380x150
tyre

5FW 9

Ansicht Z
View Z

M8 DIN 985-8 zn
8.4 DIN 125 St zn

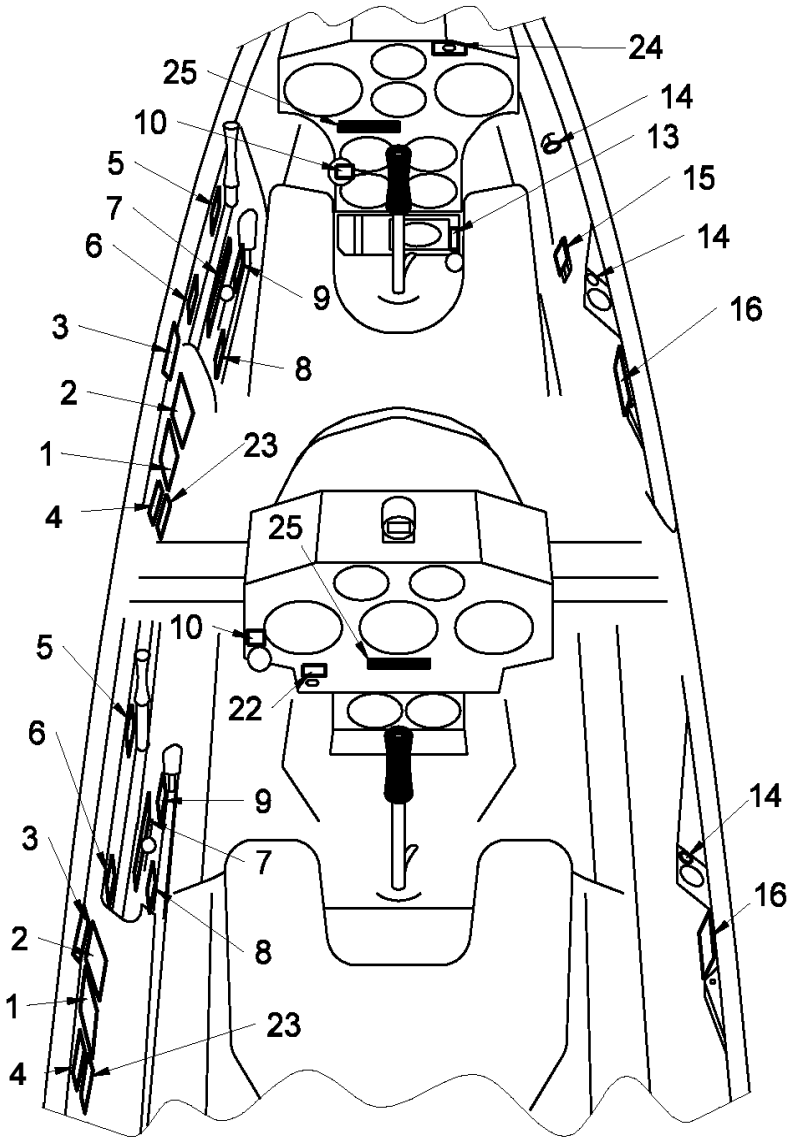
M8x45 DIN 931-8.8 zn

All dimensions in mm, 25.4 mm= 1 in.

Ausgabe Januar 2007
issued January 2007

in Datei 10 FW50

placards DG-1000S



DG Flugzeugbau GmbH
Type: DG – 1000S Serial No.: 10- S
Year of construction:

Maximum airspeeds	km/h	kts.
Winch launching	150	81
Aero-tow	185	100
Manoeuvring V_A	185	100
Rough air	185	100
Maximum speed V_{NE}	270	146

Approved aerobatic manoeuvres, only without waterballast:
Pos. Loop, Chandelle, Spin, Stall turn

In addition Category A:
Only with 18 m span without waterballast:
Half loop and half roll, half roll and half loop, slow roll, inverted flight, half positive flick roll from normal flight with half loop, half negative flick roll from inverted flight
Maximum mass:

Category A	630 kg	1389 lbs.
Category U	750 kg	1653 lbs.
Category U without waterballast	kg	lbs.

1

Cockpit Check
1. Lead ballast (for under weight pilot)?
2. Parachute worn property?
3. Safety harness buckled?
4. Front seat: pedals adjusted?
   Rear seat: seating height adjusted?
5. All controls and knobs in reach?
6. Altimeter?
7. Dive brakes cycled and locked?
8. Positive control check ? (One person at the control surfaces).
9. Fin ballast tank emptied or correct amount filled in?
10. Trim ballast box in the fin, correct amount filled in? Locking device completely engaged?
11. Trim?
12. Both canopies locked?
13. Runway free?

2

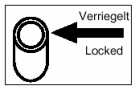
Senden transmit 22

Loading chart

Cockpit load	front seat		rear seat		Parachute
maximum	110 kg	242 lbs.	90 kg	198 lbs.	included)
or maximum	105 kg	231 lbs.	105 kg	231 lbs.	
minimum	kg	lbs.	/	/	

With lower pilot weight necessary ballast must be added.

4



at cover plate of fin ballast box

limits for use of the waterballast tank

minimum ground temperature	°C	13.5	17	24	31	38
	°F	56	63	75	88	100
maximum flight altitude	m	1500	2000	3000	4000	5000
	ft.	5000	6500	10000	13000	16500

23

Altitude in [m]	0-3000	4000	5000	6000	7000	8000
V_{NE} IAS km/h	270	256	243	230	217	205
Altitude in [ft]	0-10000	13000	16000	20000	23000	26000
V_{NE} IAS kts.	146	138	131	124	117	111

25

Ballast box in the fin
Min. load in the front seat
kg box empty — kg box filled

24

Bauteil Nr.:

part no. of components at all parts

Typ:	DG-1000S
W.Nr.	

fire proof placard at front main bulkhead

Gepäck max. 15 kg
baggage max. 33 lbs.

at front main bulkhead

Reifendruck 2,5 bar
Tyre pressure 36 psi

at the right wheel door

Sollbruchstelle 10000 N
rated load 2200 lbs.

Reifendruck 2,5 bar
Tyre pressure 36 psi

right above the nose wheel if applicable

Reifendruck 4 bar
Tyre pressure 58 psi

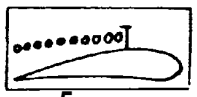
right above the tailwheel

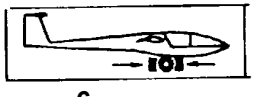
Bemsflüssigkeit
---- **brake fluid**
min.
DOT 3 / DOT 4

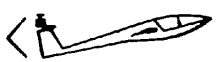
on brake fluid reservoir

Warning:
Rigging of the horizontal tailplane is only permitted with nose down trim-setting!

at the upper left hand side of the fin

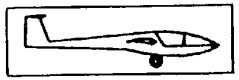

5


6

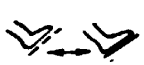


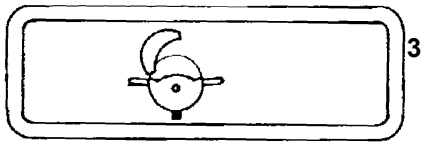

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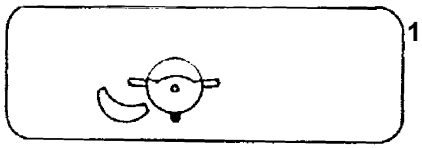

8


9


10


13


3


16


14


15

diagram 11
issued May. 2008