DG Aviation GmbH

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

MAINTENANCE MANUAL

FOR THE GLIDER

DG-1000S

Type:	**DG-1000**
Variant:	**DG-1000S**
Data Sheet No.:	**LBA 413, EASA.A.072**
Date of Issue:	**March 2002**

Owner:

Ser. No.:

Registration:



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No.	Page	Description	Date
15	0.3 ÷ 0.8, 0.10 ÷ 0.12, 1.3, 1.5, 1.11, 1.16, 1.18, 1.19, 2.1, 2.6, 3.1, 4.6, 4.10, 4.12, 4.13, 6.1, 7.1, diagrams: 2, 3, 9, Enclosure 1 pages: 5, 8	Manual revision TN 1000/24, New type 12V sockets and plugs	October 2014
16	0.3, 0.4, 1.11	TN1000/34 small nose wheel	October 2017
17	0.3 - 0.7, 0.10, 0.11, 0.12, 1.3, 1.12, 1.14, 2.6, 4.9, 4.11, 6.1, 6.3 Enclosure 1 pages 5-7, Diagrams 2, 5, 5a, 7, 7a, 11, 20, Drawings 10E13, 10R146	TM1000/41 Manual revision	December 2018
18	0.3, 0.6, diagram 11	TN1000/41 revision 1	May 2019
19	0.3 - 0.6, 2.1, 2.2, 4.9, 6.3, enclosure 1 page 7	TN1000/42 Canopy lock, rear locking rods Manual revision	July 2019
20	0.3, 0.6, 0.10, enclosure 3 (incl. diagram 2b + 11a)	TN1000/36 Revision 2 Manual rudder control	May 2020
21	Title, 0.3, 0.4, 0.6, 0.11, 1.12, 2.1, 2.6, diagrams 5a, 7a, 11, 11a, 20, enclosure 1 page 2 + 8	TN1000/45 Manual revision, raised max. TOW	October 2021

0.2 List of effective pages

Section	page	issued	replaced	replaced	replaced	replaced
0	Title	March 2002	Oct. 2021			
	0.2	see manual amendments				
	0.3		“			
	0.4		“			
	0.5		“			
	0.6		“			
	0.7	March 2002	Febr. 2011	Oct. 2014	Dec. 2018	
	0.8	“	Febr. 2011			
	0.9	“	Febr. 2011			
	0.10	“	Febr. 2008	March 2008	Oct. 2008	Nov. 2008
			Febr. 2011	March 2011	Oct. 2014	
	0.11	“	Jan. 2005	Febr. 2011	Oct. 2014	Dec. 2018
			Oct. 2021			
	0.12	“	Febr. 2011	Oct. 2014	Dec. 2018	
1	1.1	March 2002				
	1.2	“	May 2008	Febr. 2011		
	1.3	“	Oct. 2014	Dec. 2018		
	1.4	“				
	1.5	“	Febr. 2011	Oct. 2014		
	1.6	“				
	1.7	“				
	1.8	“				
	1.9	“	Nov. 2004	Febr. 2008		
	1.10.	“	Febr. 2008			
	1.11	“	Febr. 2011	Oct. 2014	Oct. 2017	
	1.12	“	Dec. 2018	Oct. 2021		
	1.13	“				
	1.14	“	March 2008	Febr. 2011	Dec. 2018	
	1.15	“	Febr. 2011			
	1.16	“	Oct. 2014			
	1.17	“				
	1.18	Febr. 2011	Oct. 2014			
	1.19	Oct. 2014				
2	2.1	March 2002	Febr. 2011	Oct. 2014	July 2019	Oct. 2021
	2.2	“	July 2019			
	2.3	“				
	2.4	“	Febr. 2011			
	2.5	“	Febr. 2011			
	2.6	“	Jan. 2005	May 2008	Febr. 2011	Oct. 2014
			Dec. 2018	Oct. 2021		
	2.7	“	removed May 2008			

0.2 List of effective pages (continued)

diagram	issued	replaced	replaced	replaced	replaced
1	Nov. 2001	May 2004	Oct. 2010		
2	Nov. 2001	Oct. 2014	Dec. 2018		
2b	May 2020				
3	Nov. 2001	May 2008	Oct. 2014		
4	Nov. 2001				
5	Nov. 2001	Dec. 2018			
5a	Dec. 2018	Oct. 2021			
6	Nov. 2001	March 2008	March 2008 Not valid for 10-101, and from 10-128 on		
6a	March 2008				
7	Nov. 2001	Sept. 2003	Nov. 2004	Dec. 2018	
7a	Oct. 2008	Dec. 2018	Oct. 2021		
8	Nov. 2001	July 2011			
9	Nov. 2001	Jan. 2008	Febr. 2011	July 2011	Oct. 2014
10	Nov. 2001				
11	Nov. 2001	Sept. 2003 May 2019	May 2004 Oct. 2021	May 2008	Dec. 2018
11a	May 2020	Oct. 2021			
12	Nov. 2001	Sept. 2003			
17	Febr. 2008				
18	Febr. 2008				
20	Nov. 2008	Dec. 2018	Oct. 2021		
21	Nov. 2008	Oct. 2010			
22	Nov. 2008				
5EP34	25.01.1990				
5V18	14.10.1994				
10FW2	5.10.1999				
10E3	28.11.2008	28.02.2011			
10E4 issue A	28.10.2008				
10E4 issue E	8.10.2010				
10E13	12.12.2018				
Encl. 1	Nov. 2008	Page 2, 2a, 8 Oct. 2010 Page 7 July 2019	1, 2, 2a, 4 8, Febr. 2011 Page 2 + 8 Oct. 2021	5, 8 Oct. 2014	5-7 Dec. 2018
Encl. 2	March 2011	June 2012			
Encl. 3	May 2020				
10EP41	4.02.2011				
10E6	23.02.2011	23.02.2012			
SI 67-07	5.11.2007				
Z193	4.11.2009				
10R146	7.01.2019				

0.4 Airworthiness limitations

0.4.1 Repairs

Repair or replace damaged parts prior to next flight. Follow the instructions of the DG-1000 repair manual for repairs of the airframe. Repairs outside the scope of DG-1000 repair manual and major repairs must be accomplished at a certified repair station or by a certified mechanic rated for composite aircraft structure work in accordance with DG repair methods or those methods approved by the national aviation authorities.
Use only genuine spare parts.
For all aircraft under EASA regulations the following applies: According to part 21, subpart M to accomplish major repairs an approved repair instruction is required, see also TN DG-G-01 “Approved repair methods according to EU Commission Regulation 1702/2003 part 21, subpart M”

0.4.2 Life time of the airframe

The maximum allowable operating time for German composite sailplanes and motorgliders was proofed for 12000 flight hours.
The initial life time for the DG-1000S is 3000 flight hours.
Extension of the life time to 12000 hours can only be achieved by implementing a comprehensive inspection program for the aircraft to be carried out in accordance with data that has been approved by an applicable aviation authority, see section 2.4 of this manual.

Only for USA

Note: *The Airworthiness Limitations section is FAA approved and specifies maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulation unless an alternative program has been FAA approved.*

0.5 Further service information

0.5.1 Life time of components

Use only genuine spare parts. For part numbers see section 8 of this MM.
After exchanging life limited parts change the “Summary of operating hours” for your glider by entering the replacement dates of the exchanged parts.

a) The **fabric straps of the safety harness** have to be exchanged according to the instructions of the respective manufacturer. If no limitations are given, exchange every 12 years, approved types see section 6.
b) The **rubber cord** in the elevator control system see section 1.2.6 has to be replaced at least every 6 years, part no. 39001040.

1.7 Tow hooks

1.7.1 Tow release circuit

See diagram 5,
from ser. No. 10-268 on (except for 271-274) see diagram 5a.

1.7.2 Adjustment

Check if both tow releases open fully.
Adjustment at the bellcrank 10R32 in the rear cockpit.
From ser. No. 10-268 on (except for 271-274): Adjustment is done at the connection of pushrod 10R162 to bellcrank 10R161 in the rear cockpit. The adjustable seat shell and the cover 10RU170 must be removed to accomplish the adjustment..

1.7.3 Damages

The ring muzzle of the C.G. hook should not be bent or ground down and should move easily. If the muzzle is damaged, the tow release has to be exchanged and repaired by the manufacturer (Tost).

1.7.4 Removing the tow hooks

C.G. tow hook:
Remove the cover (front side of rear seat).
Remove the mounting bolts and the actuating lever. Don't remove the bolt which carries the actuating lever.
Move the tow hook some mm in an upward direction (use a piece of hard wood and a hammer). Then pull it out in forward and upward direction.

Nose tow hook:
Remove the tow hook with the fittings 5R3/2 and 3.

1.7.5 Rubber cords

To keep the actuating cables tight there is a rubber cord at both of the cables in the compartment below the foot of the rear instrument panel.
From ser.No. 10-276 on the rubber cords have been replaced by 2 tension springs.
Replace the rubber cords if worn.
To accomplish this you have to detach and swivel the foot of the rear instrument panel to the back.

For further information refer to the operating and maintenance instructions for the release mechanism.

2 Inspections

2.1 Daily inspection

see flight manual section 4.3

2.2 Regular inspections

A After 200 flight hours and during the annual inspection

Check the rudder cables for wear especially around the “S” tubes on the rudder pedals. Worn rudder cables should be replaced (see section 4.2).
Check the seal of the rudder (see section 1.3.5).

B Annual inspection (and 100hr inspection – only for USA)

- Execute all items of the daily inspection see flight manual section 4.3.
- Inspect all bolted connections and locking devices ie. locknuts, split pins etc.
- Check all metal parts for adequate greasing and rust prevention. (see section 3.3).
- Check the control surface deflections (see sections 1.2 up to 1.4).
- Check the free play in all control circuits (see section 1.2 up to 1.6)
- Check the fore and aft play of the wings (see section 1.11).
- Check the canopy emergency releases according to section 7.14 of the flight manual.
- Check the rubber cords in the control system (see sections 1.2.6 and 1.7.5.
- Check the thickness of the wheel brake linings and of the brake disc (see section 1.6.4).
- Check if the brake fluid has to be exchanged (see section 1.6.4).
- Check the airbrakes according to section 4.4.
- Check the fin ballast tank system according to section 1.8.2.
- Check the fin ballast box according to section 1.9.
- Check the friction of the canopy opening handles (canopies removed from fuselage): A force of 10 – 20N (2.2 up to 4.4 lbs.) should be required at the end of the handle. If the force is too low tighten the hinge bolt of the handle accordingly.
- **Only Ser. No. 10-1 up to 10-144:** Check if the rear locking rods of front and rear canopy are screwed in tightly. To accomplish this close the locking mechanism with canopy open and try to rotate the locking rod clockwise using small pipe pliers and a piece of abrasive paper 240 grid around the rod to protect the rod from damage.

Caution: Don’t rotate counter-clockwise, otherwise you may rotate the rod out of the thread and destroy the Loctite and lock nut securing.

If you are able to rotate the rod proceed with TN1000/42 instruction 3.

2.4 Inspection procedure for increase of service time

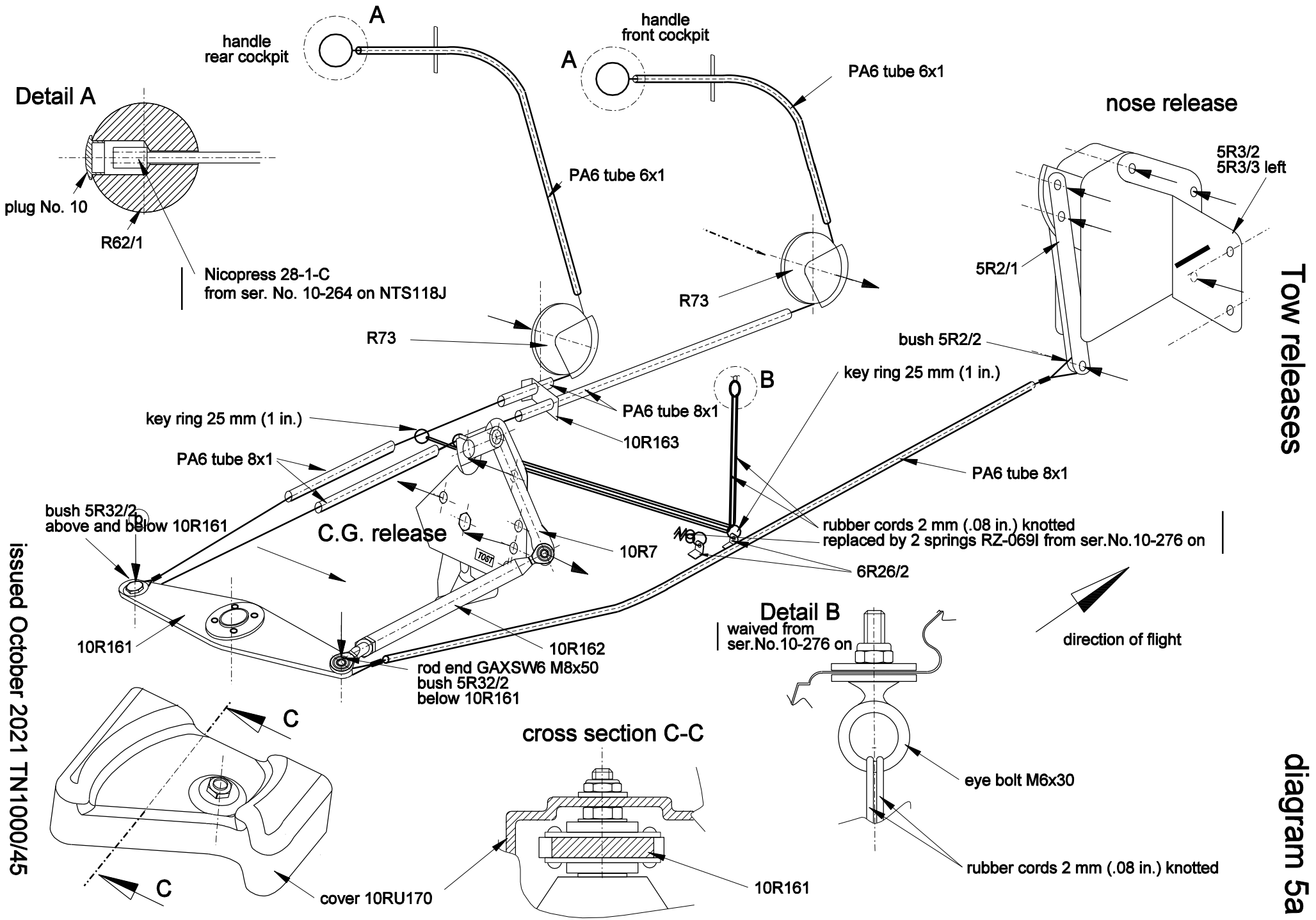
1. **General**
   The results of fatigue tests of wingspar sections have demonstrated that the service time of GFRP/CFRP gliders and motorgliders may be limited to 12000 hours, if for each individual glider (in addition to the obligatory annual inspections) the airworthiness is demonstrated according 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 10000 and 11000 hours (4. + 5. step).

3. DG Aviation will develop an inspection program to be executed at 3000 h, 6000 h, 9000h, and every 1000 hours thereafter up to the 12000 hour limit. This program will be approved by the aviation authorities and will be available for purchase from DG Aviation.
   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 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 DG Aviation facilities, a copy of the records must be sent to DG Aviation for evaluation and information.


Tow releases
diagram 5a
issued October 2021 TN1000/45
Detail A
plug No. 10
R62/1
Nicopress 28-1-C
from ser. No. 10-264 on NTS118J
handle
rear cockpit
A
handle
front cockpit
A
PA6 tube 6x1
PA6 tube 6x1
R73
R73
nose release
5R3/2
5R3/3 left
5R2/1
bush 5R2/2
key ring 25 mm (1 in.)
B
PA6 tube 8x1
10R163
key ring 25 mm (1 in.)
PA6 tube 8x1
PA6 tube 8x1
bush 5R32/2
above and below 10R161
C.G. release
10R7
rubber cords 2 mm (.08 in.) knotted
replaced by 2 springs RZ-069I from ser.No.10-276 on
6R26/2
Detail B
waived from
ser.No.10-276 on
direction of flight
10R161
10R162
rod end GAXSW6 M8x50
bush 5R32/2
below 10R161
C
C
cover 10RU170
cross section C-C
10R161
eye bolt M6x30
rubber cords 2 mm (.08 in.) knotted

Vorratsbehälter
reservoir

Gepäckraumrückwand/
rear baggage compsrtment wall

10Ru49

10FW73

Schnitt A-A
section

Gewinde mit
Teflonband
abgedichtet

10FW15/1

10Fw15/3

10FW20

10 FW13/1

10FW124

10St105

EW 8x1-R1/8"

5R94/1 DG-1000S
10R94/1 DG-1000T

Fahrwerkskasten 10Ru48
landing gear box

A

Anschlag eingefahren
stop retracted position

Ansicht X
view

Schnitt B-B
section

10FW137 nur bei W.Nr. 10-134
10FW137 only with ser.no. 10-134

10FW127

10FW13/1

10FW12/2

alternativer
Anschluss
alternative fitting

5FW19

Schnitt C-C
section

A

10FW14/3

10FW10/2

B

10FW12/2

X

10FW127

B

A1A1-0-0-105-317-600N

10FW63
eingeklebt mit Loctite 638
glued with

Schnitt K-K
section

nur linke Strebe dargestellt
only left hand side hand shown

10FW87

10FW75

10FW14/1

10FW12/2

C

10FW10/2

Simrit Rundpuffer
rubber buffer
D4045

C

M10 DIN934-8zn

K

K

BW-Harz
resin/cottonflocks

GFK-Klotz
10mm dick
GFRP block
10mm thick

10FW14/1

Fahrwerksklappe 10Ru46 links (left)
landing gear door 10Ru47 rechts (right)

10FW21

10FW10/1

Siehe 10Fw2
see

10FW11/1

D

D

Schnitt D-D
section

10FW11/2

Reifen 380x150-5
tyre

10FW11/7

10FW18

A

10FW11/7

10FW11/3

10FW17

10FW11/6

10FW18

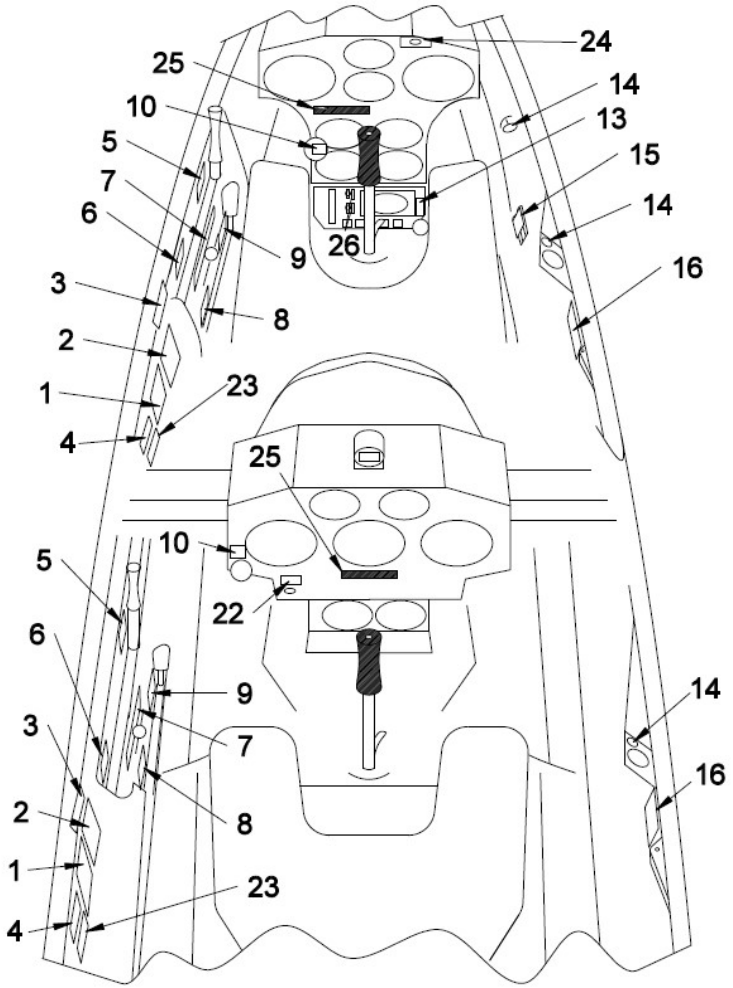
A

TOST Hauptbremszylinder Form 7
mastercylinder

Ausgabe: Oktober 2021 TM1000/45 Diagramm 7a
issued: October 2021 TN1000/45 diagram 7a

Fahrwerk, hydraulische Radbremse ab W.Nr. 10-133
landing gear, hydraulic wheelbrake from ser. No. 10-133 on

Beschilderung DG-1000S



on
main
off

intern
battery
fin

26
Ab W.Nr. 10-170 und alle W.Nr. mit elektrisch betätigtem Fahrwerk

DG Aviation GmbH
Muster: DG–1000S Werk-Nr.: 10- S Baujahr:

Zugelassen für	bis km/h
Windenstart	150
Flugzeugschlepp	185
Manövergeschwindigkeit V_A	185
Flug bei starker Turbulenz	185
Höchstgeschwindigkeit V_{NE}	270

Kunstflugfiguren (nur ohne Wasserballast):
Pos. Looping, Chandelle, Trudeln, Turn

Zusätzlich Lufttüchtigkeitsgruppe A:
Nur Spannweite 18 m, ohne Wasserballast:
Aufschwung, Abschwung, gesteuerte Rolle, Rückenflug, halbe gerissene Rolle aus Normalflug mit halbem Looping, halbe gestoßene Rolle aus Rückenflug

Höchstmasse:	
Kategorie „A“	630 kg
Kategorie „U“ mit 17,2 und 18 m Spannweite	750 kg
Kategorie „U“ mit 20 m Spannweite	790 kg
Kategorie „U“ ohne Wasserballast	kg

1

Trimmplan

Zuladung im	vorderen	hinteren	Sitz	(Fallschirm mitgerechnet)
maximal	105	105	kg	
oder	110	90	kg	
minimal		/	kg	

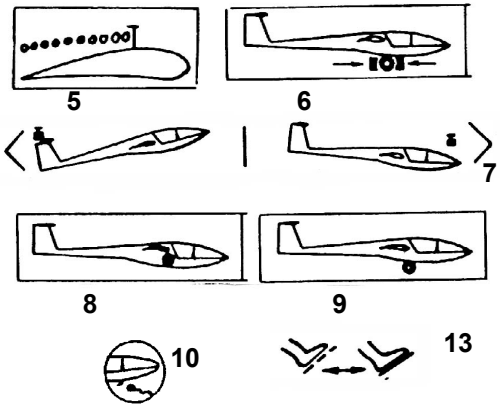
Die max. Zuladung im vorderen und im hinteren Sitz kann auf je 110 kg erhöht werden, wenn die Masse des hinteren Piloten durch Ballast im Ballastkasten in der Seitenflosse ausgeglichen wird.

Leichtere Führer müssen die fehlende Masse durch Ballast ergänzen.

4

Flughöhe m	0-3000	4000	5000	6000	7000	8000
V_{NE} IAS km/h	270	256	243	230	217	205

25

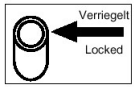


Vorflugkontrolle
1. Trimmgewichte?
2. Fallschirm richtig angelegt?
3. Richtig und fest angeschnallt?
4. Vorderer Sitz: Pedale in bequemer Sitzposition?
   Hinterer Sitz: Sitzhöhe richtig eingestellt?
5. Alle Bedienhebel und Instrumente gut erreichbar?
6. Höhenmesser?
7. Bremsklappen gängig und verriegelt?
8. Ruderprobe? (Dabei Ruder von einem Helfer festhalten)
9. Seitenflossentank entleert, bzw. richtige Ballastmenge eingefüllt?
10. Trimmballastkasten in der Seitenflosse, richtige Ballastmenge eingefüllt?
    Verriegelung des Deckels vollständig eingerastet
11. Trimmung?
12. Beide Hauben verriegelt?
13. Startstrecke frei?

2

Senden
transmit

22



am Deckel des Ballastkastens

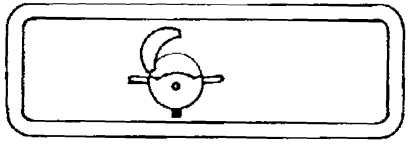
Betriebsgrenzen für den Seitenflossenwasserballast
min. Temperatur °C 13,5 17 24 31 38
am Boden
max. Flughöhe m 1500 2000 3000 4000 5000
über Grund

23

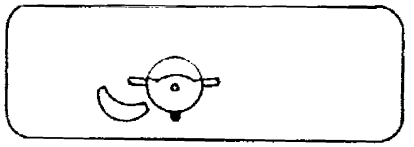
Ballastkasten Seitenflosse
Mindestzuladung im vorderen Sitz

kg	kg
Kasten leer	Kasten befüllt

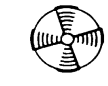
24



3



16



14



15

Bauteil Nr.:

Bauteil Nr. auf allen Bauteilen

Typ:	**DG-1000S**
W.Nr.	

feuerfestes Typenschild am vorderen Hauptspant

Gepäck max. 15 kg
baggage max. 33 lbs.

am vorderen Hauptspant

Reifendruck 2,5 bar
Tyre pressure 36 psi

rechts auf der Fahrwerksklappe

Sollbruchstelle 10000 N
rated load 2200 lbs.

Reifendruck 2,5 bar
Tyre pressure 36 psi

rechts über dem Bugrad
sofern vorhanden

Reifendruck 4 bar
Tyre pressure 58 psi

rechts über dem Spornrad

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

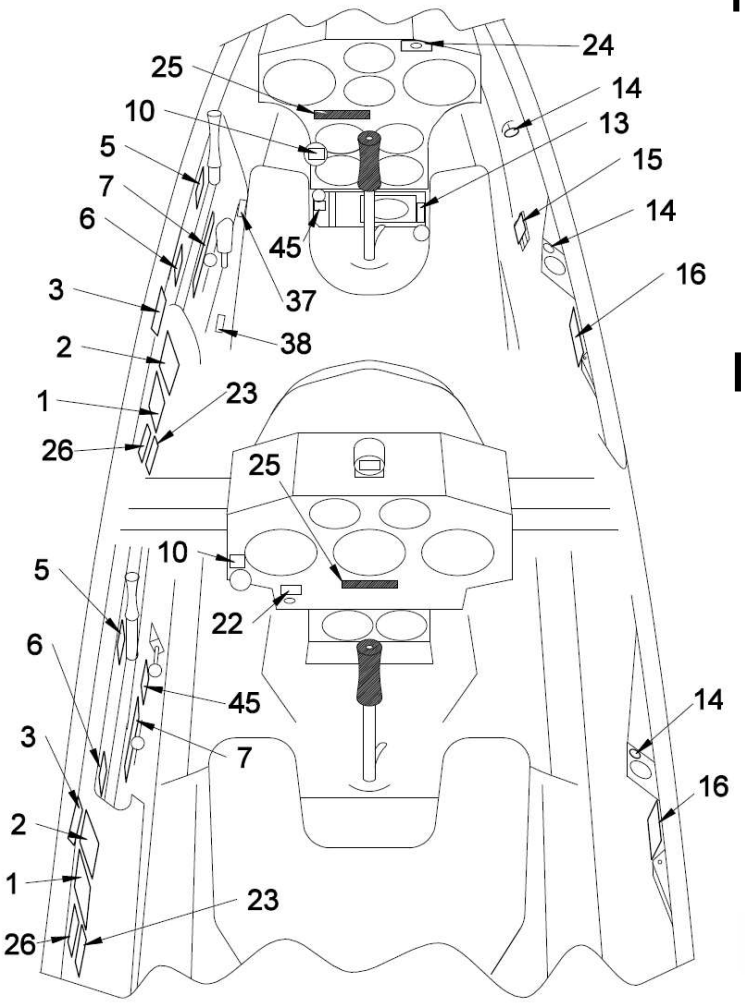
auf dem Bremsflüssigkeitsbehälter

Warnung:
Montage des Höhenleitwerkes nur zulässig bei Trimmstellung voll kopflastig!

Seitenflosse oben links

Diagramm 11
Ausgabe Oktober 2021
TM1000/45

Beschilderung DG-1000S (Seitensteuerung mit Handbedienung)



DG Aviation GmbH
Muster: DG–1000S Werk-Nr.: 10- S Baujahr:

Zugelassen für	bis km/h
Windenstart	150
Flugzeugschlepp	185
Manövergeschwindigkeit V_A	185
Flug bei starker Turbulenz	185
Höchstgeschwindigkeit V_{NE}	270

Kunstflugfiguren (nur ohne Wasserballast):
Pos. Looping, Chandelle, Trudeln, Turn

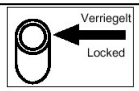
Zusätzlich Lufttüchtigkeitsgruppe A:
Nur Spannweite 18 m, ohne Wasserballast:
Aufschwung, Abschwung, gesteuerte Rolle, Rückenflug, halbe gerissene Rolle aus Normalflug mit halbem Looping, halbe gestoßene Rolle aus Rückenflug

Höchstmasse:	
Kategorie „A“	630 kg
Kategorie „U“ mit 17,2 und 18 m Spannweite	750 kg
Kategorie „U“ mit 20 m Spannweite	790 kg
Kategorie „U“ ohne Wasserballast	kg

1

Vorflugkontrolle
1. Trimmgewichte?
2. Fallschirm richtig angelegt?
3. Richtig und fest angeschnallt?
4. Vorderer Sitz: Pedale in bequemer Sitzposition? Hinterer Sitz: Sitzhöhe richtig eingestellt?
5. Alle Bedienhebel und Instrumente gut erreichbar?
6. Höhenmesser?
7. Bremsklappen gängig und verriegelt?
8. Ruderprobe? (Dabei Ruder von einem Helfer festhalten)
9. Seitenflossentank entleert, bzw. richtige Ballastmenge eingefüllt?
10. Trimmballastkasten in der Seitenflosse, richtige Ballastmenge eingefüllt? Verriegelung des Deckels vollständig eingerastet
11. Trimmung?
12. Beide Hauben verriegelt?
13. Startstrecke frei?

2



am Deckel des Ballastkastens

Senden
transmit
22

Trimmplan

Zuladung im	vorderen	hinteren	Sitz	Fallschirm mitgerechnet)
maximal	110	110	kg	
minimal		/	kg	

Leichtere Führer müssen die fehlende Masse durch Ballast ergänzen.

4

Betriebsgrenzen für den Seitenflossenwasserballast

min. Temperatur °C	13,5	17	24	31	38	
am Boden						
max. Flughöhe über Grund	m 1500	2000	3000	4000	5000	

23

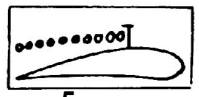
Flughöhe m	0-3000	4000	5000	6000	7000	8000
V_{NE} IAS km/h	270	256	243	230	217	205

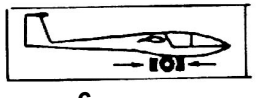
25

Ballastkasten Seitenflosse
Mindestzuladung im vorderen Sitz

kg	kg
Kasten leer	Kasten befüllt

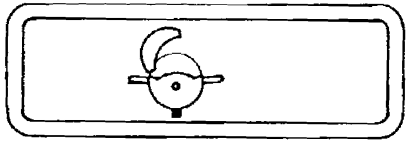
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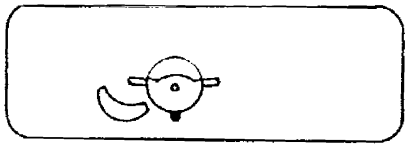

5


6

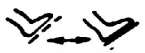


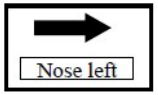
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3

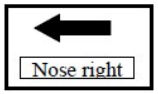

16


10


13



37

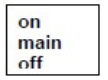


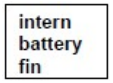
38


14


15


45





26
26 + 45 alle W.Nr. mit elektrisch betätigtem Fahrwerk

Bauteil Nr.:

Bauteil Nr. auf allen Bauteilen

Typ:	**DG-1000S**
W.Nr.	

feuerfestes Typenschild am vorderen Hauptspant

Gepäck max. 15 kg
baggage max. 33 lbs.

am vorderen Hauptspant

Reifendruck 2,5 bar
Tyre pressure 36 psi

rechts auf der Fahrwerksklappe

Sollbruchstelle 10000 N
rated load 2200 lbs.

Reifendruck 2,5 bar
Tyre pressure 36 psi

rechts über dem Bugrad
sofern vorhanden

Reifendruck 4 bar
Tyre pressure 58 psi

rechts über dem Spornrad

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

auf dem Bremsflüssigkeitsbehälter

Warnung:
Montage des Höhenleitwerkes nur zulässig bei Trimmstellung voll kopflastig!

Seitenflosse oben links

Diagramm 11a
Ausgabe Oktober 2021
TM1000/45

Vorratsbehälter
reservoir

Gepäckraumrückwand/
rear baggage compsrtment wall

EW 8x1-R1/8"

5R94/1 DG-1000S
10R94/1 DG-1000T

Gewinde mit
Teflonband
abgedichtet/
thread sealed
with Teflon tape

Schnitt A-A
section

10FW89

10FW109, ab/from 10-268 10FW256

Endschalter (FW ein)
164-564
limit switch
(LG retracted)

10FW124, ab/from 10/268
10FW252/1 verschraubt/bolted

Fahrwerkskasten 10Ru48
landing gear box
ab/from 10-268 10Ru48/3

10St105

A

Ansicht X
view

alternativer
Anschluss/
alternative fitting

Schnitt B-B
section

10FW127, ab/from 10/268
10FW251/1 verschraubt/bolted

10FW108

10FW91

TOST Hauptbremszylinder Form 7
master cylinder

X

B

A

Schnitt C-C
section

10FW10/2

10FW19/1

10FW10/1

Bemabech A1-A1-0-0-105-317-600N

C

C

Fahrwerksklappe 10Ru46 links (left)
landing gear door 10Ru47 rechts (right)
ab/from 10-268: 10Ru46/2 + 10Ru47/2

10FW102 rechts (right)
10FW102/2 links (left)

10FW21

10FW10/1

10FW11/1

Siehe 10Fw2
see

D

D

10FW11/7

S84

A

10FW18

Reifen 380x150
tyre

Schnitt D-D
section

10FW11/2

10FW11/7

10FW11/3

10FW17

10FW11/6

10FW18

A

Diagramm 20
diagram 20

Ausgabe: Oktober 2021 TM1000/45
issued: October 2021 TM1000/45

elektrisch betätigtes Hauptfahrwerk, hydraulische Radbremse
electrically operated main landing gear, hydraulic wheelbrake

1.6.5.2 Adjustment / limit switches

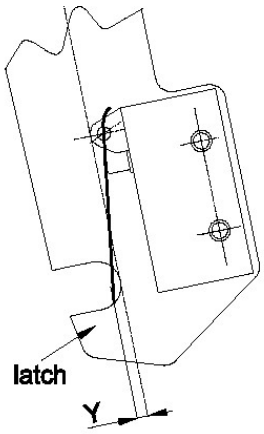
With the electrically operated landing gear only the limit switches have to be adjusted

a) Limit switch landing gear extended

1. Extend the landing gear electrically and check if the drag struts 10FW102 and the struts of the rear fork 10FW91 touch each other at their joint hinge point.
2. Apply a force of 100 N (2 lbs.) to the hinge point perpendicular to the centre line of the struts in upward direction. The system should be so stiff that you can move the hinge point no more than 2 mm (0.08 in.) out of line.
3. If it is possible to move the hinge point more than 2 mm, the limit switch must be adjusted. To accomplish this you have to bend the arm of the switch accordingly. The limit switch is mounted on the landing gear box and is activated by the lever 10FW108.
4. Retract the landing gear a small amount, extend again and check if the lower green control light starts shining. If not, the arm was bent too faar.
5. If the adjustment is correct, retract the landing gear and extend via the emergency system. Check if the lower green control light starts shining. If not, the arm was bent too faar. After adjustment repeat the check according to item 2.

b) Limit switch landing gear retracted

The spindle drive must be shut off in the retracted position when the bolt at the left drag strut 10FW102 engages in the notch of the left latch on shaft 10FW109 and activates the limit switch which is mounted to the latch.
Check: Activate the limit switch. The distance Y shall be 2 - 3 mm (0.08 – 0.12 in.) when the switch activates.
If necessary adjust the switch by bending its arm.



c) Limit switch gas strut (emergency extension system)

This switch (position 12 in diagram 21) is mounted to the upper end of the gas-strut at bracket 10FW120. When resetting the gas strut the spindle drive must be stopped by the limit switch before the gas strut becomes completely compressed. To accomplish this the distance X in diagram 21 (from counter nut up to gas strut body) must be minimum 8 mm (0.32 in.). If necessary shift the limit switch. To accomplish this the switch must be dissembled and the holes in the bracket must be elongated.

Section 8 Partlist

new Subsection

8.5 Parts for the electrically operated landing gear

60000139 Lockable gas strut K0V2P-3-200-647-004/460N
41041400 Spindle drive completely assembled
60510463 Limit switch 164-(LG retracted)
60510464 Limit switch 164-574 (LG extended)
41040008 Limit switch XGG2-88-S20Z1 (gas strut)
60510506 Extension-retraction switch MTG 106 G (LG up, down)
60510375 Press button 12G2904 with cap 12G2910 black (LG up)

60510387 Circuit breaker ETA 4A
60510360 Toggle switch MTA 106 D (selector switch Avionic)
60510476 Toggle switch 20-647 H (main switch)
10180012 Battery Z01/2 (12V/12 Ah) with fuse 60510459
60510459 Fuse G 250V 5x20 / 16 A
60510865 Switch 1006.1511 **(optional with TN1000/19, standard from ser.no. 10-157 on)**