

Flight manual DG-1000T

0 Revisions

0.1 Record of revisions

Any revision of the present manual, except actual weighing data, must be recorded in the following table and in case of approved sections endorsed by the responsible airworthiness authority.

The new or amended text in the revised page will be indicated by a black vertical line in the right hand margin, and the under lying document for the revision and the date will be shown on the bottom of the page.

Rev. No.	Affected Pages/ section	Description	Issue Date	EASA Approval Date	Inserted Date Signature
1	0.5, 7.14, 7.15	TN1000/09	October 2006	12.12.2006	
2	0.3-0.5, 1.5, 1.6, 2.5, 2.11, 2.12, 2.14, 2.15, 3.3, 4.13, 4.16-4.18, 4.21, 4.24, 4.25, 5.3, 5.5-5.8, 6.6, 6.8	TN1000/10 Manual revision	January 2007	March 27. 2007	
3	0.3 – 0.5, 2.12, 4.6, 4.12, 4.13, 7.14 – 7.17	TN1000/11 Manual revision	October 2007	5. Dec. 2007	
4	0.1, 0.4, 0.5, 4.9, 4.17, 7.5	landing gear positive locking device TN1000/13	February 2008	28. April 2008	
5	0.5, 7.9	TN1000/15 Throttle handle in rear cockpit, Option	March 2008	17.April. 2008	
6	0.3, 0.5, 2.11, 7.24	Rudder pedals-loops (safety bows), manual revisions TN1000/16	May 2008	June 11. 2008	

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0.1 Record of revisions continued

Rev. No.	Affected Pages/ section	Description	Issue Date	EASA Approval Date	Inserted Date Signature
7	0.3, 0.6, 0.7, 9.1-9.12	Electrically operated main landing gear TN1000/14	Nov. 2008	28. January 2009	
8	0.6, 9.1, 9.2, 9.13	Special equipment for very small pilots TN1000/17	May 2010	20. July 2010	
9	0.2 - 06, 1.4, 2.6, 2.11, 2.12, 4.3, 4.5 - 4.7, 4.9, 4.10, 4.13, 4.14, 4.29, 6.3, 6.5, 6.6, 6.10, 6.11, 7.2, 7.9, 7.12, 7.18, 7.21, 7.23, 7.24, 9.7, 9.13	Manual revision TN1000/18	Febr. 2011	13.05.2011	
10	0.1 ÷ 0.6, 1.5, 2.9, 2.11, 4.6, 4.8, 4.22, 5.4, 6.4, 6.7, 7.15, 7.22, 7.24, 9.8	Manual revision TN1000/24, Fuel cock warning TNDG-G-09 added on page 7.15	October 2014	11.11.2014	

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0.2 List of effective pages

Section	page	issued	replaced	replaced	replaced	replaced
0	0.0	July 2005				
	0.1	see manual amendments				
	0.2	"				
	0.3	"				
	0.4	"				
	0.5	"				
	0.6	"				
	0.7	July 2005				
1	1.1	"				
	1.2	"				
	1.3	"				
	1.4	"	Febr. 2011			
	1.5	"	Jan. 2007	Oct. 2014		
	1.6	"	Jan. 2007			
2	App. 2.1	July 2005				
	" 2.2	"				
	" 2.3	"				
	" 2.4	"				
	" 2.5	"	Jan. 2007			
	" 2.6	"	Febr. 2011			
	" 2.7	"				
	" 2.8	"				
	" 2.9	"	Oct. 2014			
	" 2.10	"				
	" 2.11	"	Jan. 2007	May 2008	Febr. 2011	Oct. 2014
	" 2.12	"	Jan. 2007	Oct. 07	Febr. 2011	
	2.13					
	2.14		Jan. 2007			
	2.15		Jan. 2007			
3	" 3.1	July 2005				
	" 3.2	"				
	" 3.3	"	Jan. 2006			
	" 3.4	"				
	" 3.5	"				
	" 3.6	"				
	" 3.7	"				
	" 3.8	"				

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0.2 List of effective pages (cont.)

Section	page	issued	replaced	replaced	replaced	replaced
4	App.	4.1	July 2005			
	"	4.2	"			
	"	4.3	"	Febr. 2011		
	"	4.4	"			
	"	4.5	"	Febr. 2011		
	"	4.6	"	Oct. 07	Febr. 2011	Oct. 2014
	"	4.7	"	Febr. 2011		
	"	4.8	"	Oct. 2014		
	"	4.9	"	Febr. 2008	Febr. 2011	
	"	4.10	"	Febr. 2011		
	"	4.11	"			
	"	4.12	"	Oct. 2007		
	"	4.13	"	Jan. 2007	Oct. 07	Febr. 2011
	"	4.14	"	Febr. 2011		
	"	4.15	"			
	"	4.16	"	Jan. 2007		
	"	4.17	"	Jan. 2007	Febr. 08	
	"	4.18	"	Jan. 2007		
	"	4.19	"			
	"	4.20	"			
	"	4.21	"	Jan. 07		
	"	4.22	"	Oct. 2014		
	"	4.23	"			
	"	4.24	"	Jan. 2007		
	"	4.25	"	Jan. 2007		
	"	4.26	"			
	"	4.27	"			
	"	4.28	"			
	"	4.29	"	Febr. 2011		
5	"	5.1	July 2005			
	"	5.2	"	Febr. 2011		
	"	5.3	"	Jan. 2007		
	"	5.4	"	Oct. 2014		
	App.	5.5	"	Jan. 2007		
		5.6	"	Jan. 2007		
		5.7	"	Jan. 2007		
		5.8	"	Jan. 2007		
		5.9	"			

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0.2 List of effective pages (cont.)

Section	Page	issued	replaced	replaced	replaced	replaced
6	6.1	July 2005				
	6.2	"				
	6.3	"	Febr. 2011			
	6.4	"	Oct. 2014			
	6.5	"	Febr. 2011			
	6.6	"	Febr. 2011			
	6.7	"	Oct. 2014			
	6.8	"	Jan. 2007			
	6.9	"				
	6.10	"	Febr. 2011			
	6.11	"	Febr. 2011			
7	7.1	July 2005				
	7.2	"	Febr. 2011			
	7.3	"				
	7.4	"				
	7.5	"	Febr. 2008			
	7.6	"				
	7.7	"				
	7.8	"				
	7.9	"	March 2008	Febr. 2011		
	7.10	"				
	7.11	"				
	7.12	"	Febr. 2011			
	7.13	"				
	7.14	"	Oct. .2006	Oct. 2007		
	7.15	"	Oct. 2006	Oct. 0007	Oct. 2014	
	7.16	"	Oct. 2007			
	7.17	"	Oct. 2007			
	7.18	"	Febr. 2011			
	7.19	"				
	7.20	"				
	7.21	"	Febr. 2011			
	7.22	"	Oct. 2014			
	7.23	"				
	7.24	"	May 2008	Febr. 2011	Oct. 2014	

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0.2 List of effective pages (cont.)

Section	Page	issued	replaced	replaced	replaced	replaced
8	8.1	July 2005				
	8.2	"				
	8.3	"				
	8.4	"				
	8.5	"				
	8.6	"				
9	9.1	Nov. 2008	May 2010			
	9.2	"	May 2010			
	9.3	"				
	9.4	"				
	9.5	"				
	9.6	"				
	9.7	"	Febr. 2011			
	9.8	"	Oct. 2014			
	9.9	"				
	9.10	"				
	9.11	"				
	9.12	"				
	9.13	May 2010	Febr. 2011			

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Powerplant and powerplant controls

- Retractable powerplant with air- cooled Solo 2350C two stroke engine and CFRP-Composite propeller DG-P001-1
- Electrical engine extension-retraction, operated automatically with the ignition switch or manually as back-up, electronic safety devices to avoid misoperation.
- Engine control instruments with digital LCD indication (Microprocessor technology) DEI-NT including stall warning, outside air thermometer, landing gear warning and canopy warning.

Technical data

Span		m / ft	18 / 59.1	20 / 65.62
Wing area		m ² / ft ²	16,72 / 180	17,53 / 189
Aspect ratio		/	19,38	22,82
Length		m / ft	8,57 / 28.12	
Fuselage height		m / ft	1,0 / 3.28	
Fuselage width		m / ft	0,73 / 2.4	
Span of the horizontal tailplane		m / ft	3,2 / 10.5	
Waterballast Wings	max.	kg (l) / US.gal	160 / 42.3	160 / 42.3
Waterballast fin	max.	kg (l) / US.gal	6,2 / 1.64	
Trim ballast fin	max.	kg / lbs	12 / 26.5	
Empty mass with basic instruments*	approx.	kg / lbs	461 / 1016	465 / 1025
Wing loading (with one Pilot 80kg / 176 lbs)	approx.	kg/m ² / lbs/ft ²	32,4 / 6.64	31,1 / 6.37
max. take-off mass (max. TOW)		kg / lbs	750 / 1653	750 / 1653
max. wing loading		kg/m ² / lbs/ft ²	44,9 / 9.2	42,8 / 8.77
Aerobatics			unlimited	simple
			Category „A“	
max. TOW for aerobatics		kg / lbs	630 / 1389	/
max. speed		km/h / kts	270 / 146	270 / 146

Powerplant

engine	Solo 2350C two-cylinder-two-stroke-engine		
power		KW / hp	22 / 30
Reduction gear			1:2,3
Fuel tank capacity		Liter / US.gal	22 / 5.81
Propeller		DG-P001-1	CFRP-Composite
Propeller diameter		m / ft	1,48 / 4.86

*Options will increase the empty mass accordingly!

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2.10 Manoeuvring load factors

The following load factors must not be exceeded:

Category		Utility	Aerobatic
at manoeuvring speed	V_A	+5,3 -2,65	+7,0 -5,0
at max. speed	V_{NE}	+4,0 -1,5	+7,0 -5,0
with airbrakes extended	V_{NE}	+3,5 0	+3,5 0

2.11 Flight crew

- a) single seated, only permissible in the front seat
- | | |
|-----------------------------|---|
| max. load in the front seat | 110 kg (242 lbs.) |
| min. load in the front seat | see placard in cockpit and weighing report page 6.7 |

- b) two seated

Either the front seat or the rear seat may be designated as seat of the pilot in command.

If the rear seat is to be designated it must be assured that all necessary operating items and instruments are installed and that the pilot in command has sufficient training in flying safely from the rear seat.

Max. load in both seats combined: 210 kg (462 lbs.)

Max. load in the front seat: 105 kg (231 lbs.)

Exception: The load in the front seat may be max. 110 kg (242 lbs.) with the load in the rear seat not exceeding 90 kg (198 lbs.)

Max. load in the rear seat: 110 kg (242 lbs.)

Min. cockpit load in the front seat is the min. cockpit load see a) minus 40% of the load in the rear seat. This means that 10 kg (22 lbs.) in the rear seat replaces 4 kg (8.8 lbs.) missing cockpit load in the front seat.

With these loads, the C.G. range given under 6.8 will be kept in the limits if the empty weight C.G. is in its limits. See loading chart in sect. 6.8.

Caution:

With lower pilot weights lead ballast must be added to the seat.

Ballast put on the seat (lead ballast cushion) must be fastened at the safety belt anchor point.

Option: Provision for removable trim-ballast in the front cockpit see sect 7.17.1.

Note: For Australia the lower limit for the min. load in the cockpit should not exceed 66 kg (146 lbs.). A provision for removable ballast see sect. 7.17.1 is mandatory.

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2.13 Minimum equipment

As minimum equipment only the instruments and equipment specified in the equipment list (see maintenance manual) are admissible.

Note: The actual equipment list is filed in the enclosures of the maintenance manual.

a) Normal operation

Airspeed indicator Range: 0-300 km/h (0-165kts.);

Speed range markings see sect. 2.3

Altimeter Range: 0 – min. 10.000 m,

(for altimeter in imperial units min. 20000 ft.)

Altimeter with fine range pointer, 1 turn max. 1000 m (3000 ft.)

Magnetic compass (compensated in the aircraft)

Four piece symmetrical safety harness

VHF - transceiver (ready for operation)

Engine speed indicator, Fuel quantity indicator, Cylinder head temperature indicator, Engine elapsed time indicator (counts as long as the engine is running):

These 4 indicators are incorporated in the DEI-NT. Markings and display of the limitations see sect.2.5

Outside air temperature gauge: with probe in the fuselage nose, also incorporated in the DEI-NT.

Rear view mirror

Safety bow 10L35/1 in the fin battery box if no battery is installed.

(description see section 4.2.5).

Parachute automatic or manual type or a suitable firm back cushion approximately 8 cm (3 in.) thick for the front seat and 3 – 8 cm (1 – 3 in.) thick for the rear seat

Required placards, check lists

Flight and maintenance manual.

b) In addition for cloud flying

(Not permitted in Canada and Australia)

Variometer

Turn and bank indicator

c) In addition for aerobatics (Category Aerobatic)

Accelerometer capable of retaining max. and min. g-values with markings red radial lines at +7 g and -5 g.

Note: Experience has shown that the installed airspeed indicator system may be used for cloud flying.

4.2.5 Installation of a battery in the fin

A battery in the fin may be installed optionally.

To accomplish the installation the locking bow (part 10L35 made from piano wire) must be removed. The locking bow prevents the installation of a battery and serves as indicator if a battery is installed, as its ends are visible from the outside.

After removing the battery reinstall the locking bow.

Warning: The fin battery raises the min. cockpit load see section 6.8.4.

Only the use of the factory supplied battery Z110 (mass 5.5 kg, 12.1 lbs.) is permitted. Don't put any other objects in the battery box.

4.2.6 Refuelling

Fuel is transferred via a permanently installed refuelling pump from a can where the correct amount of oil is added and mixed prior to filling.

Oil: Use only super two stroke oil according to section 2.6

Switch on the main switch of the aircraft and extend the engine.

Couple the fuel filler hose to the fuselage side coupling (in left hand front side of the engine compartment).

Start the pump by pressing the push button located next to the coupling. As soon as the fuselage tank is full a built in device automatically switches off the pump. If you want to interrupt or to stop the filling procedure before the tank is full press again the push button.

Starting the pumping again is possible by pressing the push button again.

Warning: Make sure to fill in clean fuel without any water.

4.2.7 Derigging

Derigging follows the reverse of rigging.

Waterballast must be dumped first.

Lock the airbrakes.

For disassembling the securing pins of the wings the tool W 38/2 must be screwed into the thread completely.

The brass part of the tool will then disengage the securing of this bolt.

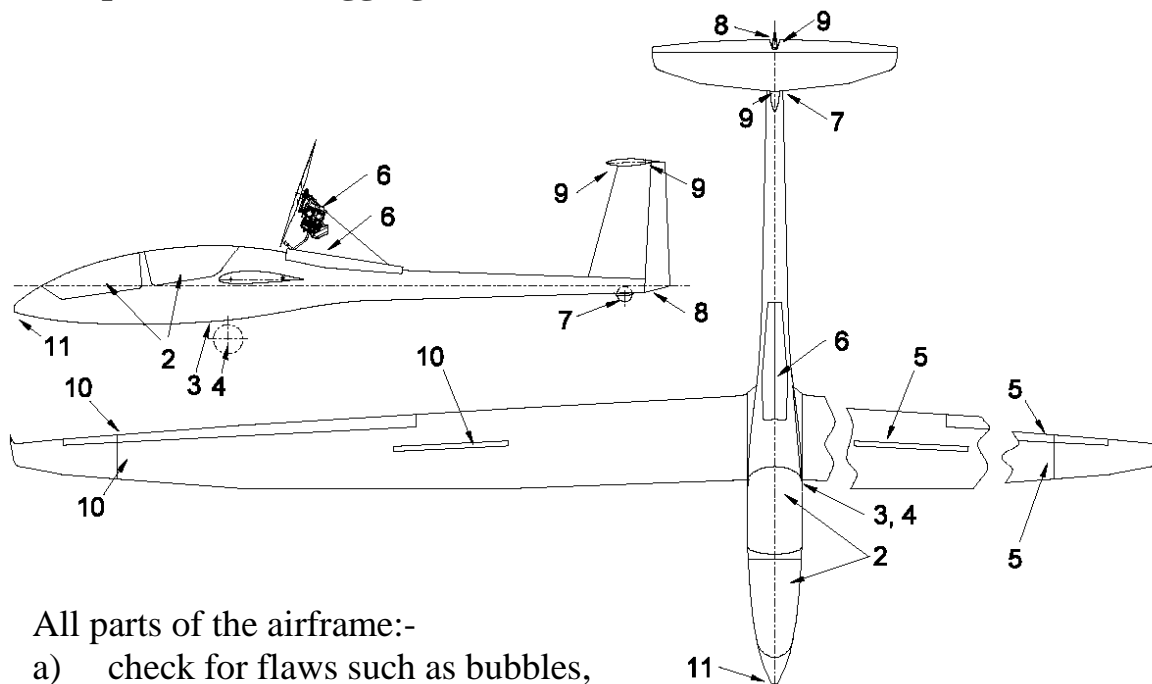
It is recommended to leave the securing pin in the right wing while you derig the left wing.

Derigging of the outboard wing panels (20m wing extensions or 18 m wing tips):

Use a 6 mm diameter pin (e.g. tool W36) for pressing in the locking pin on the wing's upper surface. Pull out the wing tip or the wing extension.

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B Inspection after rigging - Walk around the aircraft



1. All parts of the airframe:-
 - a) check for flaws such as bubbles, holes, bumps and cracks in the surface;
 - b) check leading and trailing edges of the wings and control surfaces for cracks;
2. Cockpit area:-
 - a) check the canopy locking mechanism;
 - b) check the canopy emergency release see section 7.16 (not each day, but min. every 3 month);
 - c) check the main pin securing;
 - d) check all controls for wear and function, incl. positive control check; check if the handle of the pedal adjustment cable will be pulled to the front so that it can't hook into the trim release lever at the control stick, even with pedals in a rear position;
 - e) check the tow release system for wear and function incl. cable release check;
 - f) check for foreign objects;
 - g) check the instrumentation for wear and function;
 - h) Switch on main switch, check the radio and other parts of the electric system (fuses!) for function;
 - i) check the engine controls
 - j) check all fuses
 - k) check the extension-retraction mechanism by operating it in both directions. The extension time should not exceed 13 seconds!
 - l) extend the engine
 - m) check the fuel filter for dirt or sludge, the filter is located in the baggage compartment.
 - n) check the fuel level by looking at the DEI and directly at the tank;
 - o) check if the fin tank is empty

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4.5.11 Aerobatics

Caution: The DG-1000T is a high performance motorglider. Therefore the speed increase in the dive, especially in inverted flight is high.

Training aerobatics therefore should only be executed after a rating with an experienced pilot, or if you can master the manoeuvres on other motorglider types.

In any case don't try to execute the manoeuvres with entry speeds other than those listed.

Caution: Do not make full or abrupt control movement above the manoeuvring speed $V_A=185$ km/h (100 kts.). At speeds between V_A and $V_{NE}=270$ km/h (146 kts.) reduce the control movements accordingly. At V_{NE} only 1/3 of the max. control movements are allowed.

4.5.11.1 Category U, Utility

Warning: Execute only the approved manoeuvres.

Approved manoeuvres valid for all spans, but only without waterballast, powerplant retracted or removed and with the weight of the rear pilot compensated by ballast in the ballast box in the fin see section 6.8.7.

Approved manoeuvres	Entry speed	g-loads
Spin	/	/
Inside loop	180 - 200 km/h (97 - 108 kts)	4.0
Chandelle	180 - 200 km/h (97 - 108 kts)	3.5
Lazy Eight	180 - 200 km/h (97 - 108 kts)	3.5
Stall turn	200 - 220 km/h (108 - 119kts)	4.0

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5.2.2 Stall speeds

The given speeds are the minimum achievable speeds during level flight in km/h and (kts.).

Airbrakes retracted 20m span

mass kg	470	500	550	600	650	700	750
mass lbs.	1036	1102	1213	1323	1433	1543	1653
W/S kg/m ²	26,8	28,5	31,4	34,2	37,1	39,9	42,8
W/S lbs./ft. ²	5.5	5.84	6.43	7.01	7.59	8.18	8.76
V km/h	62,9	64,9	68,0	71,1	74,0	76,8	79,5
V kts.	34	35	36.7	38.4	40	41.5	42.9

Airbrakes retracted 18m span

W/S kg/m ²	28,1	29,9	32,9	35,9	38,9	41,9	44,9
W/S lbs./ft. ²	5.76	6.12	6.43	7.35	7.96	8.57	9.18
V km/h	64,4	66,4	69,7	72,8	75,8	78,6	81,4
V kts.	34.8	35.9	37.6	39.3	40.9	42.4	44

Airbrakes extended 20m span

mass kg	470	500	550	600	650	700	750
V km/h	67,4	69,5	72,9	76,2	79,3	82,3	85,1
V kts.	36,4	37,5	39,4	41,1	42,8	44,4	46,0

Airbrakes extended 18m span

V km/h	69,0	71,2	74,7	78,0	81,2	84,2	87,2
V kts.	37,3	38,4	40,3	42,1	43,8	45,5	47,1

The loss of height for stall recovery is approximately 50 m (160 ft) if recovered immediately. |

6.8 Loading chart

6.8.1 Cockpit load

see weighing report section 6.8.8.

a) single seated:

max. load in the front seat 110 kg (242 lbs)

min. load in the front seat see placard in cockpit and weighing report

b) two-seated:

max. cockpit load is 210 kg (463 lbs.) with a max. of 105 kg (231 lbs.) in the front seat or 110 kg (242 lbs.) in the front seat and 90 kg (198 lbs.) in the rear seat.

min. cockpit load in the front seat is the min. cockpit load see a) minus 40% of the load in the rear seat.

c) With these loads, the C.G. range given under section 6.8.8 will be kept in the limits if the empty weight C.G. is in its limits.

With lower pilot weight necessary ballast must be added in the seat or in the optional ballast boxes see below. Ballast put on the seat (lead ballast cushion) must be fastened at the connections of the safety belts.

6.8.2 Removable ballast for underweight pilots

Option: Ballast boxes in the front cockpit for removable ballast (trim weights), see section 7.17.1.

6.8.3 Baggage

max. 15 kg (33lbs)

Heavy pieces of baggage must be secured to the baggage compartment floor (screwing to the floor or with belts). The max. mass secured on one half of the floor (left and right of fuselage centre line) should not exceed 7,5 kg (16.5 lbs.). With the load added in the fuselage the max. load without waterballast (W.B.) (see weighing report section 6.8.8) must not be exceeded.

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6.8.8 Weighing report (for section 6.3)

Distances in mm, masses in kg -- 25.4 mm = 1 inch / 1 kg = 2.2046 lbs.

Date of weighing:						
Executed by:						
Date of equipment list:						
wing span	18m	20m				
Empty mass						
Empty mass C.G.						
Max. mass without W.B.						
Cat. U						
Cat. A	630	/				
Max. load without W.B.						
Cat. U						
Cat. A						
max. mass with WB						
max. useful load with W.B.						
min. cockpit load YY (kg)						
min. cockpit load XX (kg)						
min. cockpit load ZZ (kg)						
max. load in both seats	210	210				
Inspector, signature, stamp						

W.B.= waterballast

YY= ZZ + 16kg= min. load in front seat for solo flying with fin ballast box empty with fin battery.

XX= YY+35= min. load in front seat for solo flying with fin ballast box filled with fin battery.

ZZ= min. load in front seat for solo flying with fin ballast box empty and without fin battery.

Weighing was executed with: no battery in the fin

tailwheel with: plastic hub

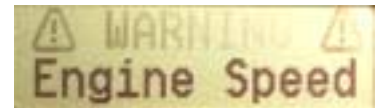
brass hub (see section 0)

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Warning messages:

Upper line displays "Warning " and is blinking, 2. line displays:

- "Canopy Open!" = rear canopy not locked
- "Spoiler" = airbrakes not locked, this warning is displayed only prior to and during take-off and will not be displayed when airbrakes are unlocked during the flight
- "Raise Gear" = Landing gear should be retracted, appears 4 minutes after take-off in case the landing gear is still extended
- "Landg. Gear " = Landing gear warning when airbrakes are unlocked and the landing gear is still retracted
- "Stall" = Stall warning appears simultaneously with the acoustically or tactile stall warning.
- "Low Battery" = Battery voltage permanently below 11V
- "Battery Overch." = Battery voltage permanently above 14,7V
- "Switch Error" = wrong sequencing of switches during powerplant extension
-> automatic retraction will be switched off
- "CBox OvrTemp" = Starter motor control in control unit above temperature limit
- "CHT OverTemp" = CHT above max. certified value
- "Water Freeze" = OAT below +2°C
- "Low Fuel" = low fuel level
- "Engine Speed" = Engine RPM above max. certified value.
- "Starter Run" = Starter motor didn't disengage and produces electric power, stop the engine immediately to prevent damage of the electrical system. This message can't be deleted by pushing the selector knob.
- "Main Switch" = Reminder to switch off the main switch (from software version 1.7 on).
- **Only with TNDG-G-09 executed:** "Open Fuel! " = Fuel cock not fully opened. Warning appears when ignition will be switched on.



Explanation for failure messages

Spindle Fuse:

The re-settable fuse for the spindle drive may be blown in the following cases:

- a) The propeller hub hooks during extension at the engine doors.
- b) The limit switch in position engine extended or retracted is not operated.

As soon as the fuse is blown the Control Unit changes to manual extension-retraction mode and thus cuts off the electric power to the spindle drive and reports the failure to the DEI-NT.

After the cool-down time (approx. 10sec.) the message disappears and the symbol for manual operation (hand) will be displayed on the screen.

You may reactivate the automatic operation by operating the ignition switch, even during the cool-down time.

Case a) Retract the powerplant again manually, then try to extend the engine again..

Case b) Retract the engine manually a little and then try to extend the powerplant manually up to its operating position.

7.15 Pitot and static system

see diagram 8 M.M.

Pitot probe in fuselage nose, static ports a short distance behind fuselage nose. The airspeed indicator and the altimeter are to be connected to these ports and probe.

Probe (PC) for the stall warning device below the fuselage nose.

Additional holder for a TE-probe or a Multiprobe in the fin is to operate variometer and flight computer systems. To preserve the sealings inside the holder, the end of the probe should be greased with e.g. Vaseline from time to time.

7.16 Canopies

To **jettison** the canopies in flight see section 3.2.

Removing a canopy:

Open the canopy, detach the retaining cable and if installed detach the gas strut from the front canopy. Then close the canopy and operate the red canopy emergency release handle (right) and the white-red canopy opening handle (left). Lift the canopy upwards.

Reinstalling a canopy:

Open emergency release and canopy locking levers. Place the canopy in vertical direction onto the fuselage. Close the emergency release. Open the canopy and snap in the retaining cable and the gas-strut (if installed).

Checking the canopy emergency release system:

- a) check with open front canopy if the gas-struts (if installed) can be disengaged from their ball fittings (from canopy and from fuselage). Grease the ball fittings.
- b) check with closed canopy if the emergency release handle can be operated and if the canopy can be removed easily, resp. if the canopy will be lifted by the gas-strut. Grease the locking pins.

7.17.4 Heavy tailwheel

Instead of the standard tailwheel with plastic hub S23 a tailwheel with brass hub S27/1 may be installed. The installation kit S27/4 is available at DG Flugzeugbau.

The difference in mass between both hubs is 3.1 kg (6.84 lbs.). With the brass hub the min. front cockpit load is increased by 8.5 kg (18.74 lbs.). This higher value must be entered in the cockpit data placards and on page 6.7. Even if the heavy tailwheel is installed only sometimes, the higher min. cockpit load must be entered.

7.17.5 Battery in the baggage compartment with battery selector switch

An additional battery Z01 may be installed in the baggage compartment. In this case a battery selector switch must be installed in the front instrument panel.

Selector positions:

up = internal battery centre position = off down = additional batteries

Preferably the gliding computers and loggers shall be connected to this switch.

The battery fuse is installed at the battery, type: G fuse 250 V 5 x 25 medium slow / 4 A resp. G fuse G 250 V 5 x 20 / 4 A fast for batteries produced from mid of 2002 on.

7.17.6 Battery in the fin

A battery may be installed in the fin.

Section 4.2.5 and the loading chart see section 6.8.4 must be regarded.

Only the use of the factory supplied battery Z110 (12 V, min. 12 Ah, mass 5.5 kg, 12.1 lbs.) is permitted.

The battery fuse is installed at the battery, type: G fuse 250 V with indicator 5 x 25 medium slow / 4 A resp. G fuse G 250 V 5 x 20 / 4 A fast for batteries produced from mid of 2002 on..

The wiring for this battery is in parallel to the battery in the baggage compartment

7.17.7 Radio installation with automatic commutation

If the factory approved radio installation set is installed, the radio will be switched automatically from "normal" mode to "engine on" mode with the engine extended. With "normal mode" only the goose neck microphones are working.

With "engine on" mode the intercom system is working. Only the microphones of the headsets are working.

The loudspeaker and the speakers of the headsets are working together in both modes.

4.5.12.3 Resetting the emergency extension system for normal operation

After an emergency extension the system must be reset for normal operation. To accomplish this you must pull one of the 2 emergency extension handles and simultaneously switch the toggle switch down. The centre (red) and the lower green LED will shine.

Switch and handle must be operated until the centre LED stops shining and only the lower green LED continues shining. The spindle drive will then stop operating, then let go handle and switch

Thereafter you may retract the landing gear again according to section 4.5.12.1.

4.5.12.4 Part extension and retraction for inspection and servicing

The retraction may be stopped by switching the toggle switch down,

The extension may be stopped by switching the toggle switch up and pressing simultaneously the press button.

Only the red LED will shine.

For any service work switch off the main switch!

With the procedures described in section 4.5.12.1 you may retract or extend the landing gear again.

4.5.12.5 Precautionary measures against retracting the landing gear while on the ground

If the glider is resting on the main landing gear the landing gear should not be retracted, as retraction will result in damage of the landing gear. To minimise the risk of such operating error the following safety features have been incorporated:

1. If the toggle switch is switched up, nothing will happen.
2. If the toggle switch is switched up and the press button is pressed 1 time a warning tone will sound (only in case a buzzer is installed), otherwise, nothing will happen.
3. The landing gear will be retracted only if one of the following procedures will be used:
 - a) Hold the toggle switch switched up and press the press button 2 times within 2 seconds.
 - b) Hold the press button pressed and switch up the toggle switch 2 times within 2 seconds.

Caution: If you leave the DG-1000 unattended switch off the main switch to prevent any operating error.