Rev. No.	Affected Pages/ section	Description	Issue Date	EASA Approval Date
16	Title, 0.0, 0.2a, 0.3, 0.4, 0.5, 1.2, 1.4 - 1.6, 2.7, 2.15, 4.3, 5.4, 6.3, 6.9	TN1000/45 Manual revision, raised max. TOW, optional 20 m wing tips with neo Winglets	October 2021	8th June 2022
17	0.2a, 0.3, 0.4, 2.8, 4.25, 4.27, 4.28	TN1000/49 Manual revision, permitted aerobatic manoeuvres Cat. A	June 2023	approval under the authority of DOA Ref. EASA.21J.780 13 June 2023
18	0.2a, 0.3, 0.4, 1.5, 2.5, 4.6, 4.12-4.14	SI 116-25 Propeller adapter	May 2025	approval under the authority of DOA Ref. EASA.21J.780 12 May 2025
19	0.2a, 0.3, 0.4, 1.5, 2.5, 4.6, 4.9, 4.10, 4.12 - 4.14	TN1000/52 Safety pins for propeller adapter with elastomeric damper element	August 2025	30 Sep. 2025

0.2 List of effective pages

Section		page	issued	replaced	replaced	replaced	replaced
0		0.0	July 2005	July 2017			
		0.1	see manual amendments				
		0.2		"			
		0.2a		"			
		0.3		"			
		0.4		"			
		0.5		"			
		0.6		"			
		0.7	July 2005				
1		1.1	"				
		1.2	"	Oct. 2021			
		1.3	"				
		1.4	"	Febr. 2011	Febr. 2016		
		1.5	"	Jan. 2007	Oct. 2014	Febr. 2016	May 2025
				Aug. 2025			
		1.6	"	Jan. 2007	Febr. 2016		
2	App.	2.1	July 2005				
	"	2.2	"				
	"	2.3	"				
	"	2.4	"				
	"	2.5	"	Jan. 2007	Oct. 2021	May 2025	Aug. 2025
	"	2.6	"	Febr. 2011	July 2019		
	"	2.7	"				
	"	2.8	"	Febr. 2016	June 2023		
	"	2.9	"	Oct. 2014			
	"	2.10	"	Febr. 2016			
	"	2.11	"	Jan. 2007	May 2008	Febr. 2011	Oct. 2014
	"	2.12	"	Jan. 2007	Oct. 07	Febr. 2011	Oct. 2021
		2.13					
		2.14		Jan. 2007			
		2.15		Jan. 2007	Febr. 2016		
3	"	3.1	July 2005				
	"	3.2	"				
	"	3.3	"	Jan. 2006			
	"	3.4	"				
	"	3.5	"				
	"	3.6	"				
	"	3.7	"				
	"	3.8	"				

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	Febr. 2016	Oct. 2021	
	"	4.4	"				
	"	4.5	"	Febr. 2011			
	"	4.6	"	Oct. 2007	Febr. 2011	Oct. 2014	Febr. 2016
				May 2025	Aug. 2025		
	"	4.7	"	Febr. 2011			
	"	4.8	"	Oct. 2014	July 2019		
	"	4.9	"	Febr. 2008	Febr. 2011	July 2017	Aug. 2025
	"	4.10	"	Febr. 2011	Aug. 2025		
	"	4.11	"				
	"	4.12	"	Oct. 2007	July 2017	May 2025	Aug. 2025
	"	4.13	"	Jan. 2007	Oct. 2007	Febr. 2011	May 2025
				Aug. 2025			
	"	4.14	"	Febr. 2011	Aug. 2015	May 2025	Aug. 2025
	"	4.15	"				
	"	4.16	"	Jan. 2007			
	"	4.17	"	Jan. 2007	Febr. 08	Febr. 2016	
	"	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	Febr. 2016	June 2023	
	"	4.26	"				
	"	4.27	"	June 2023			
	"	4.28	"	June 2023			
	"	4.29	"	Febr. 2011			
5	"	5.1	July 2005				
	"	5.2	"	Febr. 2011			
	"	5.3	"	Jan. 2007			
	"	5.4	"	Oct. 2014	Febr. 2016	Oct. 2021	
	App.	5.5	"	Jan. 2007	Febr. 2016		
		5.6	"	Jan. 2007			
		5.7	"	Jan. 2007			
		5.8	"	Jan. 2007			
		5.9	"				

Powerplant and powerplant controls

Warning: Due to reported incidents, where the propeller parted from the hub, the power plant in the DG-1000T **must not** be used without safety pins in the propeller adapter ring (10 M 067 version a or older). However, the DG-1000T can still be used as a pure glider (see SI 116-25).
The power plant of the DG-1000T may be used again after the modification of the propeller adapter ring with 2 safety pins (10 M 067 version b or newer, see TN1000/52).

- 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	17,2	18 / 59.1	20 / 65.62
Wing area	m² / ft²	16,3	16,72 / 180	17,53 / 189
Aspect ratio	/	18,15	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 horiz. tailplane	m / ft		3,2 / 10.5	
Waterballast Wings max.	kg (l) / US.gal		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	457 / 1007	461 / 1016	465 / 1025
Wing loading (with one Pilot 80kg / 176 lbs) approx.	kg/m² / lbs/ft²	32,9 / 6.75	32,4 / 6.64	31,1 / 6.37
max. take-off mass (max. TOW)	kg / lbs	750 / 1653	750 / 1653	790 / 1742
max. wing loading	kg/m² / lbs/ft²	46,0 / 9,4	44,9 / 9.2	45,1 / 9.24
Aerobatics		unlimited Category „A“	unlimited Category „A“	simple
max. TOW for aerobatics (cat. A)	kg / lbs	630 / 1389	630 / 1389	/
max. speed	km/h /kts	270 / 146	270 / 146	270 / 146

Powerplant 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
	m / ft	1,48 / 4.86

2.4 Power plant

Warning: Due to reported incidents, where the propeller parted from the hub, the power plant in the DG-1000T **must not** be used without safety pins in the adapter ring (10 M 067 version a or older). However, the DG-1000T can still be used as a pure glider (see SI 116-25). The power plant of DG-1000T may be used again after modification of the propeller adapter ring with 2 safety pins (10 M 067 version b or newer, see TN1000/52).

Engine manufacturer:	Solo Kleinmotoren Sindelfingen/Maichingen Germany		
Engine model:	Solo 2350C 2 cylinder air-cooled two stroke engine		
Maximum power:	Take off:	22 kW	(30 hp)
	continuous:	20 kW	(27 hp)
Max. engine RPM:	6500 RPM		
Max. continuous RPM:	6100 RPM		
Max. cylinderhead temperature:		270°C	(518°F)
With Poly-V belt	reduction gear	1:2,3	
Propeller:	Diameter	1.48 m (4.86 ft)	
Manufacturer:	DG Aviation GmbH, Germany		
Model:	DG-P001-1		

2.5 Power plant instrument markings (on DEI-NT, DEI=digital engine indicator)

Caution: If the DG-1000T is to be operated as a pure glider according to the warning in section 2.4, INOP-placards must be installed to the engine instruments according to SI 116-25.

Power plant instrument markings and their significance are shown below:

Engine speed indicator:
On centre of the DEI-NT display, indication digital with 4 digits, limitation data printed above display:

green	6100	max. continuous RPM
yellow	6100 – 6500	caution range
red	6500	max. RPM

Max. continuous RPM:
When exceeding this RPM a blinking "Hi" appears at the left hand side of the RPM.

Max. RPM:
When exceeding this RPM a full screen warning "Engine Speed" appears, when this warning has been confirmed (by pushing the selector knob at the right hand side of the display) the engine speed display is blinking whilst the engine speed is above max. RPM.

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

Caution: If the DG-1000T is to be operated as a pure glider according to the warning in section 2.4, the fuel tank must be emptied according to SI 116-25.

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.
Water ballast 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 or 17,2 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.

3. C.G. Tow hook:-
   a) check the ring muzzle of the C.G. hook for wear and function;
   b) check for cleanliness and corrosion;
4. Main landing gear and nose wheel (if fitted):-
   a) check the struts, the gear box, the gear doors and the tyre for wear; dirt in the struts can hinder the landing gear from locking over centre the next time!;
   With TN1000/13 executed, standard from ser. no. 10-133 on:
   Check all parts of the landing gear positive locking device (notch and latch at the landing gear struts) for dirt. Check the Bowden cable for damage.
   b) check the tyre pressure;
   main wheel: 2.5 bar - 36 psi
   nose wheel: 2.5 bar - 36 psi
   c) check wheel brake and hose for wear and function;
5. Left wing:-
   a) check locking of the outboard wing;
   b) check the aileron for excessive free play;
   c) check airbrake- and box and control rod for wear and free play. It must be possible to retract the airbrake, even if it is pressed backwards in direction of flight. If there is any water in the airbrake box this has to be removed;
   d) check the locking of the rear wing attachment pin.
6. Powerplant and brake fluid level (Extend the powerplant via the manual switch, ignition off):-
   a) all screwed connections and their securing
   b) function of throttle, and propeller brake
   c) ignition system incl. wires and the spark plug connectors for tight fit
   d) Check drive belt for wear and correct tension, sudden loss of tension indicates damage of the engine assembly
   e) engine retaining cable and its connections in the engine compartment and at the engine
   f) fuel lines, electrical wires, bowden cables and structural parts for wear and kinks.
   g) exhaust muffler, propeller mount, cooling air guides, mechanical fuel pump and accessories for tight fit and any cracking.
   h) apply strong pressure to the propellermount in forward, backward and sideward directions to check if the bolted connection between the engine block and the propeller mount or anything else is loose or damaged. Check the rubber engine mounts also.
   i) visual check of the propeller
   j) turn the propeller 1 revolution by hand and listen for abnormal sounds which may indicate engine damage
   k) Apply forward and backward loads on one of the propeller tips and simultaneously check the rubber on the back side of the propeller adapter ring for cracks and detachments. Check whether the safety bolts of the adapter ring touch the outer ring of the propeller adapter under load or have left wear marks on it.

l) check the brake fluid level, the reservoir is installed in the front of the engine compartment.
m) drain condensed water from the fuel tank. The drainer is located in the main wheel box on the rear wall on the right hand side.
n) check the outlet of the fuel tank ventline for cleanliness, the outlet is located behind the landing gear box.
o) check if the propeller-stopper will be pressed forward by its gas-strut, the powerplant must be in the position propeller-stopper extended for this check.

7. Tail wheel:-
   a) check for wear, free play and excessive dirt in the wheel box. Remove excessive dirt prior to take off;
   b) check tyre pressure: 4 bar -58 psi;
8. Rear end of the fuselage:-
   a) check the lower rudder hinge and the connection of the rudder cables for wear, free play and correct securing;
   b) check the bulkhead and fin trailing edge shear web for cracks and delamination;
9. Fin - horizontal tail:-
   a) check the upper rudder hinge for wear and free play;
   b) check the elevator for free play and correct control hook-up , look from the rear into the gap at the right hand side of the rudder;
   c) check the securing of the stabilizer;
   d) check the horizontal tail for free play;
   e) check the TE or Multiprobe for correct insertion and fix it with tape
   f) check the trim-weight box, correct number of weights, locking device completely engaged?

Caution: When changing the trim ballast check condition and correct gluing of the foam rubber rings to the mounting plate of the optical sensors in the trim-weight box. Without rings an indication error of the control lamp in the front instrument panel might occur. Replace missing rings according to Service Info 67-07(attached to the maintenance manual).

   g) check if a fin battery is installed: If the ends of the locking bow are visible on both sides in the fairings at the upper end of the fin this is the indication that no battery is installed.
10. Right wing see item 5.
11. Fuselage nose
   a) check the ports for the static pressure and the pitot pressure and for the PC pressure (at the lower fuselage side) for cleanliness.
   b) if the motorglider was parked in rain, you have to empty the static ports by sucking out the water at the ports.
   c) check the nose hook for cleanliness and corrosion.

4.5 Normal procedures and recommended speeds

4.5.1 Launch

Due to the towhook position being in the middle of the fuselage and the excellent effectiveness of the ailerons and rudder, the possibility of wing dropping or ground loops, even on a slowly accelerating aerotow is reduced. Take-off with strong crosswind is possible.

4.5.1.1 Aerotow

a) Aerotow is permitted only using the nose tow release. Set trim to neutral for aerotow.

b) Version with nose wheel: Pull the stick until the nose wheel lifts off from the ground. Then control the aeroplane so that nose wheel and tail wheel don't touch the ground.
Version without nose wheel: Keep the elevator in neutral position.
Don't try to lift off before you reach an airspeed of 80 km/h (43 kts.) (without ballast). On a rough airfield hold the control stick tight. The undercarriage can be retracted at safety height during the tow.
Normal towing speed is 120-130 km/h (65 - 70 kts.).
For a cross country tow the speed can be as high as 185 km/h (98 kts.).

Warning: Aerotow with high take-off weight requires a powerful tow plane. Many tow planes are not certified to tow gliders with high take-off weights. Reduce the take-off weight if necessary!

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The power plant of DG-1000T may be used again after modification of the propeller adapter ring with 2 safety pins (10 M 067 version b or newer, see TN1000/52).

Note: Aerotowing behind slow tow planes e.g. Ultralight planes or touring motorgliders:
The take-off distance may be remarkably reduced if the DG-1000T is towed with the engine extended and running at full power.
Recommended towing speed is 100km/h (54 kts.).

Starting the engine on the ground: extend the powerplant via the manual extension-retraction switch, start the engine in the same manner as described in section 4.5.4.1.

Warning: When extending the engine via the ignition switch the starter motor may start cranking the engine in case the starter switch got stuck. Caution at the propeller.

To ensure good communication with the tow pilot the use of a headset is recommended at least for the pilot in command.

Warnings:

1. Due to the shorter take-off distance, the aerotow with engine extended and running is safer than with engine retracted. Nevertheless, this take-off procedure is only permitted if the conditions are such that a tow with engine retracted will also be safe.
2. If the engine of the DG-1000T fails the tow must be terminated by releasing the towing cable, this procedure is applicable as long as the aircraft are still on the ground.

3. The DG-1000T pilot should keep his left hand at the throttle handle to enable him to close the throttle immediately in case the tow-plane terminates the tow (This is a standard procedure for powered aircraft pilots).
4. In case of termination of the tow when the DG-1000T is still on the ground close the throttle immediately, then release the towing cable and apply the wheel brake.
5. In case of termination of the tow when the DG-1000T is already in the air take the hand from the throttle, release the towing cable and continue the climb with full throttle. This is still applicable in case the tow plane remains on the ground.
6. If the tow is so fast that the DG-1000T engine may overspeed reduce the throttle as necessary. For a fast cross country tow the powerplant must be retracted.

4.5.1.2 Winch launch

Winch launch is only allowed using the C.G. tow hook!
Set the trim to neutral for winch launch.
Caution: During ground roll and initial take-off (especially when flying solo) push the control stick to a forward position to prevent excessive nose-up pitching rotation during initial take-off.

After reaching safety altitude gradually pull back on the stick, so that the glider will not pick up excessive speed. Don't pull too hard.
After reaching release altitude pull the tow release knob.

Recommended winch launch airspeed 110-130 km/h (60-70 kts.).
Caution: Do not fly at less than 90 km/h (49kts.) or not more than 150 km/h (81 kts.).
Warning: Winch launch with high take-off weight requires a powerful winch!

4.5.2 Free flight

Stalling characteristics (level and turning flight)
When stalled the DG-1000T will warn by buffeting. If the stick is pulled further the DG-1000T will drop one wing.
Only at forward C.G. positions the DG-1000T can be flown in stall without wing dropping, maintain control during stalled flight only with the rudder, holding the ailerons neutral.
With stick forward and opposite rudder if required, the DG-1000T can be recovered without much loss of height. Rain does not influence this behaviour noticeably. The loss of height is approx. 50 m (160 ft).
Stall airspeeds see section 5.2.2.
Caution: Flights in conditions conducive to lightning strikes must be avoided.

4.5.3 Cruise engine on

4.5.3.1 General

The engine of the DG-1000T is not designed for continuous cruise with the engine. Due to the drag of the extended powerplant and as the propeller is designed for optimum climb performance, cruise with higher speed is not efficient.
The optimum cruise is with the so called sawtooth technique. After climb with Vy retract the engine and glide with airspeed according to the Mc Cready theory, flying slowly in lift and faster in sinking air.
The medium cruise speed achieved by sawtooth technique is not much less than for level engine on cruise, but the range will be 1.5 times longer.
Performance data see sect. 5.3.5.
Warning: if there is a problem with the elastic damper element of the propeller adapter, the power plant may oscillate around its vertical axis with low frequency (1-10 Hz). If such oscillations start, switch off the ignition immediately. Report to DG Aviation prior to next engine use.

4.5.4 Powerplant extension-retraction in flight

Warning: Due to reported incidents, where the propeller parted from the hub, the power plant in the DG-1000T **must not** be used without safety pins in the adapter ring (10 M 067 version a or older). However, the DG-1000T can still be used as a pure glider (see SI 116 25). The power plant of DG-1000T may be used again after modification of the propeller adapter ring with 2 safety pins (10 M 067 version b or newer, see TN1000/52).

4.5.4.1 Extension and starting the engine in flight

1. With the engine extended but not running the rate of sink at 90 km/h (49 kts) increases to 1.5 m/sec. (300 ft/min.).
   Therefore restarting the engine should only be done over landable terrain and not below 400 m (1320 ft) above ground. But it is better to restart the engine at 200 m (660 ft) over a landable field rather than at 400 m (1320 ft) over a forest or unlandable scrub.
   Should a flight be conducted over a wide expanse of unlandable terrain, the engine should then be restarted at 1000 m (3300 ft) above ground level so that if the engine does not start, all the emergency starting procedures can be followed unhurriedly including retraction of the engine if necessary.
2. In a normal restarting situation the loss of altitude from starting the extension procedure until the engine is running is only about 20 m (70 ft).
3. Extension: Fly at 80-90 km/h (43-49 kts). Check if the primer switch is in the “auto” position and if the fuel cock is open.
   Throttle on idle, switch on the ignition. The engine will extend by itself. You may press the starter button before the engine is extended completely. The starter motor will start the engine as soon as the powerplant is extended.
   When the engine fires, release the starter button and move the throttle slowly to full throttle.
   In case of starting problems see sect. 4.5.4.3.

Warning: If after starting the engine the failure message "Starter Run" will be displayed, the starter motor didn’t disengage and produces electric power, stop the engine immediately to prevent damage of the electrical system.