# DG Flugzeugbau GmbH Flight manual DG500 M

Rev.	Affected pages /	Description	Issue	EASA	Inserted
No.	section		Date	Approval	Date
				Date	Signature
10	0.2 - 0.5, 4.8 -	TN500/13	July	17.09.	
	4.10, 7.1, 7.18	Canopy lock,	2019	2019	
		rear locking rods			

0.2 List of effective pages

U.z Se	z Lis	page	tive pages issued	Replaced/	replaced/	replaced	replaced
0		0.0	April 89		I	<b>F</b>	Торгасов
•		0.1 -		of revisions			
		0.2	"				
		0.3	"				
		0.4	"				
		0.5	"				
		0.6	April 89				
1		1.1	April 89				
		1.2	Febr. 91				
		1.3	April 89				
		1.4	"				
		1.5	"				
		1.6	"				
2	App.	2.1	"				
	"	2.2	"				
	11	2.3	"				
	11	2.4	"				
	11	2.5	"				
	"	2.6	"	Febr.92/	Febr.96/	March 97	
	11	2.7	"				
	"	2.8	"	Febr.96	May 08		
	11	2.9	"				
	"	2.10	"	Febr.96	July 2017		
	"	2.11	"				
3	"	3.1	"	May 08			
5	11	3.2	"	May 08			
	11	3.3	"	1.11.			
	11	3.4	"	Sept.92	May 08		
	11	3.5	"	May 08	3		
	"	3.6	"	May 08			
	"	3.7	May 08	·			
4	"	4.1	April 89	May 08			
	"	4.2	"				
	"	4.3	"				
	"	4.4	"				
	"	4.5	"				
	"	4.6	"				
	"	4.7	"	<b>N</b> 00	T 1 2015	T 1 10	
	. "	4.8	"	May 08	July 2017	July 19	
	App.	4.9	"	July 2017	July 19		

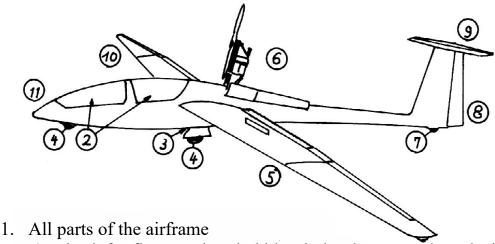
0.2 List of effective pages (cont.)

Section	1	Page	issued	replaced	replaced		replaced
4	App.	4.10	11	Febr.92	July 2017	July 19	
	11	4.11	April 89				
	**	4.12	April 89	Febr. 96			
	**	4.13	11	" "			
	**	4.14	"				
	**	4.15	"	Febr. 92			
	**	4.16	"				
	**	4.17	"	Febr. 92			
	"	4.18	"				
	"	4.19	"				
	"	4.20	11				
	**	4.21	11				
	**	4.22	11				
	**	4.23	"				
	**	4.24	11	July 2017			
	**	4.25	"	May 08	July 2017		
	"	4.26	"	J	•		
5	"	5.1	"				
	**	5.2	"				
	**	5.3	11				
	**	5.4	11				
	App.	5.5	11				
	• • •	5.6	11				
		5.7	11				
		5.8	"				
		5.9	11	Febr. 96			
		5.10	"				
6		6.1	"				
		6.2	"				
		6.3	11				
		6.4	11				
		6.5	"	Febr. 96			
		6.6	"	Sept. 92			
		6.7	"	Sept. 92			
		6.8	"	P > <b>-</b>			
		6.9	"	Febr. 96			

## 0.2 List of effective pages (cont.)

Section	page	issued	replaced	replaced	replaced	replaced
7	7.1	April 89	May 08	July 19		_
	7.2	11	Sept. 92	July 2017		
	7.3	11				
	7.4	11				
	7.5	11				
	7.6	11				
	7.7	"	Sept. 92			
	7.8	"	" ""			
	7.9	"				
	7.10	"				
	7.11	"	Aug. 90	Dec. 98	July 2017	
	7.12	"	_		•	
	7.13	11				
	7.14	11				
	7.15	11				
	7.16	11	May 08			
	7.17	"	Febr. 96			
	7.18	"	"	July 19		
8	8.1	"				
	8.2	"	Febr. 96	Jan. 01		
	8.3	11	July 2017			
	8.4	11	•			
	8.5	11				
	8.6	11	Febr. 96			
	8.7	"	Sept. 92			
9	9.1	April 89	May 10			
	9.2	May 10	3			
		•				

# B Inspection after rigging Walk around the aircraft



- 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 sect. 7.15 (not each day, but min. every 3 month)
- c) check the main pin securing check the securing ropes of the headrest in the rear cockpit for wear and function and length: is it possible that the headrest interferes with the control stick?
- 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 and radio for wear and function
- h) check the brake fluid level
- i) check at front and rear canopy if the end of the rear locking rod doesn't protrude over the canopy frame contour with opening mechanism in fully open position.
  - If the rod protrudes over the contour proceed with instruction 3 of TN 1000/42.
- j) Option Canopy warning: Check if with front canopy locked and rear canopy open a warning burr appears. If not you have to exchange the battery, see section 7.16.6.

- k) check the fuel filter for dirt and sludge
- 1) check the engine controls
- m) check all fuses including the battery fuse
- n) check the extension-retraction mechanism by operating it in both directions. The extension time should not exceed 13 seconds!
  Note: If the mechanism can't be operated with the ignition switch or with the manual switch, check the circuit breaker.
- o) extend the engine with the manual switch
- 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
  - 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 center the next time!
  - b) check the tyre pressure mainwheel: 3.0 bar - 44 psi nose wheel: 2.5 bar - 36 psi
  - c) check wheel brake and cable for wear and function
- 5. Left wing
  - a) check locking of the outboard wing
  - b) check the aileron for excessive free play
  - c) check the wing flaps for excessive free play
  - d) 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 in backward direction. If there is any water in the airbrake box this has to be removed.
  - e) check the locking of the rear wing attachment pin
- 6. Power plant checks

Extend the powerplant via the manual switch (ignition off).

- a) all screwed connections and their securing
- b) function of throttle and propellerbrake
- c) ignition system incl. wires and the spark plug connectors for tight fit
- d) toothed belt for wear and correct tension, sudden loss of tension indicates damage of the engine assembly see item h)
- e) engine restraining cables and their connections in the engine compartment
- f) fuel lines, electrical wires, bowden cables and structural parts for wear and kinks
- g) exhaust muffler, intake muffler, engine mount and accessories for tight fit and any cracking, intake opening screens of intake muffler for dirt.

- h) apply strong forward pressure to the propeller mount, to check if the bolted connection between the propeller mount and the engine block are loose or damaged.
  - Check the mounting points of the two GFRP struts for free play. No free play is allowed.
- i) check cooling liquid level, refill if necessary
  - **Warning:** The hose clamp which secures the cap of the cooling liquid reservoir must be mounted so that the screwed joint is in the front to prevent the engine retaining cables catching the screwed joint.
- i) check the oil level for rotary valve drive
- k) check the cooling system and the oiling system for leaks, check the coolant hoses visually for leaks and any defects of the outer surface.
- 1) visual check of the propeller
- m) turn the propeller 1 revolution by hand listen for abnormal sounds which may indicate engine damage
- n) fuel level
- o) 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.
- 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
- 10. Right wing see detail 5.
- 11. Fuselage nose
  - a) check the ports for the static pressure and the pitot pressure for cleanliness.
  - b) if the sailplane 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

## DG Flugzeugbau GmbH Flight manual DG500 M

## **Section 7**

7.	Sailplane and systems description
7.1	Introduction
7.2	Airframe
7.3	Cockpit, cockpit controls and placards
7.4	Flight controls
7.5	Airbrake system
7.6	Landing gear system
7.7	Tow hooks
7.8	Seats and safety harness
7.9	Baggage compartment
7.10	Water ballast system
7.11	Powerplant
7.12	Fuel system
7.13	Electrical system
7.14	Pitot and static system
7.15	Canopies
7.16.2 7.16.3 7.16.4	
	Heavy tailwheel Canopy warning

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#### 7.16.3 Oxygen system cont.

## b) Installation of the oxygen equipment

To ensure a safe installation ask DG Flugzeugbau for an installation instruction. For the installation of the Dräger Höhenatmer E 20088 you will find an installation plan 5 EP 34 in the maintenance Manual.

#### 7.16.4 ELT Emergency Locator Transmitter

To ensure a safe installation ask DG Flugzeugbau for an installation instruction. For the Pointer Inc. ELT Model 3000 you will find an installation plan 5 EP 30 in the maintenance manual.

Caution: Concerning 7.16.3 and 7.16.4

The installation has to be accomplished by the aircraft manufacturer or by an approved service station and to be inspected and entered in the aircraft log book by a licensed inspector.

#### 7.16.5 Heavy tailwheel

Instead of the standard tailwheel with plastic hub a tailwheel with brass hub S 27/1 may be installed. The installation kit S 27/4 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 6.5. Even if the heavy tailwheel is installed only sometimes, the higher min. cockpit load must be entered.

## 7.16.6 Canopy warning

Optionally a canopy warning device may be installed according to drawing 5EP36.

This device warns by a buzzer if the front canopy is locked and the rear canopy is still not locked or open. The buzzer is installed at the bow between front and rear canopy at the right hand side. The battery is a Lithium button cell 2430 3V/200m Ah. It is soldered and glued to the buzzer.

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