

## Flight manual DG-1000S

### 8 Sailplane handling, care and maintenance

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## **Flight manual DG-1000S**

### **8.1 Introduction**

This section contains manufacturer's recommended procedures for proper ground handling and servicing of the sailplane. It also identifies certain inspection and maintenance requirements which must be followed if the sailplane is to retain that new-plane performance and dependability. It is wise to follow a planned schedule of lubrication and preventive maintenance based on climatic and flying conditions encountered.

### **8.2 Inspection period, maintenance**

The "Instructions for continued airworthiness" (maintenance manual) for the DG-1000S have to be followed.

- A Before each rigging all the connecting pins and bushes should be cleaned and greased. This includes the control connectors.
- B The contact surfaces of the canopies to the fuselage are to be rubbed with colourless floor-polish (canopy and fuselage side) to reduce grating noise in flight. Polish at the beginning of the flight season and then every month.
- C Once a year all the bearings and hinges should be cleaned and greased. See the greasing programme of the maintenance manual.  
Each year the control surface displacements, adjustments and general condition must be checked. (See the maintenance manual).

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### 8.3 Alterations or repairs

It is essential that the responsible airworthiness authority be contacted prior to any alterations on the aeroplane, to ensure that the airworthiness of the sailplane is not impaired. It is prohibited to execute the alteration without the approval of the airworthiness authority. The manufacturer will not be liable for the alteration or for damages resulting from changes in the characteristics of the aircraft due to alteration. So it is strongly recommended to execute no alternatives which are not approved by the aircraft manufacturer.

External loads such as external camera installations are to be regarded as alterations! Repair instructions can be found in the DG-1000S repair manual. No repairs should be carried out without referring to the manual.

### 8.4 Tie Down, Parking

Use textile ropes or straps to tie down the wing tips. The fuselage should be tied down just ahead of the fin.

Water ballast can be left in the wings for a few days only, but not when there is the possibility of freezing! On sunny days the cockpit should be closed and covered.

**Note:** Longer parking with exposure to sun and humidity will cause premature ageing of the external surfaces of your sailplane.

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### 8.5 Transport

It is recommended to carry this valuable sailplane in a factory approved closed trailer.

Approved fitting points:

#### Inner wing panels:

- Wing spar as close to wing rootrib as possible or a rootrib wing cradle.
- A wing cradle at the taper change.

#### Horizontal tailplane and outboard wing panel:

- Cradles as desired

#### Fuselage:

- A felt lined fibreglass nose cap which does not extend over the canopy, secured to floor.
- Fuselage dolly in front of the undercarriage
- Tail wheel-well in trailer floor. Secure fuselage with a belt in front of the fin or hold it down with the trailer top (soft foam in top).

All aircraft structures should not be subject to any unusual loads. With high temperatures that can occur inside trailers, these loads in time can warp any fibre reinforced plastic sailplane.

The trailer should be well ventilated so as to prevent moisture build up which could result in bubbles forming in the gelcoat. A solar powered ventilator is recommended.

### 8.6 Towing on the ground

- a) by towing from the nose hook using a rope with the standard double ring approved for the release
- b) by using a tow bar which is fixed at the tail dolly and a wing tip wheel.

The tow bar and wing tip wheel may be ordered through the DG Flugzeugbau factory.

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### 8.7 Cleaning and Care

#### Exterior surfaces of the fibre-reinforced plastic parts

The surfaces are coated by a UP-gelcoat or Polyurethane paint (Option). This surface is protected by a hard wax coating which has been applied during production with a rotating disc ("Schwabbel" procedure). Do not remove the wax, because this would lead to shading, swelling and cracking of the surface. In general, the wax coat is very resistant. As soon as the wax coat is damaged or worn, a new coat has to be applied (see maintenance manual sect. 3.1). If you store your aircraft often outside, this may be necessary every half year!

#### Hints for care

- Wash the surface only with clean water using a sponge and chamois.
- The adhesive remains of tape may be removed with petroleum ether (pure petroleum spirit) which should be applied and removed immediately, otherwise this may lead to swelling of the gelcoat.
- More stubborn dirt which cannot be removed by washing may be cleaned off with silicone-free, wax containing car polishes (e.g. 1Z Extra, Meguiars in USA).
- Long-term dirt and shading can be removed by applying a new hard wax coat (see maintenance manual sect. 3.1).
- Never use alcohol, acetone, thinner etc.. Do not use detergents for washing!
- Protect the surface from intense sunlight.
- Protect the aircraft from water and moisture. See sections 8.4 and 8.5.
- Remove water that has entered and allow the aircraft to dry out.
- Never store your wet aircraft in a trailer.

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### **Plexiglas canopy**

- Use clean water and a chamois for cleaning.
- Stubborn dirt and small scratches can be removed by use of the "Schwabbel procedure" (see maintenance manual sect. 3.1).

### **Metal parts**

- The pins and bushes for rigging the aircraft are not surface protected and must be covered with grease at all times.
- The other metal parts, especially the control stick and all handles should occasionally be preserved with metal polishes.