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G 103 C TWIN III SL

PILOT'S OPERATING HANDBOOK

9.2 Table of Contents

Suppl. No.	Title	Reference	Pages	Rev.	LBA approved
1	<ul style="list-style-type: none"><li>• Installation of a manual control for the rudder</li><li>• Installation of a gate-stop device for the air-brake operating lever</li><li>• Modification of the engine operation</li></ul>	TM 869-14	S1.1 S1.2 S1.3	-	

### 9.1 General

Section 9 of this manual contains information regarding additional (optional) equipment for the motorglider GROB G 103 C TWIN III SL. Each supplement relates to a separate equipment item.

All approved supplements are listed in the table of contents of this section.

Ensure that all supplements relating to installed equipment are included in the Flight Manual.

## SUPPLEMENT 1

### Section 4

#### NORMAL PROCEDURES

#### 4.2 Rigging and De-Rigging

Installation of the manual control for the rudder and of the gate-stop device for the airbrake operating lever

1. Push the pushrod through the passage in the front seat shell.
2. Push the hand lever onto the tube-stump at the left side wall and secure it with screw and stop nut.
3. Join pushrod to the left pedal drive in the rear seat by means of a quick-lock. Check correct engaging of the quick-lock.
4. Engage pedals in the front seat right in the most forward position.
5. Check function of the rudder control.
6. Check function of the air brake control.
7. Install guide plate for the airbrake gate-stop device at the left side wall. Check function.
8. Placards present?  
(refer to Maintenance Manual Chapter 9.2)

Removal is in reverse order.

#### 4.4 Preflight Inspection

- Wing and horizontal stabilizer connections safetied ?
- Weight and balance checked ?
- Parachutes correctly fitted ?
- Safety harnesses on and fastened correctly ?
- Front seat: Pedals adjusted in the most forward position?
- Rear seat: Pedals adjusted and/or locked?
- Airbrakes locked after functioning check?
- Gate-stop device installed?
- Full and free movement of controls checked ?
- Flight controls checked with the help of a second person ?
- Hand lever for manual rudder control secured?
- Trim adjusted to the green mark ?
- Radio equipment set to local frequency ?
- Altimeter set ?
- Canopies closed and locked ?

#### **For a Tow Launch**

- Correct weak link in the towing cable ?
- Cable attached to correct hook ?
- Be aware: - crosswind !
  - cable break !

#### **For a Self Launch**

- Check engine in accordance with the manual !
- Check fuel quantity !
- Check magnetos; magnetos BOTH !
- Ground run up: for variable pitch prop. : 6200 to 6400 rpm ?  
for fixed pitch propeller: 6000 to 6300 rpm ?
- Propeller set to TAKE-OFF (only for variable pitch propeller) ?

## Section 7

### SAILPLANE AND SYSTEMS DESCRIPTION

#### 7.2 Cockpit Description

##### • Rudder control

On the left cockpit side an orange hand lever is installed for controlling the rudder.

Operating direction:   - Lever forward           rudder left  
                          - Lever backward         rudder right

Using this installation, the pedals in the front cockpit must be engaged right in the most forward position.

The pushrod for the actuation of the rudder control is joined to the rear left pedal. The movement of the rear pedals is reduced by 35 mm (1.38 in.).

##### • Airbrakes

Both airbrake operating levers are fixed connected with a pushrod and connected to the rear airbrake trim unit.

After unlocking, the airbrake operating lever can be engaged in the guide plate, which is installed in the front cockpit, in three positions (1,2,3). The last position operates the wheel brake.

The airbrake operating levers are spring-loaded and must be pulled to the inboard direction for operating. By doing this, the airbrake levers are disengaged from the guide plate and may be operated from the rear seat in a normal way.

This special installation may only be installed if the glider is operated by instructed pilots. Before operation of the glider by other pilots the hand lever and the airbrake guide plate must be removed.

##### • Propeller brake

The ball handles (17) (refer to pages 7.3 and 7.7) for operation of the propeller brake are removed. The propeller brake is activated by pulling the power lever (throttle) from the IDLE position further back.

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**Taxiing to the take-off position**

To begin taxiing, apply full throttle. Thereafter, reduce throttle depending on the ground surface conditions. Do not compensate for excess power by operating the brakes, because the wheelbrake is not designed for continuous operation. This could cause overheating of the wheelbrake, resulting in loss of brake efficiency, and possibly causing the surrounding structure to reach ignition temperature. For wheelbrake operation refer also to chapter 4.5.5. In principle, taxiing with engine power should be limited to short distances, as entering the runway from the holding point and to clear the runway after landing! Especially taxiing on rough grass runways (with extended engine) causes very high loads on the whole propulsion system!

**Take-Off**

- Wheel brake : ON
- Full power : check
- Wheel brake : release
- Airbrakes : locked
- Taxiing : weight on nose gear
- Depending on cross wind up to flight speed of 30 - 60 km/h (16 - 32 kts) : weight off nose gear
- Lift off : 75 - 80 km/h (40-43 kts)
- Climb : 90 km/h (48 kts)
- Engine speed : max. 6800 rpm

**Transition from Climb to Cruise**

- For variable pitch propeller:
  - Speed with propeller in TAKE-OFF setting : max. 90 km/h (48 kts)
  - Maintain full power
  - Propeller CRUISING setting : ON
  - Increase speed until level flight speed achieved (V = 135 km/h (72 kts) at 6000 - 6300 rpm)
- For fixed pitch propeller:
  - Flight speed limited to 105 - 120 km/h (57 - 65 kts) by engine speed (max. 6800 rpm)
  - Horizontal flight by reducing throttle (up to 50 %)

**Transition from Cruise to Climb**

- For variable pitch propeller:
  - Reduce speed to 90 km/h (48 kts) by pulling up or by operating the airbrakes
  - Propeller TAKE-OFF setting : ON
- For fixed pitch propeller:
  - Reduce speed to 90 km/h (48 kts)
  - Pulling the stick