

3.1 Introduction

This section provides checklists, which describe briefly the recommended procedures to follow in emergencies. Afterwards a more detailed description follows.

EMERGENCY PROCEDURES

(1)

Canopy Jettison

- Ignition: **OFF!**
- Engage the propeller stop

front seat

- Fully pull back the red canopy jettison handle above the instrument panel
- Push canopy upwards

rear seat

- Fully pull back both red canopy jettison handles
- Push canopy upwards by the handles

(2)

Bailing Out

front seat

- Push instrument panel upwards
- Open safety harness
- Get up
- Roll over cockpit side
- Push off strongly
- Watch wing & tailplane!
- Pull parachute

rear seat

- Open safety harness
- Get up
- Climb over cockpit side
- Push off strongly
- Watch wing & tailplane!
- Pull parachute

3.2 Jettisoning Canopies

If, during propeller-extended flight, jettisoning the canopy is unavoidable, the (running) propeller must at first be moved into a position which is less dangerous for the pilot. To do this switch off the ignition and engage the propeller stop. Do not wait until the propeller stops rotating but retract the propeller immediately. Any position from half-retracted on would seem sufficient. This position should prevent the canopy from being destroyed by the propeller and, thereby, pieces of the canopy from hurting the pilot.

After this procedure - or in the soaring configuration:

Front canopy:	Fully pull back the red canopy jettison handle above the instrument panel and push the canopy upwards.
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Rear canopy:	Pull back both red canopy locking handles and use them to open the canopy. The air stream will break off the canopy rearwards.
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In a vertical dive, the air loads on the front canopy may be high. With some yaw, however, low pressure builds up over the canopy. Therefore, apply some rudder in this case!

Adjustable head rest:Front Seat:

The headrest is height-adjustable.

CAUTION

With the backrest installed, the headrest must be inserted into the backrest. Otherwise, the guide tube of the headrest must be inserted through the hole in the rear instrument panel cover, at least until the first detent.

The headrest must be adjusted in such a way that the point of head contact is at eye level.

Rear Seat:

The headrest is adjustable in the direction of flight.

Note: An unlocked rear canopy could blow open during take-off and get damaged or destroyed respectively. To prevent this, a safety system has been incorporated which only allows the front canopy locking handles to be pushed home if the rear canopy is properly locked first.

If the front locking handles can only be pushed back about half-way towards the frame, this is an indication that the rear canopy has not been properly closed and locked. Do not try to force the front levers into the locked position, but lock the rear canopy first.

Safety harness:

The seat harness is anchored in such a way that it cannot jam the control runs underneath the seat pan.

Seat harness straps (including shoulder straps) must be worn at all times, and should be fully tightened. Check every time that each individual strap is properly secured in the harness lock. The lock should also be tested from time to time to ensure that it can be satisfactorily released under load.

Ventilation:

Front and rear Seat:

At the right cockpit wall below the canopy frame there are ventilation nozzles which are pivotable and adjustable. If correctly adjusted, they also serve as a demister for the canopies.



Ventilation nozzle
Twist to open respectively close

(2) Oxygen

For reasons of space, due to the incorporation of the power-plant and the fuselage tank, only one oxygen bottle can be mounted in the area above the spar stubs. The oxygen bottle fixtures are only supplied as optional extra and are not provided as standard equipment.

After fitting the oxygen bottle the pilot must make sure that it is securely seated and that the pin at the front mounting fixture is secured.

Note: Fitting of an oxygen system changes the empty mass (weight) C.G. position!

Warning: Fuel can ignite itself through pure oxygen.

(3) Emergency Location Transmitter

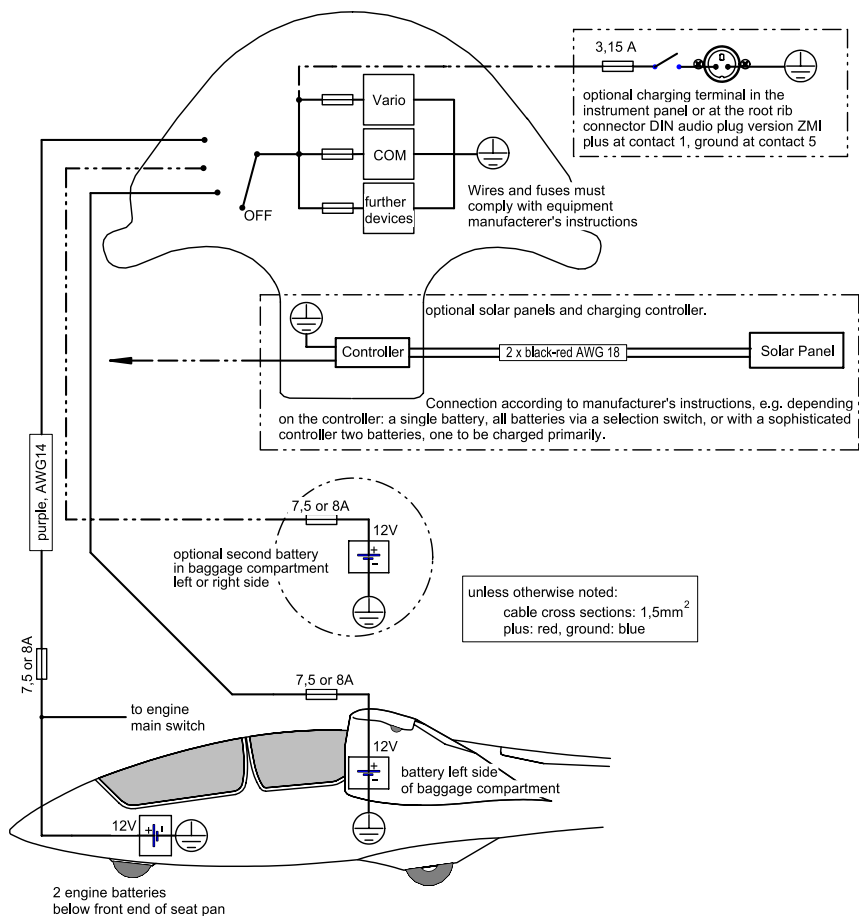
The least vulnerable location in case of accident is the area between the two drag spar pins at either side of the fuselage.

Therefore, the emergency location transmitter (ELT) should be fitted, in an appropriate mounting, in the compartment behind the spar tunnel (e.g. to the left fuselage wall. Control linkage elements and the access to or ventilation of electric components on the floor must in no case be impaired.

Depending on the model of the ELT further possible mounting positions are the fuselage wall above the opening to the wing leading edge baggage compartment, or - in an appropriate mounting - the cross tube at the rear instrument panel carrier.

Since the center fuselage section contains carbon fibre layers - and carbon screens the aerial radiation - the ELT aerial must be fixed in the canopy area. Yet the aerial must not be fitted direct to the canopy as it would be separated from the unit in case of a canopy jettisoning

Fig. 7.9-1 Circuit Diagram



2.3 Landing Gear

2.3.1 Wheels, Tires, Tire Pressures

Main Wheel

Rim:	5" Disc brake wheel Penta 125-77-1 ¼" P/N TOST: 055572	alternatively: Cleveland 40-78B
Tire:	380x150-5 6 PR Goodyear P/N 385M61-1	alternatively comparable but certified tires 380x150 - 5 min. 6 PR can be fitted as long as they match the tolerances in terms of shape and size and fit into the wheel attachment fork.
Tube:	e.g. 5.00 - 5 Wvtl. TR87, short 90° valve (28 mm) P/N TOST: 065995	
Brake Disc:	162-36.3-5 preferably without ventilation P/N TOST: 057272 suitable for P/N TOST: 055572	Cleveland 164-017-00 or P/N TOST: 057710 suitable for Cleveland 40-78B
Brake:	TOST wheel brake cyl. 080233 TOST master cylinder 050305	alternatively: Cleveland wheel brake cylinder 30-9 Cleveland master cylinder 10-20

Nose Wheel

Rim:	TOST 4 inch 100-17 P/N TOST: 034100
Tire/Tube:	4.00-4 min. 4 PR

Tail Wheel

Rim:	"Moritz" or "Moritz II", for Ø 12 mm axle (TOST) or Tail wheel 210 x 65 (Streifeneder)	NOTE <i>By replacing the steerable tail wheel, the different masses of the two possible ver- sions must be noted. The influence on the in-flight C.G. must be considered by calcu- lation or weighing.</i>
Tire / Tube:	210 x 65 min. 2PR	

Tire Pressures

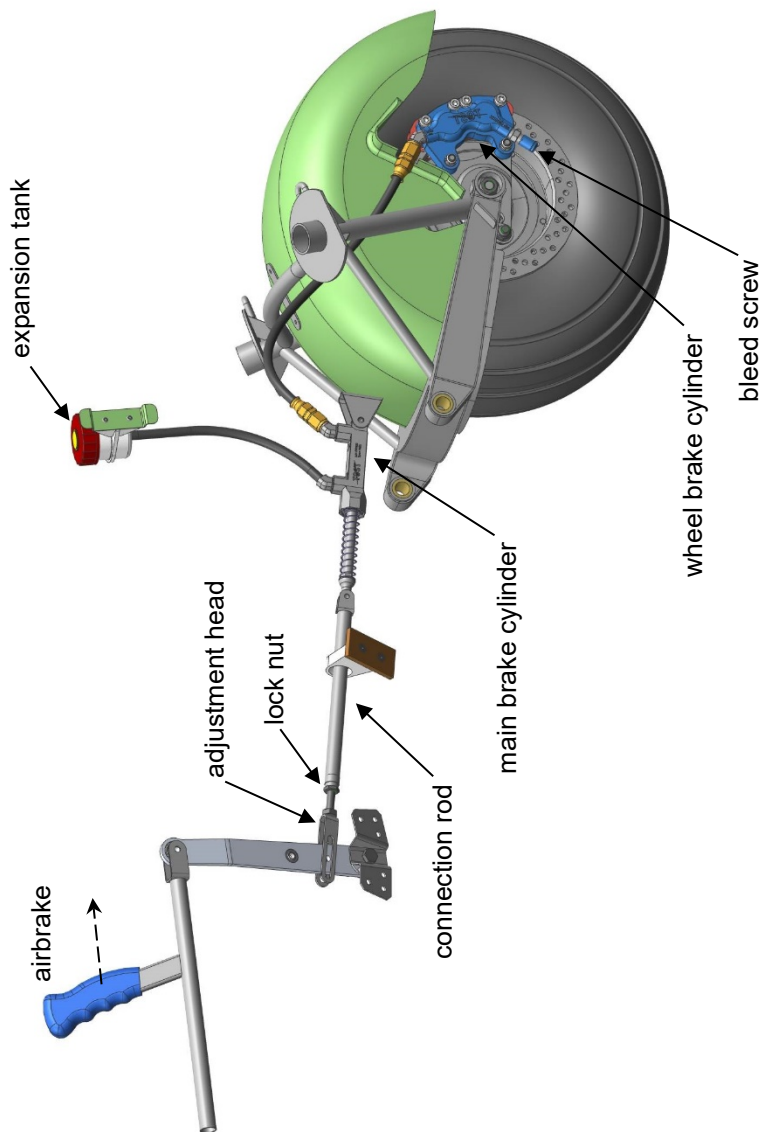
Main wheel	Nose wheel	Tail wheel
3.5 bar / 50.8 psi	2.0 bar / 29.0 psi	2.5 bar / 36.3 psi

2.3.2 Wheel Brake System

The master cylinder of the hydraulic disc brake system is connected to the air brake control system. When the air brake paddles are fully extended, the wheel brake is also actuated at the same time.

The master cylinder is fitted under the rear seat pan, left at the fuselage wall. It is actuated by the rocker lever of the air brake control linkage via an oblong hole gate adjustment.

Fig. 2.3.3-1 *Wheel Brake System and Bleeding of the Brake Line*



Changing Brake Lining

The wheel brake cylinder is located at the left-hand side of the main gear. There are four socket screws located at the rear end of the cylinder, which are secured with threadlocker. Remove these screws. (In case of the alternative Cleveland-brake this are two 1/4" screws secured with locking wire.)

You can now remove the inner brake shoe and the wheel brake cylinder can be pulled off the hub. The brake hose must be left attached throughout, as otherwise the system will have to be bled.

While the brake is removed the brake lever (airbrakes) must not be operated!

As both brake shoe plates can be completely removed from the brake cylinder, this may be left hanging on the end of the hose.

The linings must be renewed before they have been worn down to the **minimum residual lining thickness**:

TOST brake:	0.5 mm / 0.02 in
Cleveland brake:	3.0 mm / 0.12 in

CAUTION

Dropping below the minimum residual lining thickness results in damages at the brake disc and heavily decreased braking effectiveness.

The linings have to be replaced including their base plate. In case of the alternative Cleveland-brake it is also possible to rivet new linings on the old base plate.

Insert the new brake linings and reassemble the wheel brake cylinder. Secure the four socket screws with threadlocker, respectively in case of the Cleveland-brake the two 1/4" screws with locking wire.

All spare parts can be obtained from manufacturer Schleicher indicating the used type of brake.

Battery Types Soaring Avionics:

- a) Battery / batteries in the baggage compartment (lead gel):
Panasonic LC-R127R2PG 12V, 7,2Ah
or similar batteries, preferably for cyclic use with suitable dimensions.
- b) Battery / batteries in the baggage compartment (LiFePO₄):
AIRBATT Energiepower LiFePO₄ 12V, 10Ah

Fig. 2.5-1 *Circuit Diagram, Soaring Avionics*

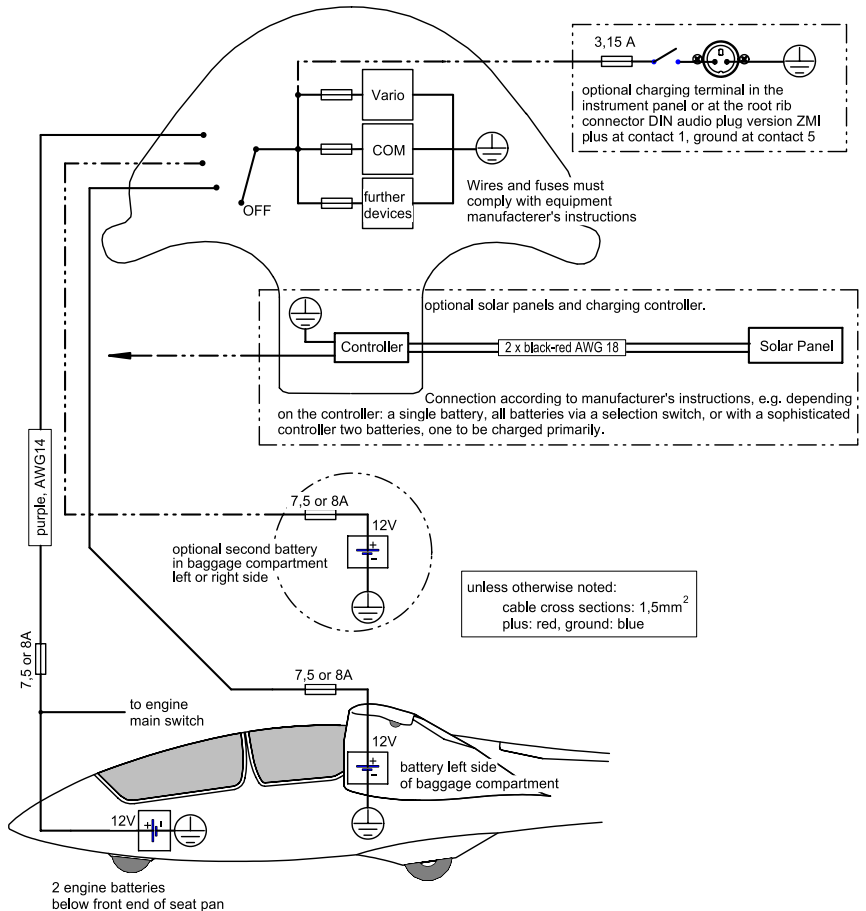
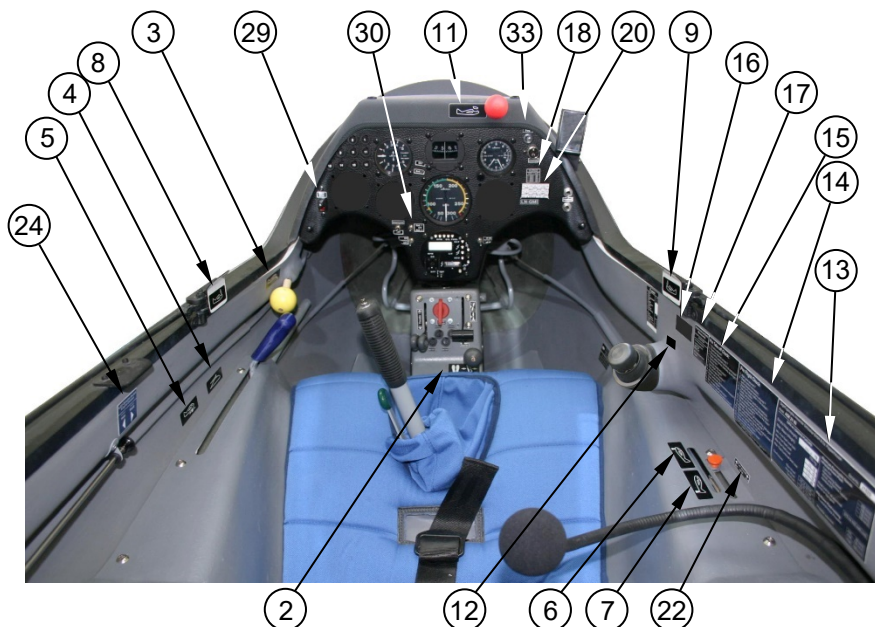
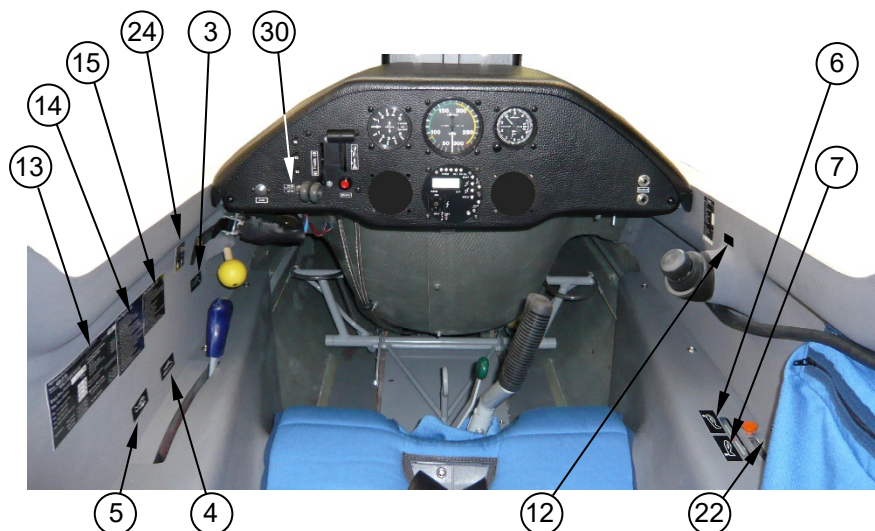


Fig. 9-1 Front Cockpit*Fig. 9-2 Rear Cockpit*

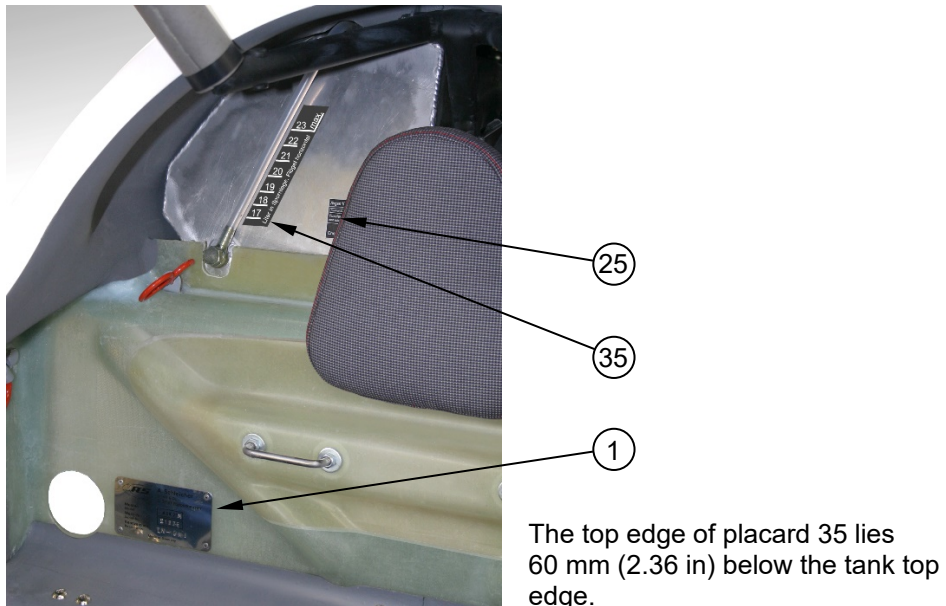
The placards 29, 30, 32, 33 and 34 are affixed next to the respective switches, signal lights and fuses respectively.

Placard 18 must be affixed next to the A.S.I. and placard 20 next to the compass.

The locations of the following placards are not illustrated:

- 8, 10: On the left handle of the rear canopy
- 9, 11: On the right handle of the rear canopy
- 19: In the cockpit below the openings in the root ribs
- 21: In the engine compartment next to the filler neck for the engine oil
- 23: On the fuselage outside above the filler for the fuel
- 36: In the engine compartment on the right side

Fig. 9-3 Front main bulkhead and fuselage tank



10.3 Dismounting and Mounting Landing Gear

Before inverting the fuselage for the work at the landing gear Section 2.8 must be observed (filling up oil tank completely and closing the vent).

Main wheel

Remove the fairing of the main wheel.

The main wheel is dismantled together with the brake anchor plate, which carries the brake caliper. To do this you have to undo the bolted connection between brake anchor plate and wheel fork. Then the bolt in the wheel axle must be unscrewed and pulled out. Now the main wheel can be pulled outside.

The wheel brake cylinder can be dismantled to ease the disassembly. The brake hose must be left attached throughout, as otherwise the system will have to be bled. After reassembly, the screw locking must be renewed.

Brake linings

See Section 2.3.3

Main wheel fork

Remove the fairing and the flexible seal of the main wheel.

In order to dismount the wheel fork, first the pre-loaded elastomer spring elements must be unloaded. The lace fastening of the small spring elements is relieved of load when the aircraft is sitting on its main wheel. Through the bulkhead behind the back rest of the rear pilot the lace fastening can be undone.

When jacking up the aircraft, i.e. the fuselage respectively the wheel fork can be unscrewed.

After fork and wheel are mounted again the axis of the unloaded main wheel should project above the fuselage contour by about 105 mm / 4.12 in (with the wheel fairing removed).