

ASH 25 Flight Manual

- d) Check cockpit and control runs for loose objects or components.
- e) Check full, free and stress-free operation of all controls. Hold controls firmly at full deflection while loads are applied to control surfaces.
- f) Check inflation and condition of tires:

Main wheel : 3.5 bar (50 psi)
Tail wheel : 2.5 bar (36 psi).
- g) Check condition and operation of towing hooks! Release control operating freely? Don't forget release checks!
- h) Check wheel brake for operation and leaks. With airbrake paddles fully extended the resilient brake pressure from the main brake (master) cylinder should be felt through the brake handle.
- i) Check both wing upper and under surfaces for damage.
- j) Flaps including ailerons:
Check condition and freedom of movement (clearances). Also the linkage fairings on control surfaces and wing must be checked for clearance.
- k) Brake paddles:
Check condition and control connections. Do both sides have good over-center lock?
- l) Check fuselage, especially underside, for damage.

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4.5 Normal Operation and Recommended Speeds

4.5.1 Winch Launch

The C.G. tow release hook in front of the landing gear must be used for winch launch.

Flap settings recommended for winch launching are:

Flap 3 (0°) in gusty conditions and crosswind,
Flap 4 (+6°) in zero wind or steady headwind.

Trim should be set nose-heavy at any C.G. position and both the recommended flap settings. At this trim setting the ASH 25 will assume a gentle climb attitude. Above a minimum safe height the climb should be steepened by applying back pressure on the stick.

A weak link of 750 to 900 daN must be incorporated in the launch cable. Maximum acceptable crosswind component is 20 km/h = 10,8 kts.

NOTE: The wheel should not be retracted during the launch.

CAUTION: Winch launching with water ballast is not recommended at less than 20 km/h = 10,8 kts headwind component. The winch driver must be informed of the total Take-Off Mass.

CAUTION: Before Take-Off, check seating position and that controls are within reach. The seating position, especially when using cushions, must

preclude the possibility of sliding backwards during initial acceleration or steep climb.

WARNING: We expressly warn against attempting any launch by an under-powered winch in a tail wind!

4.5.2 Aerotow

If an aero tow release hook is installed, this should be used preferably for aero towing.

The recommended flap setting for aero towing is Flap 3.

Trim should be set nose-heavy. A tow rope of between 40 m and 60 m = 132 ft and 197 ft long, but not less than 40 m = 132 ft in length should be used.

Experienced pilots should start their take-off run at the most negative flap setting 1. This flap setting affords excellent lateral control. At an indicated air speed of about 50 km/h = 27 kts the flap should be increased to Flap 3 (0°) or, on short take-off runs or when carrying water ballast, to Flap 4 (+6°). For the remainder of the tow, Flap 3 should be selected for reasons of trim loads.

For pilots without experience of flapped aircraft, we recommend setting Flap 3 both during take-off and throughout the aerotow.

damage.

- m) Check that rudder, tailplane and elevator are correctly fitted, and for damage or excessive play.
- n) Check the pressure port in the fin: is the tube (pitot/static or TE) properly seated and tight??
- o) Check that static ports in the fuselage tail boom are unobstructed.

4.4 Pre-Flight Checks

The following Check List containing the most important points is affixed within easy view of the front seat pilot:

Pre-Flight Checks:

1. Control connections and rigging pins secured?
2. Controls checked for positive connections and full and free deflections?
3. (Control surface clearances at trailing edge min. 1,5 mm = 1/16 in !)
4. Parachute static line connected?
5. Check ballast / C of G !
6. Comply with Mass and Balance Form !
7. Water tank drain and vent openings unobstructed?

Pre-Take-Off Checks:

1. Parachute clipped on?
2. Seat Harness secure and tight?
3. Wheel locked down?
4. Airbrakes closed and locked?
5. Trim set for Take-Off?
6. Flaps set for Take-Off?
7. Altimeter set?
8. Tail dolly removed?
9. Check wind direction!
10. Close and lock canopies!

7.4 Airbrakes

The airbrake is operated by either of the blue handles mounted at the left cockpit wall underneath the flap lever.



Pull the blue handle to extend the brake paddles



When the airbrake handle is pulled back to its fullest extent, it will also actuate the hydraulic disc brake of the main wheel.

The double-panelled airbrakes extend on the upper wing surface only.

7.5 Landing Gear

The landing gear is extended and retracted, and locked at either position, by means of the black handled lever mounted at the right-hand cockpit wall of the front seat.

If required, a landing gear lever can also be fitted at the rear seat, to allow the rear seat pilot to assist; it will, however, not be possible to lock the wheel up or down by means of this additional lever.



Landing gear extended (lever forward)

7.10 Pitot and Static Pressure System

Pitot pressure is obtained from a Prandtl-tube mounted in the fin. Ensure that this Prandtl tube is fully pushed home in its seating in the fin. The inner end of the probe should from time to time be lightly lubricated with Vaseline or a similar lubricant, in order to save the O-ring gaskets from wear.

At the same time, the Prandtl tube provides accurate static pressure which can be used for electrically compensated variometer systems.

Static pressure for the ASI is obtained from the static ports at either side of the fuselage tail boom.

7.11 Miscellaneous Equipment

Removable Trim Ballast

If required, the ASH 25 can be fitted with seatings for lead trim ballast plates which can be bolted into place in front of the front seat (fitted only if expressly ordered). If the glider is equipped with a nose aero tow release coupling (also an optional extra), these trim ballast plates are bolted into place sideways at the tow release fitting.

In this location, a 1 kg (2.2 lbs) lead trim plate has the effect of a pilot weight of 1.3 kg (2.8 lbs).

Thus, a pilot weighing 6.5 kg (14 lbs) less than the minimum front cockpit load must use 5 kg = 11.02 lbs of trim weights.

Fin Mounted Battery

If a battery is fitted in the fin, the minimum cockpit load for the front seat is increased to more than 70 kg (154,4 lbs) (incl. parachute).

For further details of minimum cockpit load see pages 2.10 and 6.3 of this manual.

The foam buffer rod fitted over the battery secures it above. This plastic foam rod must not be forgotten when changing or replacing batteries. You should also ensure that there is adequate plastic foam seating under the battery to protect it from hard knocks.

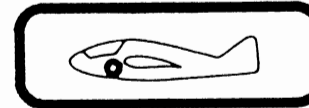
Oxygen

The two rear seatings for oxygen bottles are fitted as standard equipment.

The two front bottle fixing brackets are fitted only if expressly ordered.

When fitting oxygen bottles, ensure that both these bottle fixing brackets are properly installed and securely anchored.

NOTE: Fitting of oxygen equipment changes the empty-mass C.G. position!



Landing gear retracted
(lever aft)

Tire pressures: Main wheel 3.5 bar (50 psi)
Tail wheel 2.5 bar (36 psi).

7.6 Cockpit, Canopies, Seat Harness, and Instrument Panels

COCKPIT**Launch Cable Release**

To the left of each control stick you will find the



yellow cable release
knob.

Pulling the knob opens the two towing hook releases. (The aero nose towing hook release is only installed on customer request.)

Both release knobs are connected to each other.

To allow the launch cable to be attached, pull the yellow knob back and then just release it to allow the towing hook to close and lock. Do not replace it in its original position by hand.

Seats and Seating Positions.

The front seat is designed to allow tall and medium sized pilots to sit comfortably, and improve their position by means of cushions and an appropriate choice of parachute. For tall pilots we would recommend the use of thin parachute packs of the new type. Very short pilots will have to adjust their seating position by means of a firm cushion so that all controls are within comfortable reach, and that they are prevented from sliding back during initial

Ground Transport

The wings may be supported at the spar stubs, root ribs and wing tips.

NOTE: Do not carry the wings by the protruding ends of control rods !

2.10 Tow Release Couplings

The tow release coupling fitted at the C.G. is model TOST "Europa G 73" (Data Sheet No: 60.230/2). Model TOST "Europa G 72" or "Europa G 88" may be used as replacements.

The tow release coupling fitted for aero-tow use (optional extra) is of model TOST "nose tow release E 85" (Data Sheet No: 60.230/1). Tow release couplings of types TOST "E 75" or "E 72" may be fitted as replacements.

When replacing tow release couplings, care should be taken to use again the production bolts of strength grade 12.9 for re-fitting.

4.2 Special Servicing Procedures and Equipment subject to Service Life Limitations

Special Servicing Procedures

At regular intervals of 5 years, the EPDM (Du Pont Ethylene-Propylene-Rubber) sealing rings of the water ballast valves must be checked, and replaced if required.

At regular intervals of 6 years the brake line hose of the hydraulic wheel brake must be replaced. Should this hose be found to be in good condition, it need not be replaced, on condition that its condition is checked at least every 100 flying hours.

Equipment subject to Service Life Limitations

Tow Release Couplings

The Tost tow release couplings, factory fitted, have a limited service life (TBO) and must be returned to TOST for re-inspection in regular intervals. The service life is counted from the date of installation of the tow release into the aircraft. The TBO is stated in the TOST Operating Manual for the tow release couplings.

Instruments

The flight monitoring instruments are not normally subject to service life limitations. As a general rule, the makers' instructions should be complied with.

Oxygen Installation

For oxygen systems fitted, the relevant section of the appertaining Inspection Release Certificate states the overhaul time limit. Over and beyond this, the oxygen bottles must be re-inspected by a technical inspection institute every five years in accordance with pressure vessel regulations.

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7. Periodic Inspection Procedures

At regular intervals - in intense operational use 100-hour intervals are recommended - but at the latest in the course of the annual C of A inspection, the following inspections must be carried out:

1. The whole aircraft must be examined for cracks in the surface finish, holes and buckles, which must be attended to if necessary.
2. The aircraft must be examined for foreign bodies, for which purpose the seat pans must be removed.
3. Are all fittings in a satisfactory condition ? No play, cracks, scratches or corrosion ?
4. Are all other metal parts free from corrosion ? If necessary, re-paint. For this purpose a zinc-chromate based primer should be used.
5. There must not be any significant play in the wing-to-wing, fuselage-to-wing or fuselage-to-elevator junctions.
6. Check seating and correct pre-tensioning of the retaining and safety spring for the wing-to-wing rigging pin.

Dittel	FSG 60			
	FSG 60 M	10.911/72	-	-
Dittel	FSG 70	10.911/81	-	-
Dittel	FSG 71 M	10.911/81	-	-
Becker	AR 2008/25	10.911/48	-	-
Becker	AR 2009/25	10.911/48	-	-
Becker	AR 3201			
	AR 3201-1			
	AR 3201-3	10.911/76	-	-
	NAV 3301	10.922/78	-	-
Avionic				
Dittel	ATR 720 A			
	ATR 720 B			
	ATR 720 C	10.911/70	-	-

12.4 Special Tools

Supplied with the aircraft are:

- a) Special Allen Key for rigging tailplane.
- b) Airbrake actuating rod (for locking airbrake paddles during transport).
- c) T-handle for operating wing/wing rigging pin.

Special tool not supplied:

- d) Caliper Face Spanner - e.g: Gedore No.44/7" (for water ballast valves).

12.3 Supply Sources for Special Tools

Special tools under a) to c) can be obtained from Messrs. Schleicher only. The caliper face spanner d) is available from all good tool shops, but can also be obtained from Messrs. Schleicher.

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12.4 List of Maintenance Documents for Fitted Equipment

- Operating Manual for Safety Tow Releases Series "Europa G 72" and "Europa G 73" Safety Tow Release Coupling, issue January 1989, LBA-approved.

or:

- Operating Manual for Safety Tow Releases Series "Europa G 88" Safety Tow Release, issue February 1989, LBA approved.

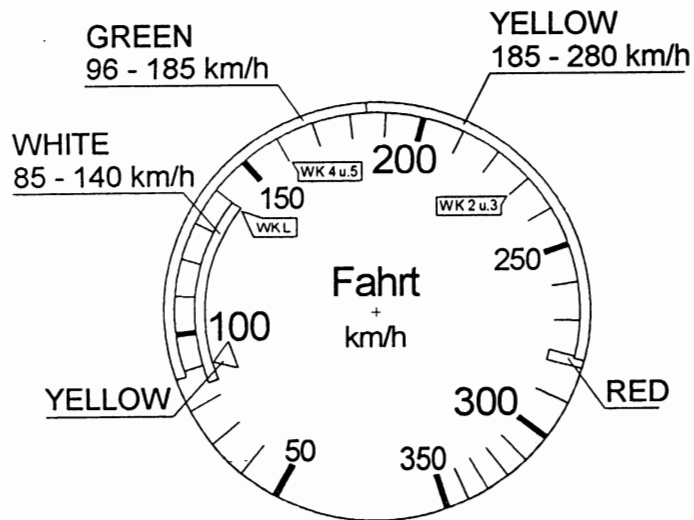
- Operating Manual for Tow Releases Series Nose Tow Release "E 72" and "E 75", issue Feb.1989, LBA approved,

or:

- Operating Manual for Tow Releases Series "E 85" Nose Tow Release, issue March 1989, LBA approved.

For all above tow release couplings: manufacturer TOST Flugzeuggerätebau Munich.

12.5 Air Speed Indicator Markings



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7. The condition of all guides and bearings, fittings, swivel joints and cables of the control runs and linkages must be examined even where access is difficult.
8. All controls including the airbrakes must be checked for satisfactory operation, and their deflections measured.
9. If any control linkage does not move freely over the whole range of its movement, investigate and remedy the cause.
10. The condition of the main landing gear and tail wheel including tires and brake pads must be checked.
11. Examine the pitot and static sources in the fuselage for blockages and leaks.
12. Check condition and proper functioning - and, if appropriate, permitted service life span - of all instruments, and VHF transceiver.
13. The condition and proper functioning of the tow release couplings should be checked. The release actuating cables must have free movement and some play when the tow release couplings are closed and locked, so that they are not under any tension.
14. The canopy jettison releases must be operated and examined for corrosion and burrs etc., if necessary, rectified and in any case freshly lubricated !