Contents

ALEXANDER SCHLEICHER SEGELFLUGZEUGBAU
6416 POPPENHAUSEN/RHÖN

Flight and Operations Manual
for the Sailplane Type
"ASW 15 B"
under U.S. registration

December 1973 Edition

This manual is always to be carried on board.

It belongs to the Sailplane ASW 15 B

Serial Number: 15187

Registration No.: .....

Owner: JOSEPH I.A.BALAZS
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CAMANO ISLAND, WASHINGTON 98292.

Manufacturer: Alexander Schleicher
Segelflugzeugbau
6416 Poppenhausen/Rhön

This manual is the translation of the German original which is approved by the Federal Office of Civil Aeronautics of the Federal Republic of Germany (LBA), and includes the amendments of the US FAA.

In any case the original text in the German language is authoritative.

ASW 15 B Flight Manual

Admendments to the Manual

No.	Title	Page	Date, Signature

1.1 Preface

The ASW 15 is the first sailplane of the A. Schleicher Sailplane Co. which has been licensed according to the new "Airworthiness Requirements for Sailplanes" (LFS).

As will be noticed in the subsequent data, the "LFS" result in higher clearance data than the old Airworthiness Requirements "BVS".

The reason for these higher placards is the reduction of the safety factor (proportion of breaking load to permissible load) from the previous 2.0 to the new value of 1.5.

Several important deductions for the flight operation have to be made from this fact.

The listed speed limitations must not be exceeded at any time, since the safety margin to the breaking load has been significantly reduced. Even during flight test program the speed limitations are hardly exceeded.

One should consider further that while the sailplane is stressed to take a gust of ± 10 m/s (± 2000 feet/min) at 220 km/h (119 knots, 135 mph) the pilot in such a case has to be able to withstand accelarations of approx. + 6 g and - 4 g without overcontrolling and thusly overstressing the aircraft.

Contrary to the old "BVS" requirements where the green range on the airspeed indicator was synonymous with the rough airspeed range, the green range of the ASW 15 airspeed indicator denotes the speed range where full control movements are permissible.

The yellow speedrange only allows reduced control movements. They must become progressively smaller to 1/3 of the possible deflection at the rough air redline airspeed.

1.2 Operation values and limitations

Speed limits:

Maximum speed	220 km/h,	119 knots, 137 mph
Maximum speed with full control deflections	170 km/h,	92 knots, 106 mph
Maximum speed in aerotow	170 km/h,	92 knots, 106 mph
Auto and winchtow	120 km/h	65 knots, 75 mph

For this purpose the following coloured calibration markings appear on the airspeed indicator:

Red line at 220 km/h, 119 knots, 137 mph
Green range between 75 - 170 km/h, 42-92 knots, 47 - 106 mph
Yellow range between 170 - 220 km/h, 92-119 knots, 106-137 mph.

Weights

Empty weight with minimum equipment and antenna, approx.	225 kg, 496 lbs
Maximum all up weight	408 kg, 900 lbs*

*(must include at least 58 kg or 128 lbs of water ballast)

Maximum weight with zero water ballast	350 kg, 772 lbs

Weak link in tow line

for winch and aerotow	500 kg, 1100 lbs

In Flight Center of Gravity

Datum point is the leading edge of the wingroot rib. The horizontal reference line is the center-line of the fuselage tail cone or a 1000 : 50 wedge template levelled out on the top side of the fuselage aft portion (see the page "rigging data" of the appendix).

Center of Gravity range in flight from 210 mm (8.27 inch) to 380 mm (14.9 inch) behind datum point.

Notes

The sailplane is suited for cloudflying and semi aerobatics (only without water ballast).
Permissible positive load factor + 5,3.
Permissible negative load factor - 2,65.

Tall pilots can fly without the adjustable seatrest but they must use a stiff cushion that levels the edge of the towing hook fairing and the box of the wheel. Also tall pilots should use shoes with heels as low as possible.

1.3 Minimum Equipment

Airspeed indicator with 30 to 250 km/h range (20 to 135 knots, 20 to 155 mph)

Lap and shoulder straps

Parachute or back-cushion at least 8 cm thick (3 inches) when compressed.

Altimeter

Magnetic compass (on U.S. registered sailplanes)

Additional minimum equipment for cloudflying:

Turn and bank indicator

Variometer (on U.S. registered sailplanes)

COM radio (for Federal Republic of Germany only)

Experiences to date have proven the pitot pressure system to be adequate for cloudflying.

Flights under icing conditions are not recommended.

If the compass cannot be compensated in the instrument panel, it can be fitted in the perspex canopy above the stick or on the right cockpit wall above the side pocket.

Instruments that weigh more than 1 kg (2.2 lbs) themselves should not only be fixed to the instrument panel by using 4 screws. They should be supported additional by a fitting aiming to one of the rubber blocks.

1.4 Load Schedule

Load in the pilot's seat (pilot and parachute)
min. 65 kg (143 lbs)
max. 115 kg (254 lbs)

If no parachute is used a back-cushion of 8 cm (3.25 inch) minimum thickness when compressed is to be used.

If the load is below the minimum of 143 lbs, ballast in the seat area in form of lead or sandbags is required.

The loading of the baggage case has nearly no influence to the Center of Gravity position. It should not be loaded with more than 24 lbs.

Hard objects of more than 1 kg (2 lbs) should be thoroughly fixed in the baggage department for safety reasons.

Loading of Water Ballast

A maximum weight, less water ballast, of 772 lbs must not be exceeded. The maximum weight with water ballast may be increased to 900 lbs if all weight above 772 lbs is water ballast.

Water Ballast Weights:

Maximum capacity (24.7 US Gal.) = 206 lbs
Maximum usable capacity (22.6 US Gal.) = 189 lbs
(See filling instructions, Page 20)
Water weight: 8.3 lbs/US Gal.

Maximum permissible waterballast (US -gallon)

Weight of pilot plus parachute (lbs.) →

Empty weight (lbs.) see page 18 ↓	*143*	*165*	*187*	*209*	*231*	*253*
484	*full*	*full*	*full*	*full*	*22 gal.*	*19 gal.*
506	*full*	*full*	*full*	*22 gal.*	*19 gal.*	*16,5 gal.*
528	*full*	*full*	*22 gal.*	*19 gal.*	*16,5 gal.*	*over weight* *

* An empty weight of 528 lbs plus a pilot weight of 253 lbs exceeds the maximum weight limit, less water ballast, of 772 lbs.

1.5 Operating Handles, Placards and Nomenclature

Data Plate

Segelflugzeugbau A. Schleicher Poppenhausen

Type: ASW 15 B S. No. 15xxx

Airspeed limits:

Winch and auto tow	65 Knots
Aero tow	92 "
Rough air conditions	119 "
Calm air conditions	119 "

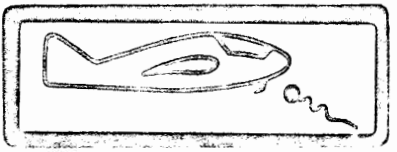
Trimming Gen

Load in the front seat (incl. parachute):

single / dual max. see Flight-Manual min. see Flight-Manual

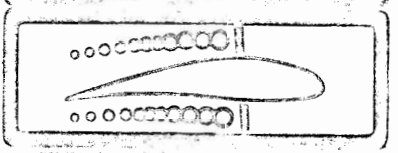
Pilots of less weight have to complete the weight by a reliablely fixed lead cushion

(See FAA Type Certificate Data Sheet No. C22EU for complete list of required placards on U.S. registered sailplanes)



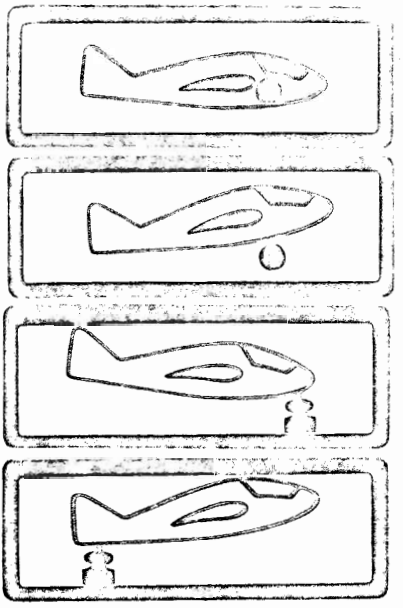
Tow release: yellow knob on IP area next to the control stick

To jettison canopy: red handle pull above instrument panel



Dive brakes: blue handle on lower left sidewall

Wheelbrake: pull dive brake handle on lower left sidewall



Landing gear up - black handle on the upper left side well pulled.

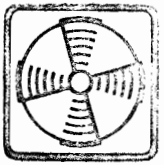
Landing gear down - black handle pushed forward

Twin tailheavy - green knob on RH arm rest area.

Twin tailheavy

Rudderpedal adjustment: grey knob RH area next to control stick. To move pedals back: take load off pedals and pull back; release control knob and put slight pressure on pedals to adjust them.

To move pedals forward: pull knob and simultaneously push pedals forward; release control knob suddenly and lock in place by putting slight pressure on pedals.



Ventilation:
light blue knob in upper RH area in instrument panel.

Anchoring point for parachute static line:

Red ring on main bulkhead.

Waterballast: black knob in instrument panel; pulling of the knob opens both valves. The knob can be fixed in pulled position by turning.

1.6 In Flight Informations

Instructions for rigging and derigging are given on pages 19 to 21.

Jettisoning of Canopy

Pull red handle back and push canopy upward.

Winch launch

Maximum winch launch speed is 120 km/h (65 knots, 75 mph). Twin lever in the center to slight back position the sailplane will lift off by itself and will assume a moderate attitude. When safety height is reached, slight back pressure can be applied.
As an option, the ASW 15 B is sold with an aerotow hook, well forward of the normal CG towhook position. This aerotow hook improves the take off stability on aerotow.
If no CG towhook is installed, the aerotow hook can be used for winchtows. Contrary to the instructions for a CG hook winch launch, when winchtowing with the aerotow hook immediately after lift-off a fair amount of back pressure has to be used.
At approximately half of the winchtow altitude the sailplane starts porpoising. At this stage of the tow the back pressure on the stick has to be eased up somewhat.

Before the porpoising becomes uncomfortable, one should push the stick forward and release thereafter.
When winch launching with the aerotow hook, only about 2/3 of the normal tow altitudes can be achieved. If both CG and aerotow hooks are installed, one has to pay special attention to the maintenance of both towhooks. This prevents the trigger forces on the release knob from becoming excessively high. The cleaning of the towhooks is done with kerosene, brush and compressed air from the inside.

Aero-Tow

Maximum aerotow speed is 170 km/h (92 knots, 106 mph). Tested lengths for manila or nylon towropes are within the 20-60 m (70 to 200 feet) range. Towing is done from the Center of Gravity hook or the forward towhook. To release pull yellow knob all the way back. Once the safety-altitude is reached, one can pull up the landing gear. Heavy pilots should try to keep the tail on the ground on take off run by pulling the stick.

Free Flight

Because of the possibility of loading the ship with water ballast, the all up weight varies in a wide range.
The following speeds are given for an all up weight of 300 kg or 660 lbs. The speeds for maximum all up weight of 408 kg or 900 lbs are given in brackets.
The minimum speed in level zero bank flights is 64 km/h, 34,5 knots, 40 mph indicated (70 km/h, 44 mph, 38 knots). The minimum speed increases in turns with more bank.

For example at 30° bank 70 km/h, 38 knots, 43,5 mph (80 km/h, 43 knots, 50 mph) and at 45° bank 75 km/h, 40,5 knots, 47 mph (85 km/h, 46 knots or 53 mph) are given.

The best rate of sink is obtained at 70 km/h, 38 knots, 43,5 mph (80 km/h, 43 knots, 50 mph) in level flight. The best L/D at 90 km/h, 48,5 knots or 56 mph (100 km/h, 54 knots or 62 mph). The best circling speeds are 74 to 80 km/h (83 to 90 km/h) at 30° bank and 80 to 85 km/h (90 to 95 km/h) at 45° bank.

Dangerous Flight Attitudes

The ASW 15 B has extremely harmless stalling characteristics. The stall warning occurs at 68-70 km/h (37-38 knots, 42-44 mph) and is indicated by large stick movement in the elevator. With the stick hard back, the aileron and rudder respond up to approximately half control movements in the normal sense.

Full rudder and aileron deflection during a stall will cause wing dropping. Only with the C. of G. near the maximum rearward position will it lead to a spin.

Wing dropping as well as spinning are terminated with the (German) standard procedure (opposite rudder and elevator neutral).

If no corrective measures are started, the sailplane will terminate the sideskid or spin by itself and will develop a spiral like sideslip. This sideslip can also be ended with opposite rudder.

If still no corrective measures are taken, then this sideslip will eventually change to a spiraldive with the typical buildup of high speeds.

Only with the C. of G. at the rear limit can the sailplane be put into a stationary spin, which would be finished by the "standard method" (see preceding page). Rain drops, frost and icing deteriorate the surface and will cause a change in the flight characteristics. Under such conditions one should be extremely careful when landing and should use a sufficient safety margin in the airspeed.

Landing

Lower the landing gear in time, not later than at 100 m (300 feet) altitude. The approach should be made at about 90-100 km/h (49-54 knots, 56-62 mph). If possible have the sailplane trimmed out for this speed.
The glide path can be varied with the dive brakes within wide limits, moreover the sideslip is very effective.

Cloud Flying

The minimum equipment for cloud flying is listed under paragraph 1.3.
Cloud flying and flights under icing conditions with water ballaston board are prohibited.
If one climbs higher than the icing level for a longer time, one runs into the danger that the ventilation of the tank will ice up and therefore the wing can blow up. For this reason the water must be dropped early and the valves must remain open.
The installation of an artificial horizon and an accelerometer is recommended. Excessive speeds are to be avoided by all means, when flying in cloud. A timely use of the dive brakes (about at 120 km/h, 65 knots, 75 mph) ensures not only a safe braking action but also a more stable flight attitude.

"Semi"-Aerobatics

Besides spinning the following aerobatics are approved:

Loops, Stall Turns, Lazy Eight and Chandelle as well as combinations of these manoeuvres are approved. Negative load factors are not certified.

Loop: A starting speed in the lowest point of about 160-180 km/h (86-98 knots, 100-112 mph) is recommended.

Stall Turn: A stall turn is also started with 160-180 km/h in level flight. At 70 km/h (38 knots, 44 mph) or a bit earlier the turn is started by full application of the rudder. With some aileron to the outside of the turn one must avoid an inverted flight attitude.

Lazy Eight: This manoeuvre can be done up to 170 km/h (92 knots, 106 mph) in the crossing point.

Chandelle: This manoeuvre is started like a stall turn, however at 90 km/h (49 knots, 56 mph) and with full rudder and full contrary aileron deflections applied, the transition to the level flight must be started. Also the stick must be markably pushed.

Aerobatics are not approved with water ballast on board.

1.7 Empty Weight Center of Gravity Limits

After repairs or installations of additional equipment have been made or after the sailplane has been repainted, special attention is to be given to the empty weight center of gravity, remaining within the permissible limits.

Datum point and reference line are the same as shown in paragraph 1.2.

A diagram on the empty weight center of gravity location range is found on page 32.
If these limits are maintained, one can be assured that the inflight C. of G. is within the allowable limits, provided the load limitations have been properly observed.

The inflight C. of G. has a great effect on the flight characteristics; it is therefore essential that its limits are observed.

A C. of G. location aft of the rear limit is dangerous, since the stall and spin characteristics are adversely affected. Moreover the elevator becomes hypersensitive.

Excessive forward location of the C. of G. leads to a loss in the flight performance and no longer allows flying in the maximum lift range, which is very important in tight circling.

Rigging data

The angles of attack and aerodynamic twist as well as the control deflections can be found on the rigging data sheet.

After a repair has been made, one must be sure that the tolerances have been held. The controls have the following positive stops:

Rudder: Two stops on the rear lower rudder fitting.

Aileron: Two adjustable clamps, which bottom out against the front main bulkhead. They can be reached by removing the floor of the baggage department and the towing hook fairing. The down deflection of the ailerons is controlled by two fixed stops inside the wings.

Elevator: Two fixed stops on the instrument panel bulkhead in the cockpit.

Dive brakes: two fixed stops in the lever escutcheon.

1.8 Center of Gravity at the Last Weighing

Date of weight and balance	Empty Weight Center of Gravity	Payload in Cockpit (incl. Parachute) minimum	maximum	Signature of Examiner

2.1 Rigging

All pins and fittings including the ball pip fittings are to be cleaned and lubricated. The right wing (2 prong spar end) is inserted from the side into the fuselage tunnel, then the left wing is inserted from the opposite side. Align the main fittings, push in the main pins and safety. Now the wing tips can be released.

Connect ailerons and dive brakes and double check the connection by trying to pull the push pull rods away from the ball fittings.

Insert left elevator half with the tube into the fitting in the rudder fin. Pull back the safety catch on the second elevator half and push over torsion tube. Release safety catch on trailing edge and push it all the way in, if needed.

Please note: The top side of the elevator has a convex surface, whereas the underside has a concave rear portion (under camber).

The taping of the wing-fuselage junction with a plastic tape brings a lot of performance for very little effort (1-2 points on the L/D).

Do not tape the canopy gap, otherwise any emergency exit is jeopardized. It is recommended to wax the taping area prior to taping, so that tape can later be removed without pulling the laquer finish off.

Loading of the water ballast

Water ballast must only be filled into the rigged glider.

On page 8 of this manual the maximum permissible amount of water ballast is found.

Take care that both wings get the same amount of water. One can check this by leveling the loaded glider. If the loading of water is not symmetrical one connects both exit pipes in the baggage compartment by using a short tube and opens both valves. With level wings the ballast will become nearly symmetric.
After balancing the valves will be closed and the exit pipes will be connected to the tubes in the rear baggage compartment.

Attention: Water in the pipes must be carefully removed so that it will not hurt loud speakers or other installations.

For filling the tanks only one valve is hooked to the mechanism of the instrument panel; the valve is then opened.
Filling is done through the exit pipe by using a big funnel.
Filling with pressure water is strongly prohibited, as the ventilation pipe is to narrow and the water pressure becomes to strong when the reservoir is full; the wing will blow up.

Every wing tank takes about 47,5 l (12,35 US Gal.). This maximum cannot be carried, as every lateral acceleration will press some water through the ventilation. Therefore you either fill the tanks full up and drop one gallon (open the valve about 15 sec) or you fill each side with 11 1/3 gallons.
In flight full ballast can be dropped in 1 minute and 50 seconds.

If the glider is loaded with water, the wing-fuselage-intersection must not be taped on the lower side behind the main spar, so that surplus water dropping out of the ventilation may not get into the fuselage.

2.2 Checking

After rigging and prior to the first flight every day: Make sure that all assembly connections have been made properly and are safetied. Check for foreign matter in the cockpit, check the controls for ease of operations.

It is advisable to inspect the entire aircraft from time to time. Many a bolt without safety and many a damaged area has been noticed this way. Especially with a newly developed aircraft such detail is important despite the fact that the aircraft has been designed and built with care.

2.3 Derigging

At first all water ballast must be dropped, the operation cables of the valves and the exit pipes must be disconnected. Following derigging is done in the inverted sequence as the rigging.

2.4 Road Transport

The Schleicher Co. can supply drawings for a light weight trailer. It is important that the wings are sitting in well fitting saddles or are supported at the spar roots near the wing root rib.

Good attachment points for fuselage are tail-skid, wheel, wing attachment pins and under the instrument panel bulkhead.

If the ASW 15 B is transported on an open trailer, one can waterproof it to a certain extent by taping up aileron gaps, dive brakes, canopy and pitot head as well as the static vents.

Since we are dealing with a sailplane, however, which depends for its performance on the quality of its surfaces the purchase of a light, waterproof cover or better yet an enclosed light coloured trailer is a good investment. It is important to keep the closed trailer well ventilated in order to avoid high temperatures and high relative humidity.
Road transport and parking of the sailplane with water ballast is prohibited.

2.5 Upkeep and Maintenance

Moisture is an enemy of fiberglass. Always take great care that no water remains in some corners. The upper dive brake boxes are not vented in the interest of performance. They have to be kept dry with the aid of a sponge. If there is a suspiction that water has got into a component, one should store them in a dry room and turn them over daily. Do not under estimate the amount of condensation water that can get inside an airplane. That is why hangars and trailers should be well ventilated (remove instruments before longer storage periods).

If water tanks are installed to the glider, good maintenance is recommended. If the tanks are not needed for a longer period, they should be removed. If they are in use, they should be removed and checked for leaks every month.

If water is found in the wing structure, the wing must be dried as mentioned before.
After this the tanks can be reinstalled (also dry outside). To do this one needs a 13 feet long lath of wood with a notch on the well rounded end. The ventilation pipe is laid round the notch on that part where it ends in the tank. Now one pushes the tank into the wing watching that it will not be twisted and that the ventilation is placed on top.
With some experience it takes only half an hour to remove, inspect and reinstall the tanks. This short time is small against the damage that water can cause in the structure if it remains there over a longer period.

Excessive sun radiation is harmful for the finish; for this reason the sailplane should not be exposed to sunlight any more than necessary.

The maintenance of finish with a good cleaning and polishing compound (silicon free if possible) prolongs the life of the laquer and improves the surface, an important factor for good performance. The advantages of a fiberglass aircraft can only be utilized if the surfaces are smooth and free from imperfections, especially in the area of the wing and control leading edges as well as fuselage nose.

It is not too important to have a light lustre, but to remove all irregularities, such as dust particles, mud splashes, insects, etc.

The plexiglass canopy is best cleaned with a recommended plexiglass cleaner, in an emergency soap and water will do. Use a soft cloth.

After landing on wet, muddy ground or in dug fields the landing gear must be cleaned. To this one removes the left half of the baggage department floor in order to get good access with a vacuum cleaner and to facilitate a thorough cleaning job.

The tire pressure should be between 1.7 to 1.9 atü (24 to 27 psi) for 660 lbs all up weight; at maximum all up weight (when water ballast is used) 2.0 to 2.2 atü (28.5 to 31 psi).
If the tire pressure is to low the tire deforms so far during landings that the landing gear doors will be destroyed.

The skidplate has to be removed in time or should be protected against excessive wear by welding several stellite beads on to it.

The rubber tailskid has been designed in such a manner that it will shear off under strong sideloads. It can be glued back on or repaired with contact cement. It is important to cover the gap from rubber skid to fuselage in order to prevent any peeling and catching of long grass.

The towing hooks are especially exposed to soil and dirt and require frequent cleaning and oiling. For that the fiberglass fairing below the instrument panel or aft of the seat pan has to be removed.

Lubrication of the Bearings

Most ball bearings are, however possible, covered and therefore will normally require no special care for a longer period of time.

The felt or teflon guides of the push pull rods do not need any special care either with the exception of the two guides in the right lower bulkhead area which can be soiled up by the landing gear and must therefore periodically be checked. The rudder and remaining hinge bearings must be dismantled at the annual inspection and relubricated.

Excessive friction in the aileron is usually due to dryness of the hinges.

The Pitot and Static Pressure Ports on a sailplane transported on an open trailer must be sealed off by taping.

The safety Harness is to be constantly checked for tears and corrosion spots.

2.6 Overhaul

The tow coupling must be removed after every 200 launches or every 2 years at the latest and sent in to the manufacturer for reconditioning. The rudder cables are to be renewed as soon as any wear spots are noticed.

2.7 Repair

Smaller repairs on fiberglass components may be made by the owner in accordance with the guidelines as set forth in the Repair Manual for the ASW 12 and ASW 19.

All major repairs and overhauls are to be performed by the manufacturer. In case of doubt information and advice can be obtained from the Schleicher Factory.

2.8 Notes for the Inspection

The upper dive brake boxes have no ventilation as they are completely sealed against the other structure.

After rain showers the boxes must therefore be dried with a sponge etc. For better sealing of the dive brake covering plates grease as used for accumulator maintenance has been found suitable.

It is very important to check the proper locking of the dive brakes from time to time. Every brake has own dead point locking in every wing. Therefore one must check that left and right dive brake lock safely and in the same moment.

To check this one connects only one airbrake to the ball fitting in the fuselage and marks the dead point (locking point) on the dive brake lever escutcheon.

Do the same with other airbrake. Both dead points should not be more apart from each other than 5 mm (0,2 inch). Otherwise the mechanism must be adjusted (screws in the pipes behind the baggage department).

On the other hand there should be surplus forward range of the dive brake lever escutcheon about 5 mm (0,2 inch).

The wingroot to fuselage connection must be checked at least on the annual inspection for play or looseness between the fuselage wingroot pins and the wingroot holes. Play in the connection results in a clac-clac noise when the rudder is deflected and can induce awful tailplane oscillations at high speeds.

The play is removed by putting thin metal washers between fuselage wingroot pins and their metal fitting in the fuselage. The pins are pushed out of the fitting tube by feeding a steel rod through the hole of the opposite pin and blowing the pin out with a hammer. The pin should be replaced after the installation of the washer with some blows of a 1 lb. hammer.

If the fitting is to wide the pin can be either safetied by 4 mm (1/6 inch) bolts and nuts or by treating the wide end of the pin slightly with a tool in a leath as it is used for making rough handles on metal rods.

On major repairs of the control surfaces one risks that they become heavier and that the Center of Gravity of the control surfaces moves back.
This can lead to flutter. It is therefore recommended to make a light weight repair and to ask the manufacturer for tolerances.

2.9 Appendix

The play is removed by fitting thin metal washers between fuselage wingroot pins and their metal fitting in the fuselage. The pins are slid out of the fuselage tubes by fitting a steel rod through the hole in the opposite pin, and driving the pin out from the inside with a hammer. It should be possible to drive the pin back into place, after fitting the metal washer, using only a 500 g (1 lb) hammer and a few blows. If it returns too easily, then either knurl the seating area slightly until a tight fit is obtained again, or secure the pin by means of a 4 mm ø (1/6 inch) bolt and nut which you have to drill through the fuselage tube and the pin.
With major repairs on the control surfaces there is the risk that they become heavier and that by this the C.G. of the control surface moves back. This can lead to flutter. It is therefore recommended to make a light weight repair and to contact the manufacturer for the max. permissible tolerances.

During each annual re-inspection as well as after hard landings, crashes or similar incidents, the elevator actuator bellcrank inside the fin has to be inspected in accordance with TN no.21. (This is no longer applicable after the accomplishment of TN no.22, LTA 82-221 !)
Also during each annual re-inspection the spar inside must be inspected thoroughly for penetrated water, discoloration or wood-destroying mould fungi attack in accordance with TN no.23 "Action point 1.1"

2.9 Appendix

Inspection Procedures For Increase Of Service Time

1. General

The results of fatigue tests of wingspar sections have demonstrated recently that the service time of FRP gliders may be extended to 6000 hours, if for each individual glider (in addition to the obligatory annual inspections) the airworthiness is demonstrated according to a special multi-step inspection program particularly with regard to the service life.

2. Dates

When the glider has reached a service time of 3000 hours, an inspection must be done in accordance with the inspection program mentioned under point 3. If the results of this inspection are positive or if any defects found have been duly repaired, the service time of the glider is extended by another 1000 hours to a total of 4000 hours (first step).

The above inspection program must be repeated when the glider has reached a service time of 4000 hours. If the results of this inspection are positive or if any defects found have been duly repaired, the service time of the glider is extended to 5000 hours (second step).

When the glider has reached a service time of 5000 hours, the above inspection program again must be repeated. If the results of the inspection are still positive or if any defect found have been duly repaired, the service time may be extended to a total of 6000 hours (third step).

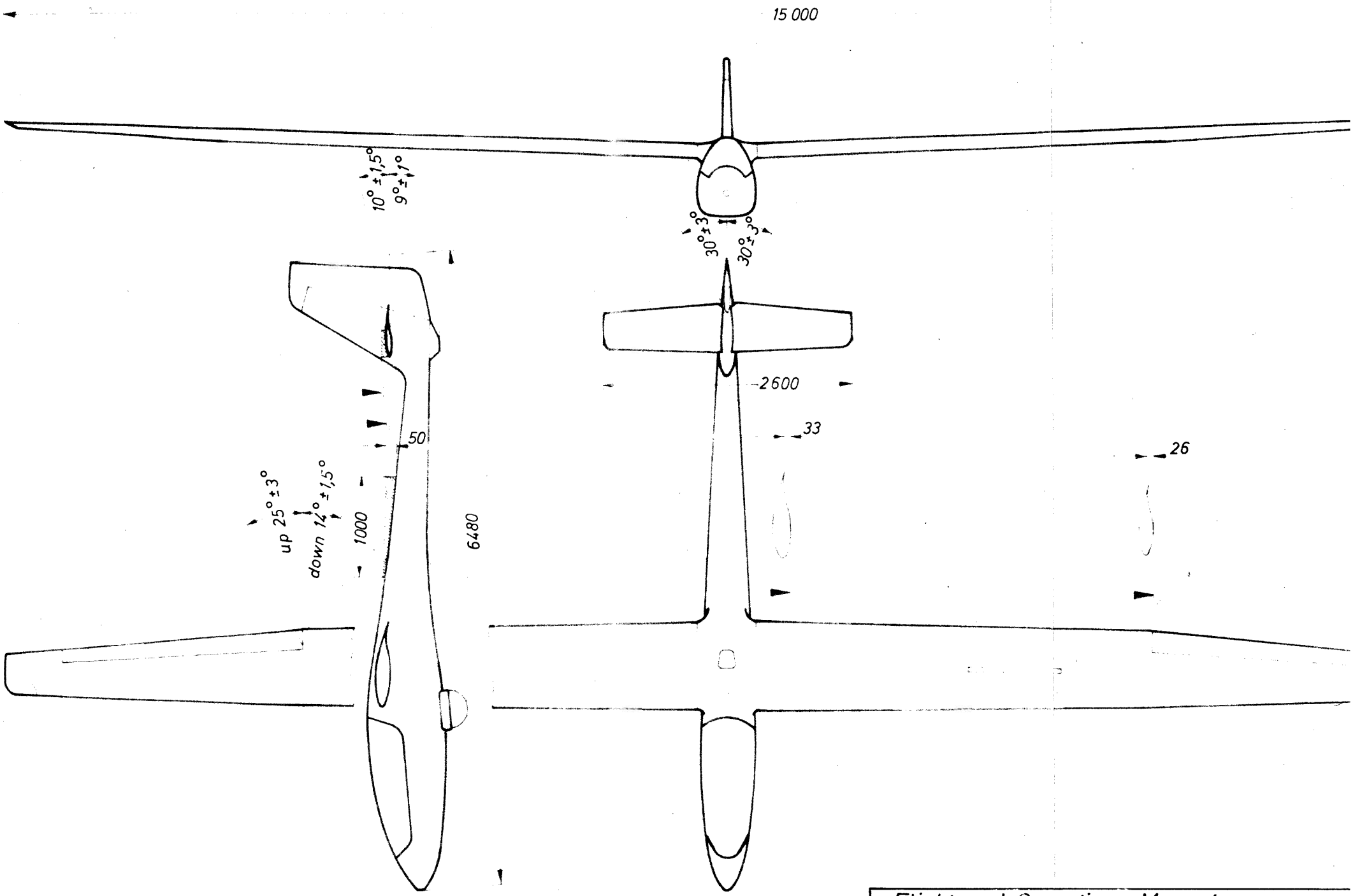
For a possible service time exceeding 6000 hours procedures will be evaluated in the future.

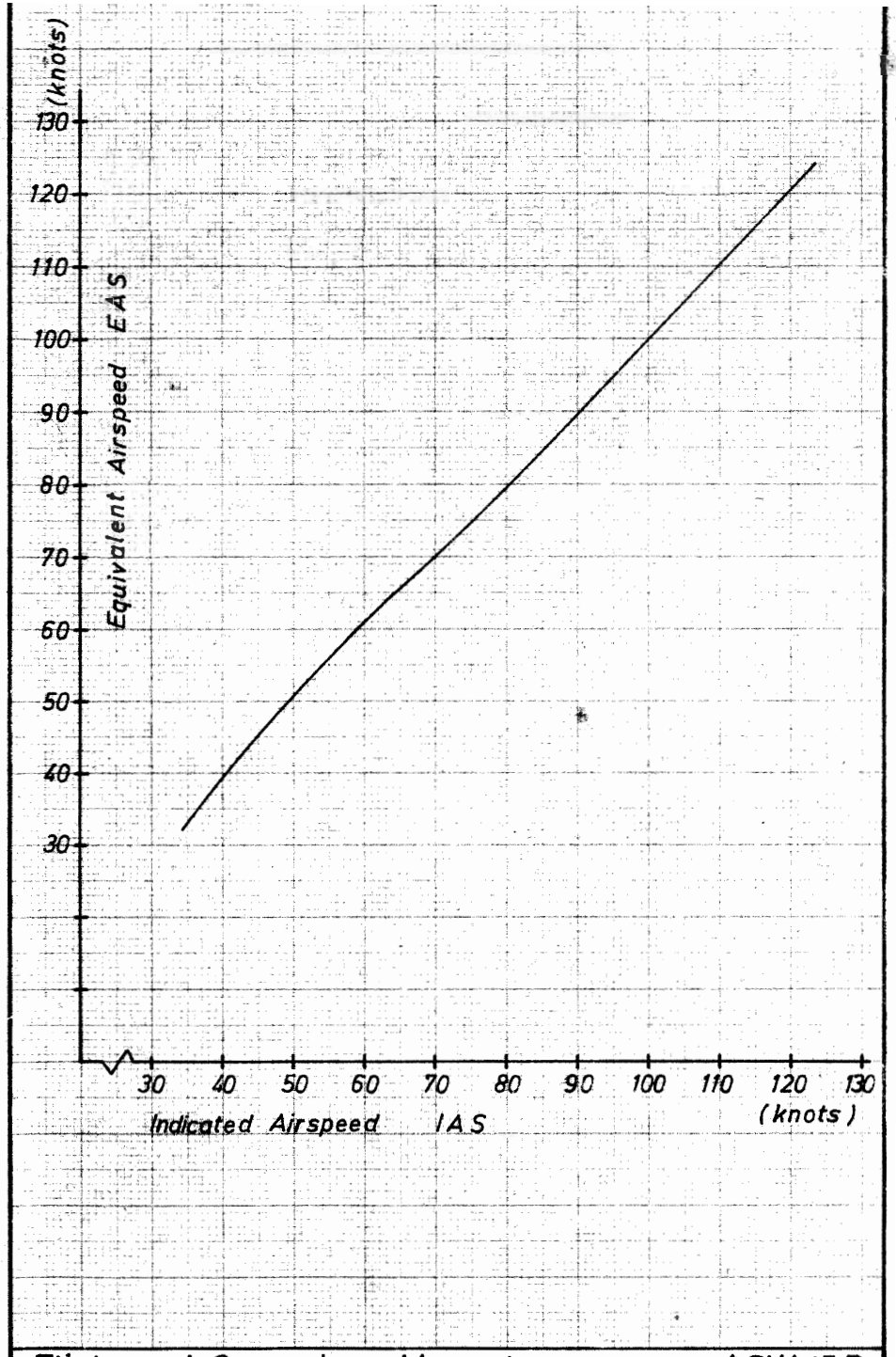
3. In each case the latest issue of the inspect program, which will be updated according to incoming inspection results, has to be order from the manufacturer.

4. The inspection must only be done by the manu facturer or by a licensed repair station or inspector.

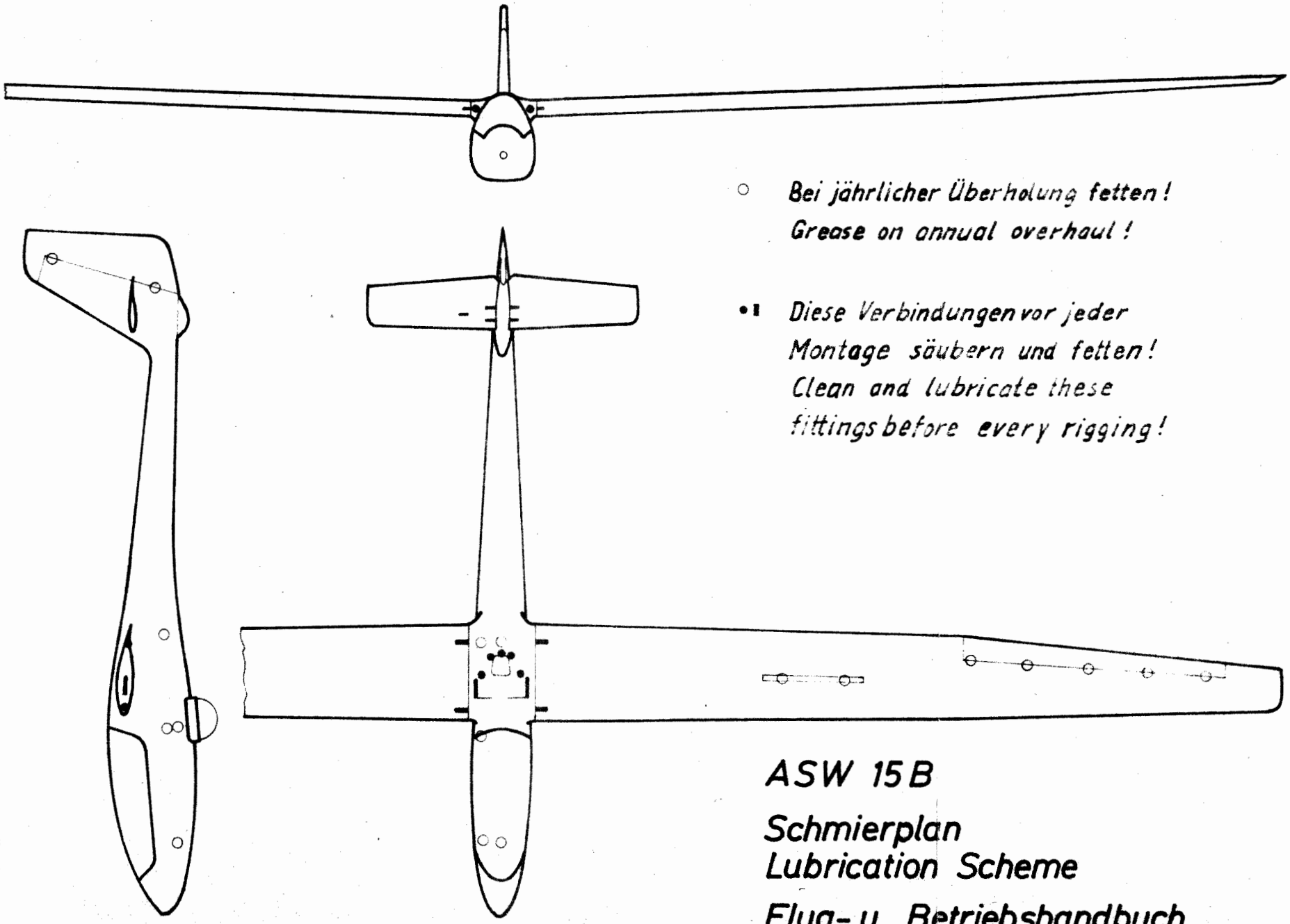
5. The results of the inspections have to be re corded in an inspection test report wherein comments are required for each inspection in struction. If the inspections are done out- side the manufacturer's facilities, a copy of the records must be sent to the manufacturer for his evaluation and information.

6. The annual inspection is not affected by thi inspection program.


15 000
10° ± 1,5°
9° ± 1°
30° ± 3°
30° ± 3°
2600
33
26
50
1000
6480
up 25° ± 3°
down 14° ± 1,5°



30.11.73 LW. JUMTOW



○ Bei jährlicher Überholung fetten!
Grease on annual overhaul!

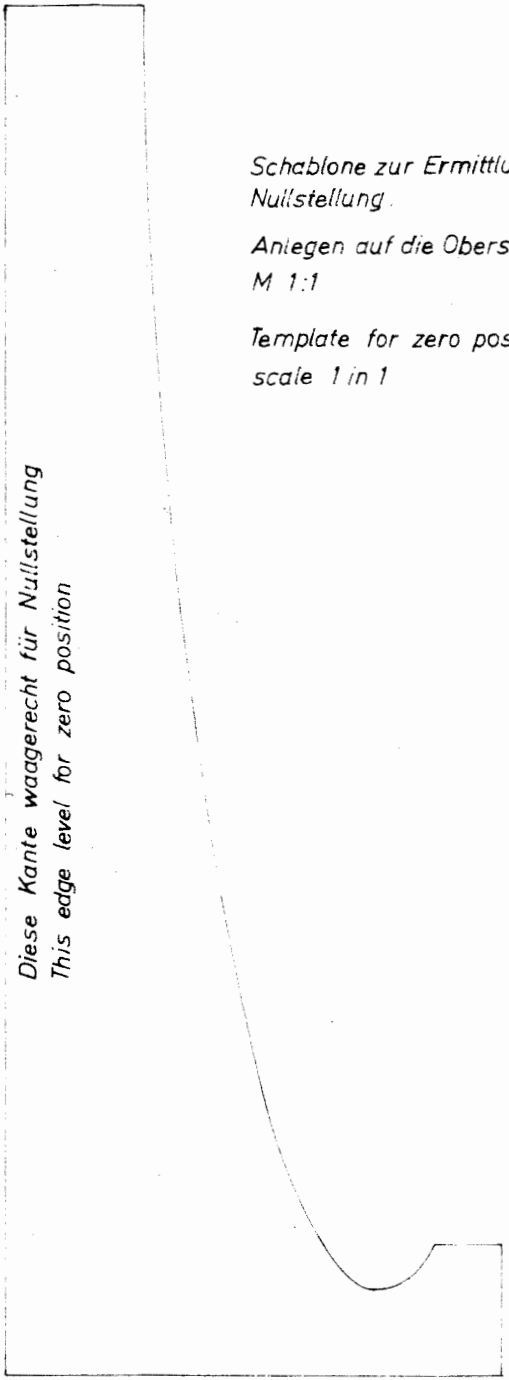
•1 Diese Verbindungen vor jeder Montage säubern und fetten!
Clean and lubricate these fittings before every rigging!

ASW 15B

Schmierplan
Lubrication Scheme

Flug- u. Betriebshandbuch
Flight and Operations Manual

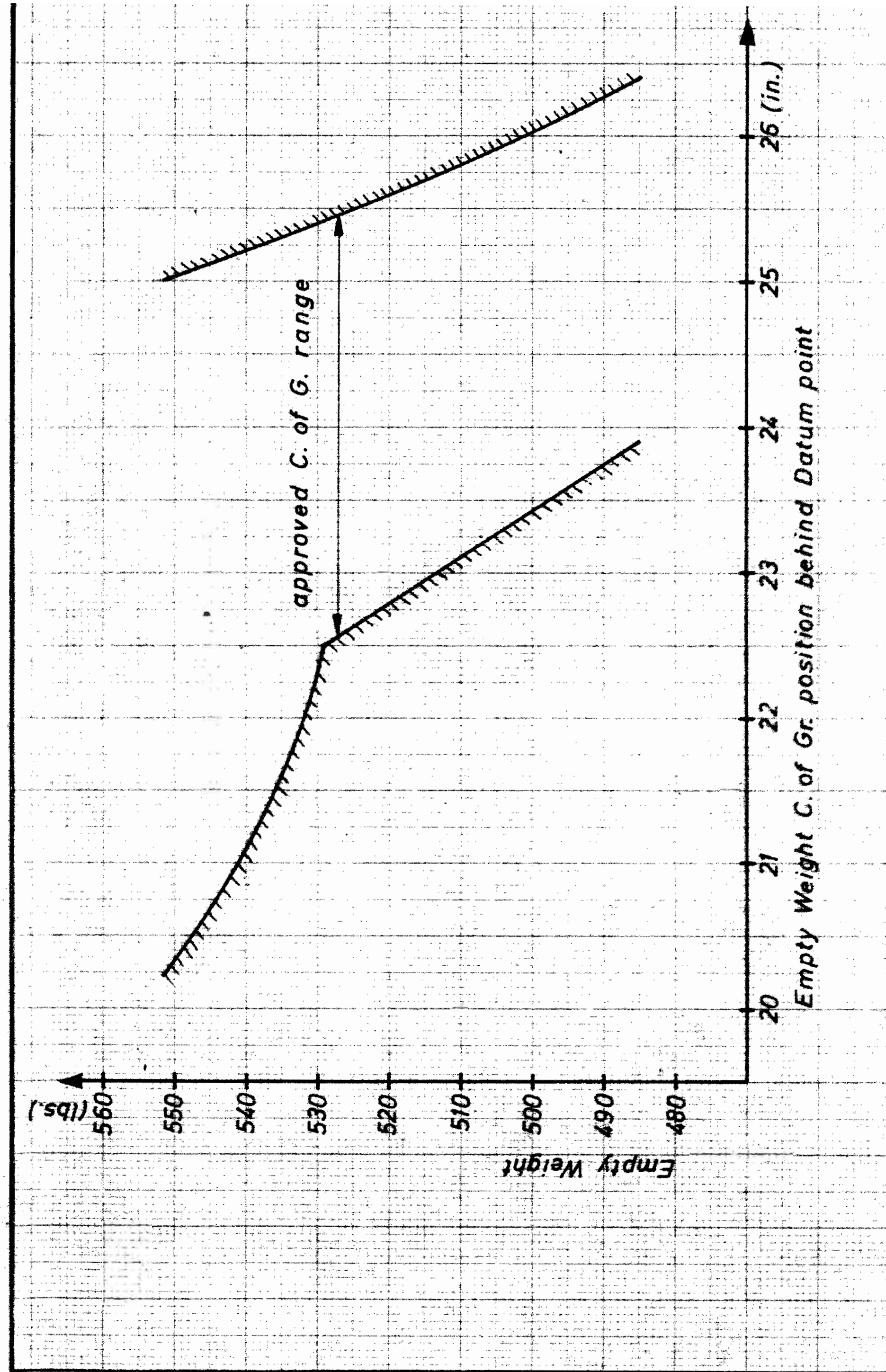
E.W. Junkow



Schablone zur Ermittlung der Pendelruder - Nullstellung.

Anlegen auf die Oberseite der Wurzelrippe.
M 1:1

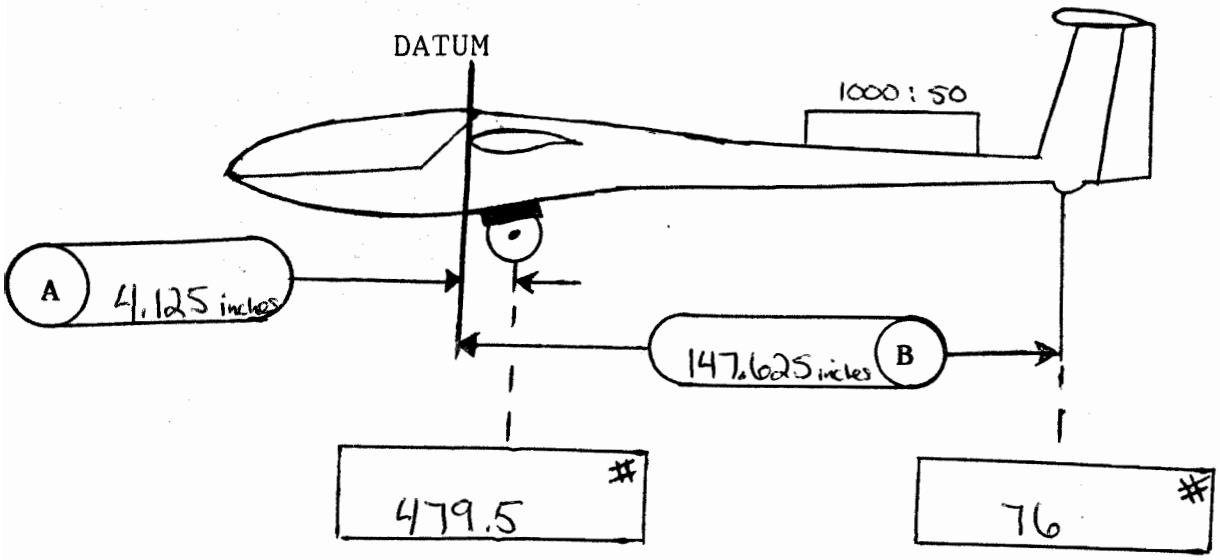
Template for zero position of the elevator.
scale 1 in 1



30.11.73 L.W. JUNTOW

WEIGHT AND BALANCE

SAILPLANE ASW 15B N 18CF S/N 15187 DATE 5-24-97



$$X = \frac{(\text{Wt Main} \times A) + (\text{Wt Tail} \times B)}{\text{Gross Weight}}$$

$$\frac{(479.5 \times 4.125) + (76 \times 147.625)}{555.5} = 23.75''$$

Forward Limit 20.5
Aft Limit 26.8
Max Gross Wt 900 lbs
Tail Ballast 0
Empty Weight 555.5
Empty Wt C.G. 23.75
Flying Wt C.G. _____
Weight of Pilot&Chute _____
Max Wt Non-Lift-Surf _____

A&P 569452428

EQUIPMENT LIST
1 Airspeed
1 Altimeter
1 Compass
2 Vario
1 Oxygen
1 Radio
6 Battery
1 Clock
Cameras
1 G-METER

JJ GLIDER REPAIR
John S. Sinclair
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