Handbook for sailplane

Schleicher Ka 2 B "H h ö n s c h w a l b e"

A) Main data

B) Minimum equipment

C) Adjusting data

D) Rigging and derigging

E) Flying operations

F) Maintenance

G) Center of gravity

Enclosures: 1. Outline drawing

2. Drawing with weighing directions

Record of Revisions

Rev No.	Pages Affected	Date of Issue	Date of Approval	Date of Insertion	Ref. / Signature
TN 10	10/2, 11/2		29.06.78	05.06.78	Juw
TN 11	*Annex* (elevator)		04.10.89	17.10.89	Juw
TN 12	Annex (new production series tow release couplings for aerotow and winch launch)		12.04.90	10.05.90	Juw
TN 13	**ANNEX Inspection of the automatic elevator control connection**		**08/01/2013**	**15/05/2013**	**Heide**

A) Main data:

Weights:	empty weight approx:	615 lbs
	highest permissible disposable load:	440 lbs
	highest permissible load of non lifting parts:	700 lbs
	highest permissible all-up weight:	1050 lbs

Permission for:

Bungey launch	yes
Auto and winch-tow	until 55 knots
Aero-tow	uhtil 70 "
Maximum flying speed in rough air	until 108 "
Primary training with instructor	yes
Stalls and spinnings	yes

Stressing category 2 as per BVS

B) Minimum equiment:

Safety-belt and shoulder-harness. Airspeed-indicator ranging from 25-100 knots in both seats. Altimeter in front-seat. Back-cushion with firm filling, 4 inches thickness (when compressed), if no parachute is taken along. Trimming-plane. Data-plate.

C) Adjusting data:

The adjusting- and wash-out angles as well as deflections of the control surfaces are shown in outline-drawing.

At repairs take care that the tolerances are being observed.

By the particular kinematic of the control mechanism the aileron deflection will be influenced by the elevator. With normal stick the aileron must be balanced (stand normal). With pulled stick they are a little bit zoomed.

The controls have stops:

Rudder-control: fixed stop in the rear at the below rudder-hinge.

Aileron-control: fixed stop at the bottom board in the frontseat.

Elevator-control: fixed stop at the bottom board in the frontseat.

Airbrakes-control: backward: adjustable stop at back horizontal push rod, strikes at main bulkhead.
forward: fixed stop, cross-shaft-lever strikes at hard wood block at main bulkhead.

D) Rigging and Derigging:

Rigging:

1.) Clean and grease bolts and holes.
2.) First put left wing in from the side and put in the bolts. Do not tilt fuselage considerable.
3.) Right wing to be set in as mentioned under 2).
4.) Set in the two conical main-bolts (first the lower one) and screw on. By shaking the wings it will be easier to fasten the screws.
5.) Main-bolts to be secured with safety-needle. Back bolts secure with safety-hook.
6.) Aileron- and airbrake-linkages to be joint and secured with safety-needle.
7.) Set up elevator unit, front-screw to be fastened and secured with safety-needle. When setting up the unit pay attention that control-surface-bellcrank has been put in unobjectionable. Danger for bending the push-rod-rocker by using force!
8.) Check-up controls, airbrakes and release for free movement and function. Check-up for foreign bodies (substances). Tyre press: 35 - 42 psi.
9.) Set up slot covering. Supporting strut for hind canopy put in at main fitting and secure with safety-needle.

Derigging:

Point 1-10 in opposite sequence. The conical bolts are to be loosened by a slight stroke with a hammer. Grease all connexions, danger of corrosion.

E) Flying:

Trimming:

The glider can be flown in front-seat with pilot weight (incl. paraschute) of 140 lbs till 220 lbs. the weight-span is for two-seated 120-220 lbs in the front seate. In this range a weight trim is not necessary. Persons of less weight have to carry ballast (lead-sheets as seat-pad). The installed flettner-trim serves as trimming for various flying-speeds only within the permitted locations of c.g. Especially the attention is drawn to the fact that it is dangerous to correct a tailheavy glider with the Flettner-trimming.

Adjusting of rudder-pedals:

Fetch back pedals with heels, and adjustings limk in control-cable to be put into click-stop. Adjusting is also possible during flight.

Winch-tow:

Preset breaking piece Nr. III Max. speed 55 knots. Note: in winch-tow pulling means speed-increase. At take off pull a little.

Best pitch-ratio with stick in normal possition, in last part of tow a little pulled. Winch-tow only at the c.g. hook.

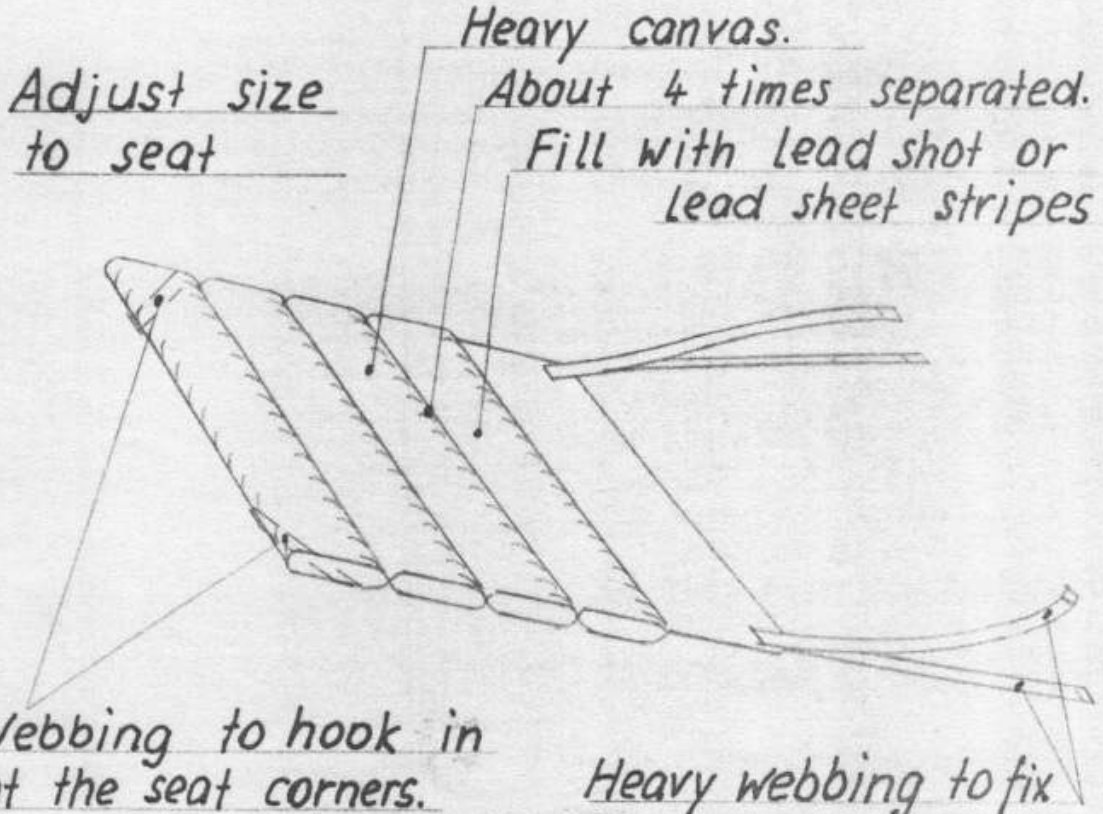
K 2b - Handbook

E I) Supplement to the trim plan:

With very light pilots in the front seat there is ballast neccessary. It should be noted that this ballast is to be fixed to prevent blocking of the controls.

It is recommended to use a lead cushion prepared after the scetch below.

The weight of the ballast cushion should be 2o or 3o lbs. This weight is to be Considered when using the trimplan.



DVL-PfL approved: 25.4.1963

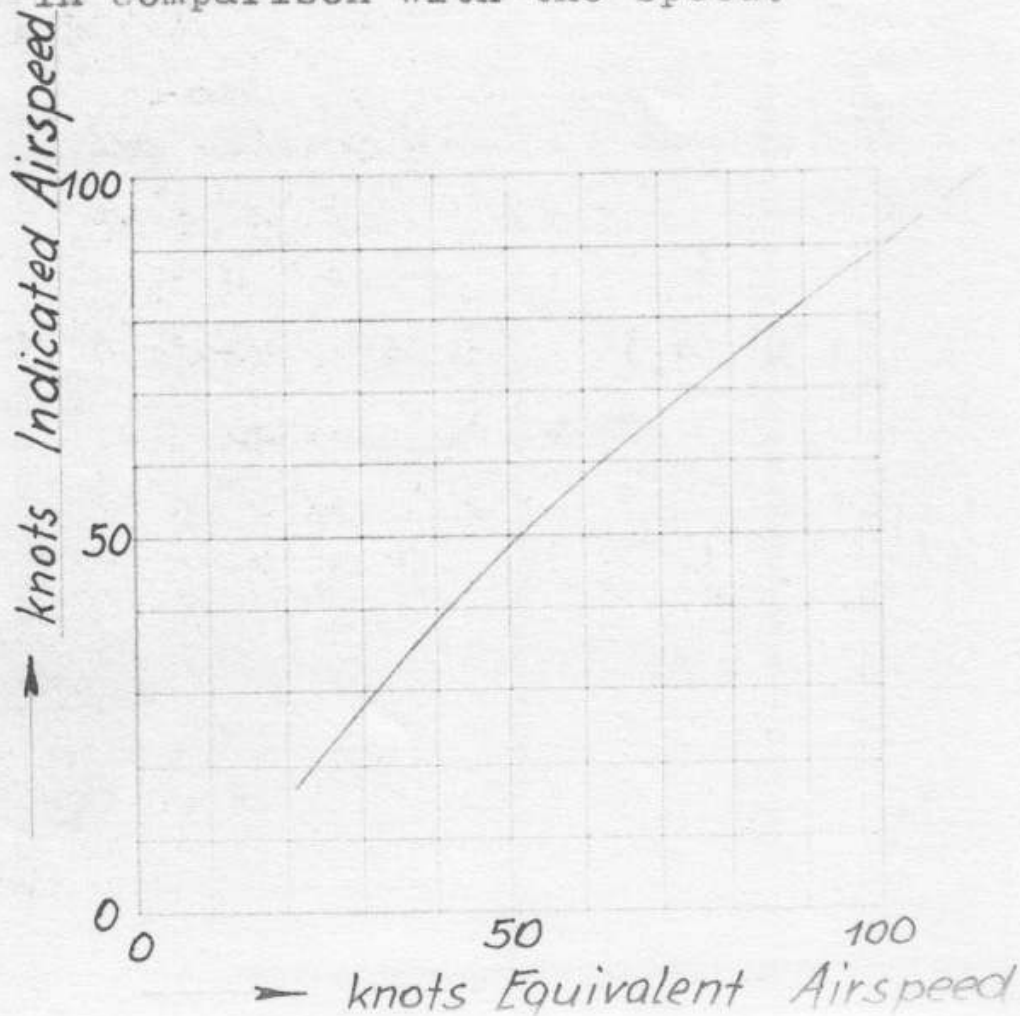
Aero-tow:

Preset braking piont Nr. II (min 1100 lbs, max. 1300 lbs. Max. tow speed 70 knots.

Before every take off make sure that cockpit and airbrakes are clicked in.

Free flight:

The data mentioned here are ascertained by calculation. They refer to the real flying-speed (dynamic pressure EAS).
There is still the position-error of the airspeed-venturi-head to be taken into consideration, which is dependent on the place the airspeed-venturi has been fixed. For the normal execution (venturi 3,5) in front on fuselage there is shown in fig 1. the position error in comparison with the speed.



Stalling speed at 800 (1000) lbs flying- weight
= 29 (32) knots

The lowest sinking speed in straight flight is at 32 (37) mph

The best gliding angle at 40 (46) knots.

In turns the speed at best sinking will be higher in relation to bank.

Landing:

Approach with about 40 (45) knots. With the air brakes the gliding angle can be adjusted well.

Touch down will be done best with the wheel alone, the glider will not bound. Braking will done by pushing down on the skid.
(Figures in brackets: two-seated.)

Stalls and spinning:

The glider can be hold with the rudder in stalled flight with pulled stick. Spinning will be introduced by strong rudder deflection. With formemost c.g. the glider soon will go into a spiral dive. With normal and backwards c.g. an unobjectionable spinning will ensue. Spinning with back c.g. must be avoided, possibly, because the come out will take a little longer (about 1/2 after-turn.)

In high-speed-flights the speed-limits are to be followed exactly. As soon as a speed of 70 knots has been exceeded involuntary the airbr brakes are to be opened slowly. Note: at higher speed the lever-power will work into direction of opening.
Raindrops, hoar-frost and icing can disturb the wing-surfaces so much that other flight-characteristics will follow. Therefore, a particular care is necessary by landing in rain; enough overspeed.

F. Maintenance

Humidity is the greatest enemy of a wooden plane. Take care always that no water will remain in the corners. On suspicion that water came into the wings bring them into a dry room and turn every day.

The glider will be endangered particularly on open transport-cars. In any case it must be made sure, that by covering the front part no splash water will touch the wing-root.
Also by condensing-waters considerable quantities of humidity can enter the interior of the glider.

Strong solar-irradiation will injure the finish by tims, therefore the glider should not be exposed to the sun more than necessary. The treatment of the finish with good varnish-material will increase the durability of the finish and improve the flying-performances. It is not the main thing that the varnish will shine but that all unevenness, du st-grains, dirt-splashes, insects etc. will be removed.

Sealing of the slits and clefts with adhesive tape will also increase the performance. However at the cockpit caution is necessary when parachute bail-out should be posseble.

Wenn die Grenzen des Leergewicht-Schwerpunktes eingehalten werden, ist gewährleistet, daß im Rahmen des angegebenen Trimmplanes auch die zulässigen Grenzen des Schwerpunktes im Fluge (Fluggewicht-Schwerpunkt) eingehalten werden. Die Schwerpunktlage im Fluge hat großen Einfluß auf die Flugeigenschaften. Deshalb ist der Einhaltung der vorgeschriebenen Grenzen größte Beachtung zu schenken.

Besonders gefährlich kann zu große Schwerpunktrücklage werden: Das Überziehverhalten, vor allem aber die Trudeleigenschaften (Flachtrudeln) werden dadurch stark verschlechtert, die Empfindlichkeit des Höhenruders nimmt zu.

Zu große Schwerpunktvorlage verschlechtert die Flugleistungen und läßt das Fliegen bei Höchstauftrieb nicht mehr zu (Durchziehen bei der Landung!).

Folgende Grenzen der Fluggewichtsschwerpunktlage sind erprobt:

a) max. Vorlage 50 mm hinter Bezugspunkt
b) max. Rücklage 275 mm hinter Bezugspunkt

7. Trimmplan

Zuladung	zweisitzig min.	zweisitzig max.	einsitzig min.	einsitzig max.
1. Sitz (vorn) (kg)	55	100	65	100
2. Sitz (hinten) (kg)	beliebig	100	--	--

Cleaning of plexiglass-parts of the canopy only with "plexipol" and"plexiklar". In case of need clean water. Soft cloth (gloves-cloth) In no cass rub with hard cloth dry on plexiglass.

Lubrication of bearings:
The bearings are, so far as possible, normally covered and therefore requre no special maintenance for longer times. Only the bearing at the wing-root, where the rigging-connections do not allow an unobjectionable protection, must be cleaned with petrol when fouled and then greased again.

The control-cables require frequent cleanung and greasing at the glide spots. Especially on sandy ground, as soon as wearing is to be seen on the cable they must be replaced.

The grease-nipples of the pedal.bearings, elevator-oscillator, stick-bearing and cross-shaft-lever in the wing (each 3 pieces) must be greased every 25 flying hours.

Bei geringer Zuladung ist Ausgleich durch Ballast erforderlich. Der Ballast ist unverrückbar zu befestigen (Bleikissen im Sitz).
Das höchstzulässige Fluggewicht darf nicht überschritten werden.

Schwerpunktlage der Piloten

(mit Fallschirm oder Rückenkissen)

im 1. Sitz: 1060 mm vor BP
im 2. Sitz: 30 mm hinter BP

BE = 2000 mm vor BP

Beachte: Wenn kein Fallschirm verwendet wird, muß ein im zusammengedrückten Zustand 10 cm dickes Rückenkissen verwendet werden.

Schleicher Ka 2 b „Rhönschwalbe" Schmierplan

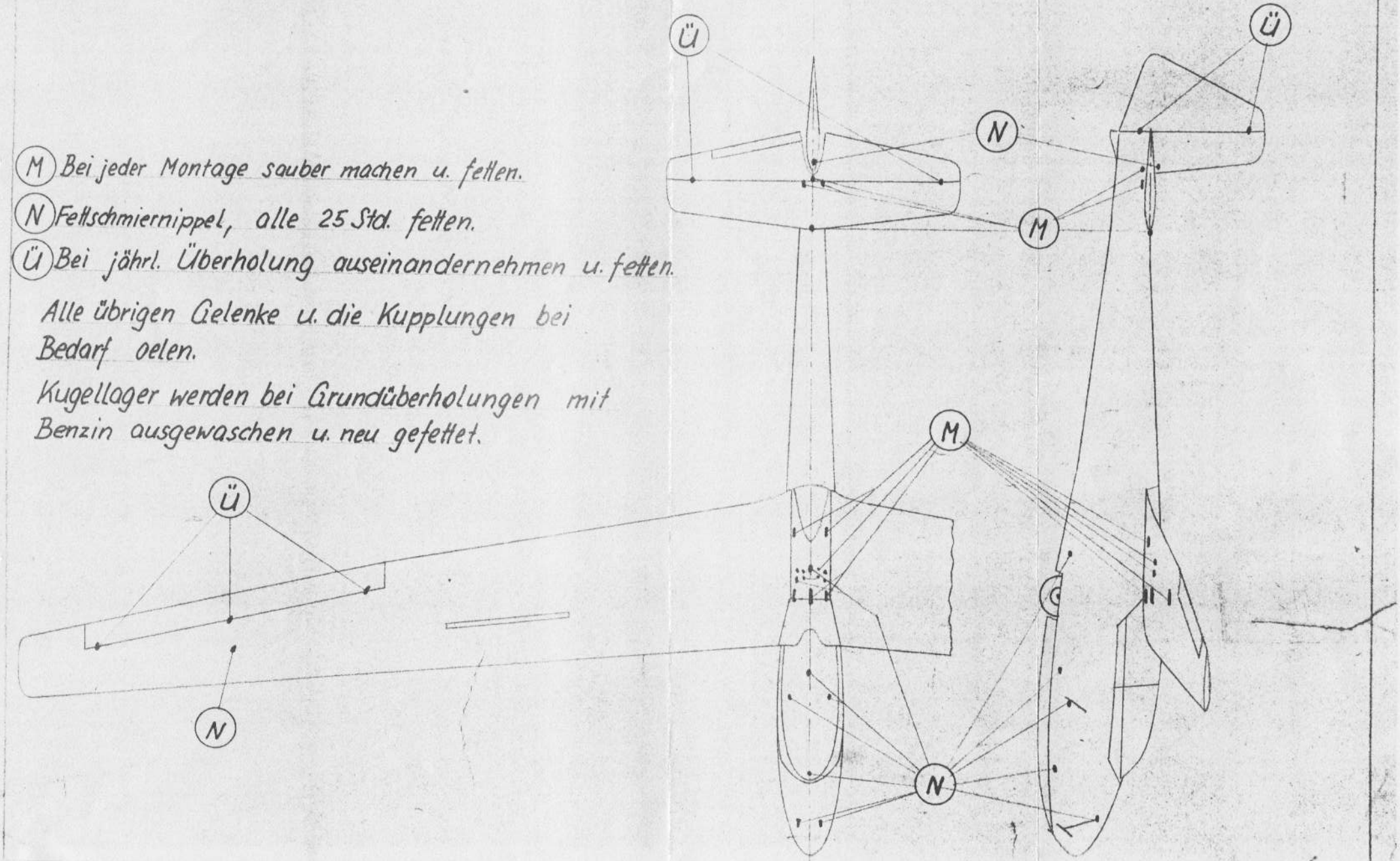
(M) Bei jeder Montage sauber machen u. fetten.

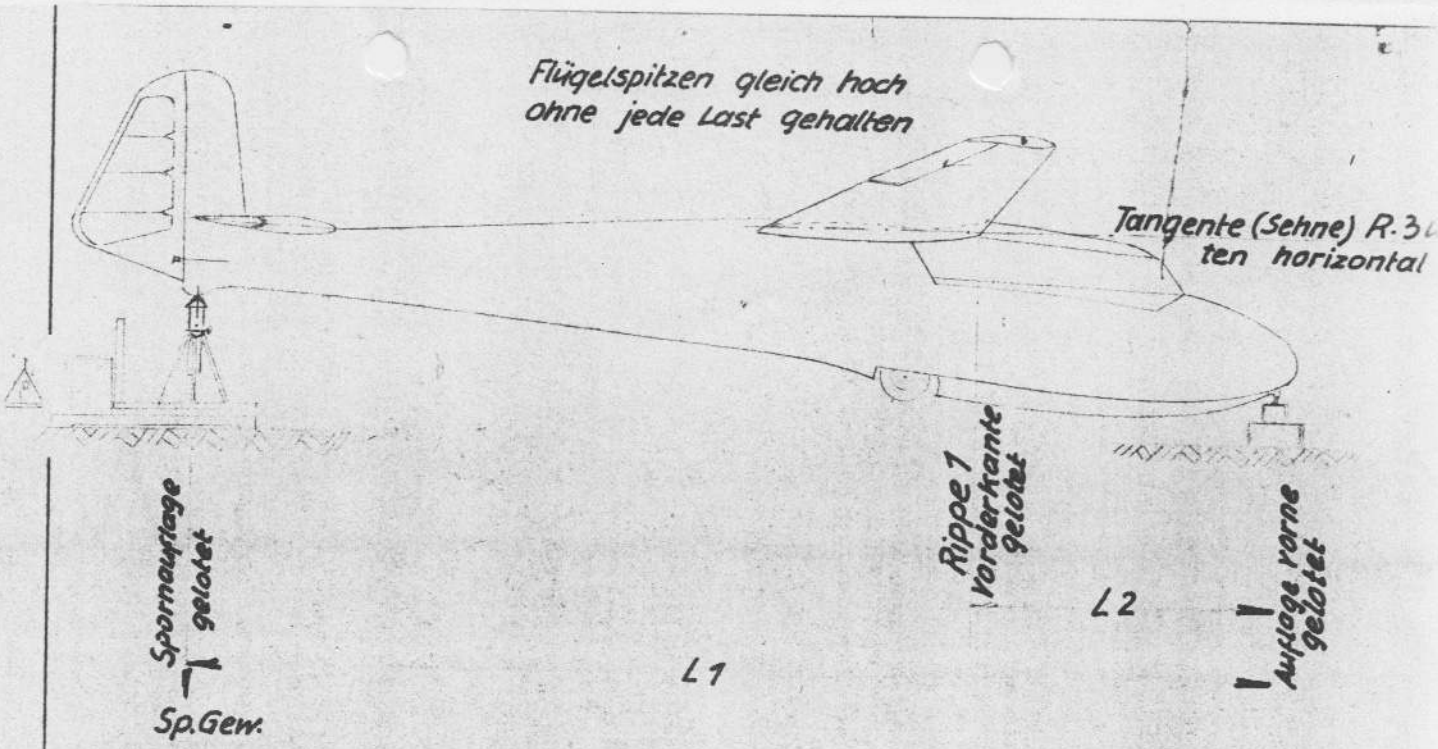
(N) Fettschmiernippel, alle 25 Std. fetten.

(Ü) Bei jährl. Überholung auseinandernehmen u. fetten.

Alle übrigen Gelenke u. die Kupplungen bei Bedarf oelen.

Kugellager werden bei Grundüberholungen mit Benzin ausgewaschen u. neu gefettet.





Ermittlung d. Rüstgewicht-Schwerpunktes

$$\frac{Sp.\,Gew. \cdot L1}{GL} - L2 = \text{Schwerpunkt}$$

Sp. Gew. = Sporn Gewicht
L1 = Länge zwischen den Auflagepunkte
L2 = Auflage vorne bis Vorderkante R.1
GL = Leergewicht

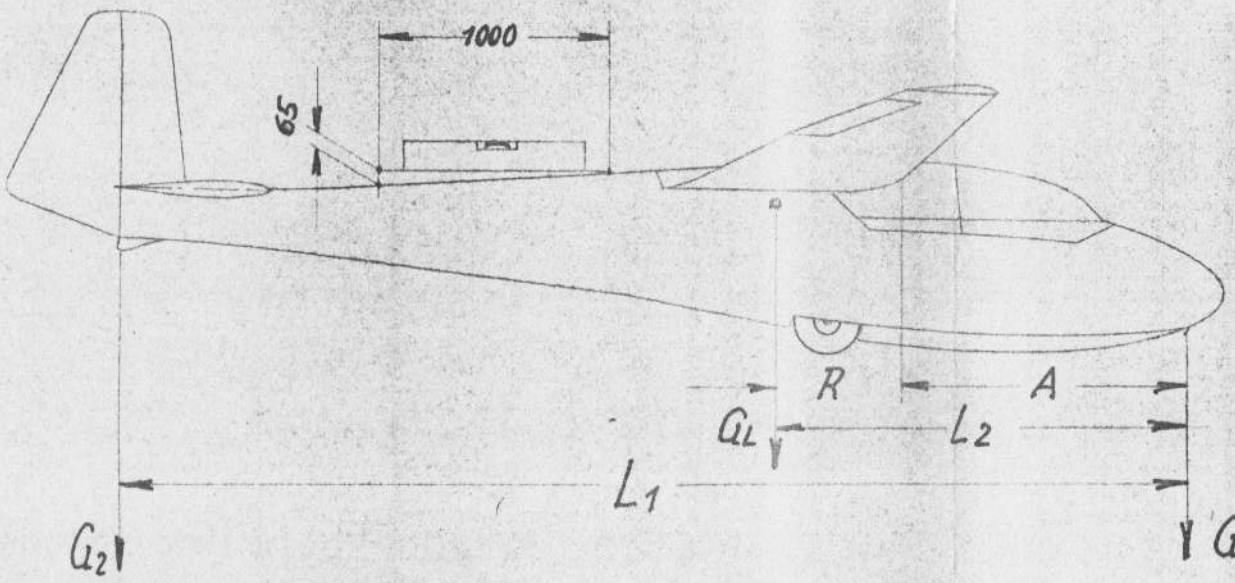
Schwerpunkt:

Baumuster 140 Ka II

Leergewicht	250	260	270	280 Kg.
Schwerpunktlage	620	600	585	570 – 50 mm

Baumuster 203 Ka II b

Leergewicht	270	280	290	300 Kg
Schwerpunktlage	550	540	530	520 mm ± 50 mm



G_L = Leergewicht; empty weight
G_1 = Gewicht am Starthaken; weight at bungee launch hook
G_2 = Sporngewicht; weight at tail skid
R = Schwerpunkt rücklage; center of gravity position.

$$R = L_2 - A = \frac{G_2 \cdot L_1}{G_L} - A$$

$$G_1 + G_2 = G_L$$

Geforderte Leergewicht - Schwerpunktlage:
Emty weight - C. of Gr. - position:

G_L = Leergewicht; empty weight	270	280	290	300	kg
R = Schwerpunktlage; C. of Gr. position	550	540	530	520	mm ±50

hinter Flügelvorderkante Rippe 2
behind wing leading edge rib 2

The control-surface and other plain-bearing will be dismantled, cleaned and greased at the yearly overhault.

The c.g. hook especially is exposed to mud and requires often cleaning and oiling. Also the wheel-bearings demand careful maintenance.

If the flying takes place on very stony or sandy grounds it is advisable to protect the skid by screwing on a steel plate of 1 mm thickness.

The tail-skid must be renewed from time to time . The skid is to be unscrewed for this pur pose.

The safety-belts are to be checked currently for fractures, damp-stain and rust.

Repairs:
Repairs at the main-spar must be done by the manufacturer. It will be good to contact the manufacturer for greater repairs.

G. Centre of gravity:

Great influences to the flying characteristics has the centre of gravity. Therefore the prescribed limits must be kept and not exceeded. Far aft position of c.g. is particularly dangerous. The stalling and especially the spinning characteristics (flat spin) will go worse. The sensibility of the elevator will increase. C.G. too much in front will diminish performances and will not ~~will not~~ allow flying at maximum lift coefficient. (pull through by landing)

The following ranges of flight position c.g. are tested:

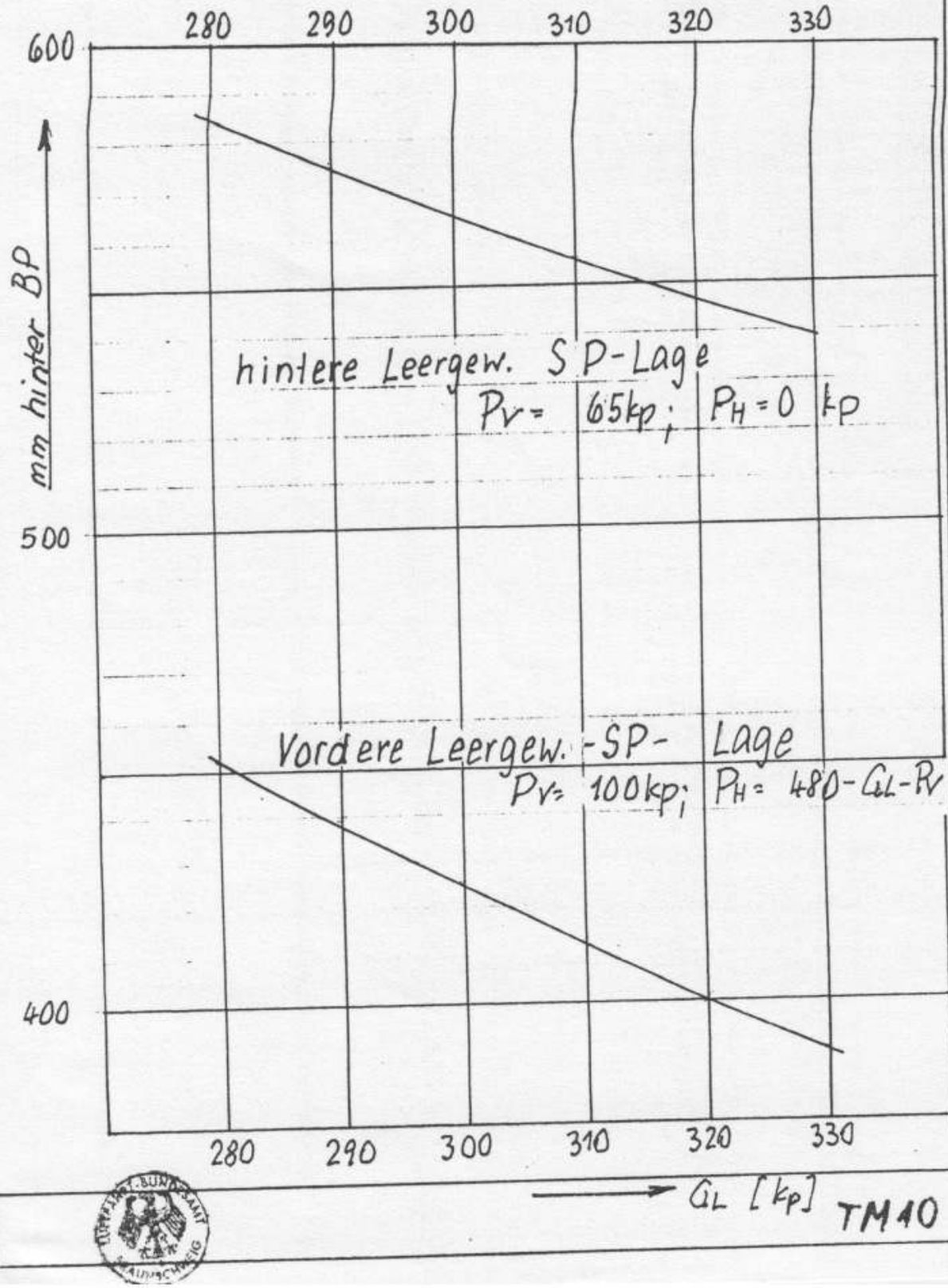
a.) max hind position: 11 inches behind wing leading edge at rib 2

b.) max forward position: 2 inches behind wing leading-edge at rib 2

Pay attention to c.g. when additional equipment will be installed, at repairs and revarnish. One can take it as a rule, that the gliders become heavier during their life and become tail-heavy. Therefore it is advisable to have a new weight regulation of the parts and c.g. at the yearly overhaults.

Segelflugzeugmuster Ka 2B

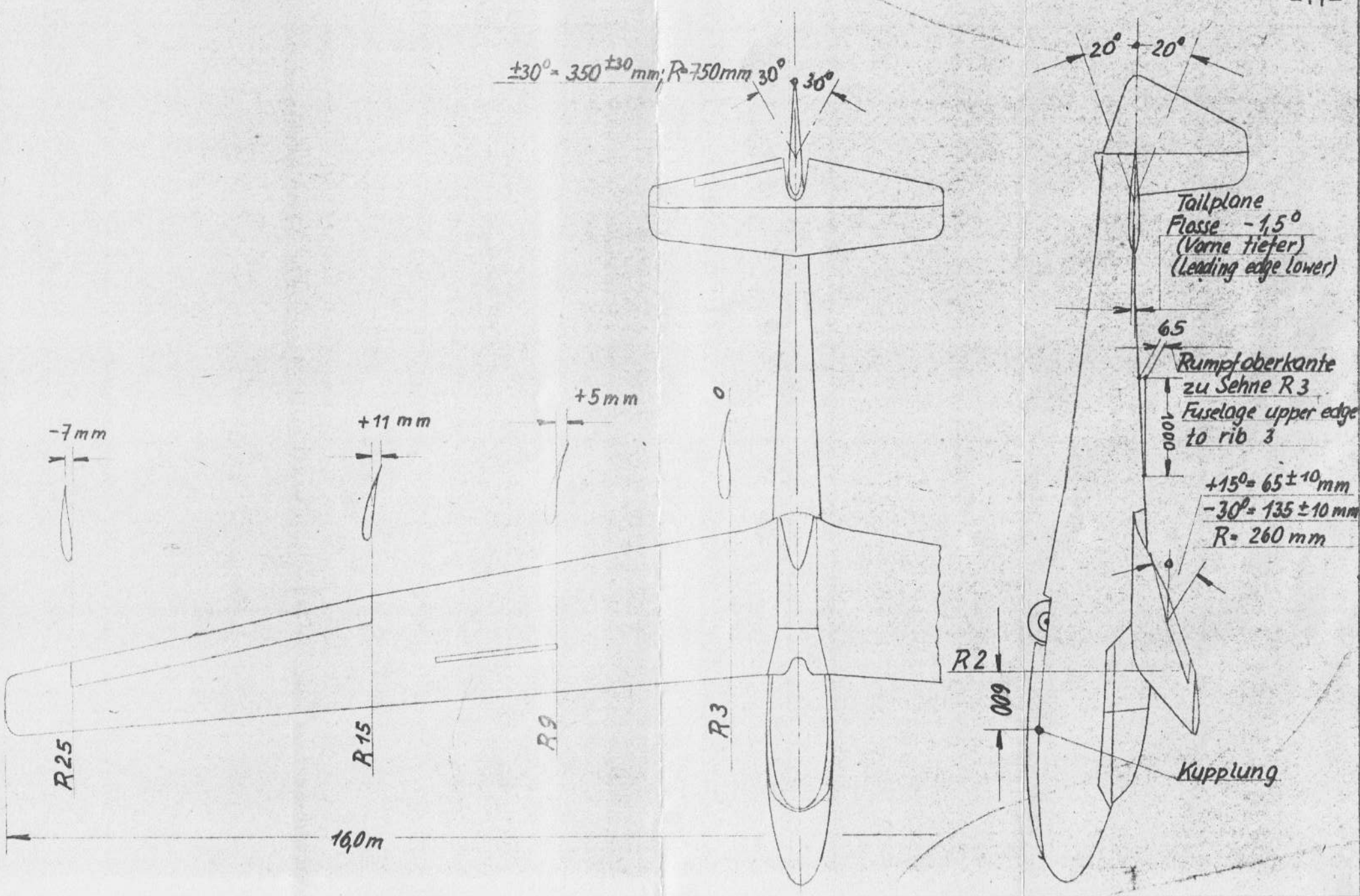
Leergewicht - Schwerpunkt bereich



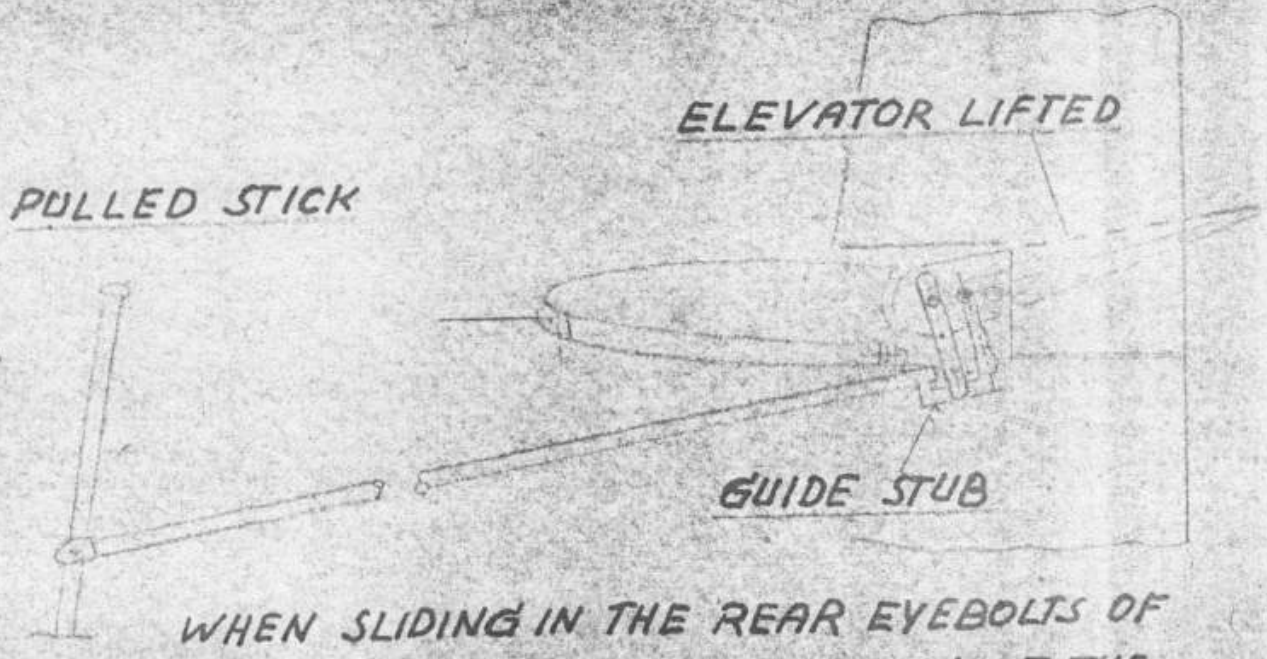
TM 10

Alexander Schleicher GmbH & Co. Segelflugzeugbau, Huhnrain 1, Postfach 60, D-6416 Poppenhausen, Telefon 0 66 58 - 2 25, Bahnstation: Fulda

Schleicher Ka 2b „Rhönschwalbe" Übersicht M=1:50



ELEVATOR UNIT
ASSEMBLY
SCHLEICHER K8



WHEN SLIDING IN THE REAR EYEBOLTS OF THE STABILIZER IT IS ADVISABLE TO LIFT THE ELEVATOR SOMEWHAT. THE BALL BEARING OF THE ELEVATOR CONTROL LEVER MUST FIT INTO THE GUIDE STUB OF THE PUSH-PULL TUBE TO AVOID THE RISK OF BENDING THE TUBE.

SHEET: 1 of 3	Technical Note for	Alexander Schleicher GmbH & Co. Segelflugzeugbau D-6416 Poppenhausen

Glider model:

Ka 2 u. Ka 2B	TN-No. 11
Ka 6, 6/0, 6B, 6BR, 6CR, 6B-S	TN-No. 21
K7	TN-No. 18
K8, K 8B, K 8C	TN-No. 23
K9	TN-No. 1
K11	TN-No. 1
ASK 13	TN-No. 12
ASK 18, ASK 18B	TN-No. 6

Serial number applicability:

Ka 2,	Data-Sheet No. 140,	all serial no.s
Ka 2B,	Data-Sheet No. 203,	all serial no.s
Ka 6,	Data-Sheet No. 205,	all serial no.s
Ka 6/0,	Data-Sheet No. 205,	all serial no.s
Ka 6B,	Data-Sheet No. 205,	all serial no.s
Ka 6BR,	Data-Sheet No. 205,	all serial no.s
Ka 6CR,	Data-Sheet No. 205,	all serial no.s
Ka 6BS,	Data-Sheet No. 205a,	serial no. E1
K7,	Data-Sheet No. 211,	all serial no.s
K8,	Data-Sheet No. 216,	all serial no.s
K8B,	Data-Sheet No. 216,	all serial no.s
K8C,	Data-Sheet No. 216,	all serial no.s
K9,	Data-Sheet No. 221,	serial no. 1
K11,	Data-Sheet No. 668,	serial no. V1
ASK 13,	Data-Sheet No. 267,	all serial no.s
ASK 18,	Data-Sheet No. 307,	all serial no.s
ASK 18B,	Data-Sheet No. 307,	all serial no.s

Subject:

Elevator.

Compliance:

Prior to the next take-off.

Reason:

A glider of the model K7 failed to gain normal flight attitude immediately after tow rope release on winch launch. With the stick full back only the left elevator could be actuated in the correct direction; the right elevator deflected downwards. The reason for this was a loose glue bond at the elevator rib 1 at which the elevator fitting is attached. Similar incidents lead already before to the issue of the LTA 72-7 dated Feb.9,1972.

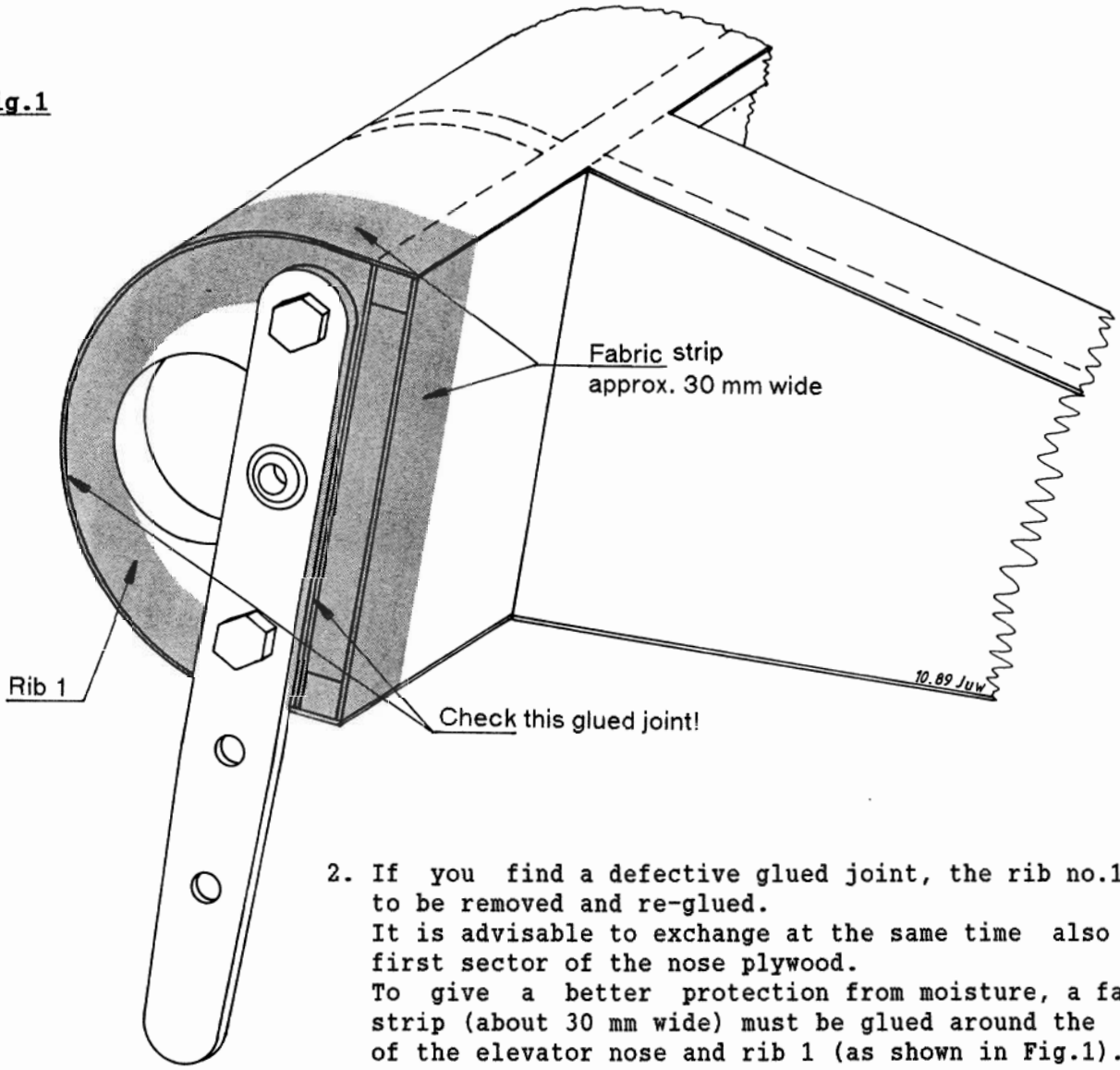
Action:

1. Remove elevator.
   Check that the glued joint between rib 1 and the leading edge plywood and the elevator spar respectively is in good condition (see Fig.1). Before doing so check whether the LTA 72-7 of Feb.9, 1972 was already previously accomplished (this is not applicable to K9, K11 and ASK 18); if yes then the fabric strip first carefully has to be detached in order to be able to check the glued joint.

Technical Note
for
Glider Models as per Sheet 1

Alexander Schleicher
GmbH & Co.
Segelflugzeugbau
D-6416 Poppenhausen

Fig.1



2. If you find a defective glued joint, the rib no.1 has to be removed and re-glued.
   It is advisable to exchange at the same time also the first sector of the nose plywood.
   To give a better protection from moisture, a fabric strip (about 30 mm wide) must be glued around the edge of the elevator nose and rib 1 (as shown in Fig.1).

3. The above action under points 1. and 2. must be repeated every three years during the annual re-inspection. This copy of the Technical Note must be inserted in the Flight and Operations Manual of the respective glider as an annex and a corresponding entry must be made into the "Amendments to the Manual".

Material & drawings:

Rib 1 made from multi-plywood, 15 m thick, and nose plywood, 1 mm thick, according to DIN L 182/183, class 1/2 or NL 9128, 6.1013. Drawing as above.

Mass and C.G.:

It is not necessary to redetermine the mass and C.G. data.

Technical Note
for
Glider Models as per Sheet 1

Alexander Schleicher
GmbH & Co.
Segelflugzeugbau
D-6416 Poppenhausen

Notes: Actions 1. and 3. can be accomplished by a person who is familiar with such work.
Action 2. must only be accomplished by a technical aviation service station holding an appropriate license; the accomplishment of all actions must be certified by a licensed aviation inspector in the glider logbook and in the inspection certificates.

Poppenhausen, October 4, 1989

ALEXANDER SCHLEICHER
GmbH & Co.

i.A. L.-W. Jumtow

L.-W. Jumtow.

The German original of this Technical Note has been approved by the LBA under the date of Oct.17, 1989 (signature: FRIESS). The translation into English has been done by best knowledge and judgement; in any case of doubt the German original is controlling.

SHEET: 1 of 1	Technical Note for	**Alexander Schleicher** GmbH & Co. Segelflugzeugbau D-6416 Poppenhausen

Glider model:

ES 49 . . . . TN-No. 3
Ka 2, Ka 2b TN-No. 12
K 7 . . . . . TN-No. 20
K 10A . . . . TN-No. 3

Subject: New production series tow release couplings for aerotow and winch launch.

Serial number applicability:

ES 49, Data Sheet No. L-102, all serial no.s
Ka 2, Data Sheet No. L-140, all serial no.s
Ka 2b, Data Sheet No. L-203, all serial no.s
K 7, Data Sheet No. L-211, all serial no.s
K 10A, Data Sheet No. L-239, all serial no.s

Compliance: None; applicable to new built gliders and in case of replacement of tow release couplings.

Reason: According to the company TOST they have stopped the previous production series of the tow release couplings "Nose tow release coupling E 72/75" and "Safety tow release coupling G 72/73". These have been replaced by the new tow release coupling productions series "Nose tow release coupling E 85" and "Safety tow release coupling Europa G 88". In order to guarantee a problem-free exchange of the previous productions series against the new one, the new tow release couplings show externally almost no differences.

Action:

1. Where replacement is required or where a corresponding installation location is provided the new tow release coupling production series can be installed instead of the previous ones.

2. When this mod is accomplished, a copy of this Technical Note must be inserted as Annex into the Flight and Maintenance Manual of the glider (Operations Manuals respectively). The accomplishment of this action must be entered into the corresponding table in the manuals (the table headline reads: Additions to.., Amendments to .., Record or Log of Revisions ..).

Notes: The glider owners must regard the "Operating and Maintenance Instructions" for the new production series tow release couplings issued by TOST and giving the service time until the next overhaul !

Poppenhausen, April 12, 1990

ALEXANDER SCHLEICHER
GmbH & Co.

(Lutz-W. Jumtow)

The German original of this Technical Note has been approved by the LBA under the date of May 10, 1990 (signature: SCHMALJOHANN). The translation into English has been done by best knowledge and judgement; in any case of doubt the German original is controlling.

Technische Mitteilung für
Technical Note for

Alexander Schleicher
GmbH & Co.
Segelflugzeugbau
D - 36163 Poppenhausen

Muster
Type:

Ka 2 und Ka 2b .....TM-Nr. 13
Ka 6 .....TM-Nr. 26
K 7 .....TM-Nr. 24
K 8 .....TM-Nr. 30
ASK 13.....TM-Nr. 19
ASK 18.....TM-Nr. 9

Gegenstand:
Subject

Überprüfung des automatischen Höhenruderanschlusses
Inspection of the automatic elevator control connection

Betroffen:
Applicability:

Ka 2 .....Kennblatt *Type Certificate* LBA 140,
Ka 2b .....Kennblatt *Type Certificate* LBA 203,
Ka 6 .....Kennblatt *Type Certificate* LBA 205,
Baureihen *Variants* Ka 6, Ka 6/0, Ka 6B, Ka 6BR, Ka 6C, Ka 6CR, Ka 6B-S
K 7 .....Kennblatt *Type Certificate* LBA 211
K 8 .....Kennblatt *Type Certificate* LBA 216,
Baureihen *Variants* K 8, K 8B, K 8C
ASK 13.....Kennblatt *Type Certificate* LBA 267
ASK 18.....Kennblatt *Type Certificate* LBA 307,
Baureihen *Variants* ASK 18, ASK 18B

Bei Ka 6: alle Werk-Nummern mit fester Höhenflosse (Pendelleitwerk nicht betroffen).
Bei K 2 und K 2b: Nur Werknummern mit durchgeführter Änderungsmitteilung 2 (Automatischer Höhenruderanschluss).
Bei den übrigen Typen: alle Werk-Nummern.
All Ka 6 with fixed horizontal stabilizer (all flying tails not affected).
K 2 and K 2b for serial numbers with modification 2 accomplished only (automatic elevator control connection).
Of the other types: All serial numbers

Klassifizierung:
Classification:

Geringfügige Änderung
Minor Change

Dringlichkeit:
Compliance:

Überprüfung bei der nächsten Jahresnachprüfung / Prüfung der Lufttüchtigkeit, einfügen dieser Technischen Mitteilung in das Flug- und Betriebshandbuch bis zum 31.12.2012.
Check during the next annual inspection / airworthiness review, insert this Technical Note into the flight and operation manual before 12.31.2012

Grund:
Reason:

Bei einer ASK 13 kam es während der Startphase zu einem Problem in der Höhensteuerung. Nach der Landung konnte eine Fehlstellung des automatische Höhenruderanschlusses festgestellt werden. Dies wurde vermutlich durch eine fehlerhafte Reparatur im Bereich des Höhenleitwerks verursacht.
During take-off a problem occurred in the elevator control of an ASK 13. After the landing a misalignment in the automatic elevator control connection was detected. This was presumably caused by an incorrect repair at the area of the tailplane.

Maßnahmen:
Action:

Nach Reparaturen im Bereich des Höhenleitwerks oder bei einer Jahresnachprüfung / Prüfung der Lufttüchtigkeit sind folgende Prüfungen durchzuführen:

Im montierten Zustand wird das Höhenruder mit maximalen Ausschlägen zwischen beiden Anschlägen bewegt und das Kugellager zwischen den Führungen beobachtet. Dieses Lager darf seine Position zwischen den Führungen nur geringfügig verändern. Bewegt sich das Lager zwischen den Führungen deutlich nach oben oder unten, solange das Höhenruder bewegt wird, muss die Parallelogrammführung entsprechend der Technischen Mitteilung „Automatischer Höhenruderanschluss“ für Ka 2 und Ka 2b, Ka 6, K 7 und K 8 von 1961 überprüft werden. Dieses Dokument ist in vollem Umfang auch für die ASK 13 und ASK 18 anwendbar.
Zusätzlich ist die Höhenruderstoßstange zwischen der letzten Abstützung und dem automatischen Anschluss auf Geradheit zu prüfen und gegebenenfalls auszutauschen.
Da die frühere Lufttüchtigkeitsmitteilung (LTM) 4/62 aufgehoben wurde, ist ebenfalls zu prüfen, ob die zusätzliche Stoßstangenführung gemäß:

- Änderung Nr. 7 der Ka2 und Ka 2B
- Änderung Nr. 7 der K 7 (Stützschwinge) beziehungsweise Änderung Nr. 8 der K 7 (zusätzliche Stoßstangestützung)

- Änderung Nr. 6 der K 8 (Stützschwinge) beziehungsweise Änderung Nr. 7 der K 8 (zusätzliche Stoßstangestützung)

eingebaut ist. Sollte die Stützung der Steuerstange wie in LTM 4/62 gefordert fehlen, so ist sie im Rahmen dieser TM nachzurüsten.
Das Rumpfhinterteil auf verbogene Rohre prüfen (außer bei Ka 2, Ka 2b und Ka 6) und eventuell die Einstellwinkeldifferenz messen. Dies kann auch ein Grund für eine Veränderung der Parallelogrammführung sein.

Diese TM ist als Anhang in das Flug- und Betriebshandbuch einzufügen und im Berichtigungsstand einzutragen.

After repairs at the area of the tailplane or during an annual inspection / airworthiness review perform the following examinations:
In rigged condition move the elevator with maximum deflections between the stops and observe the ball bearing between the guides. This bearing may only change its position insignificantly. Is this bearing shifting up and down between the guides as long as the elevator is moved, the parallelogram guide has to be checked according to the Technical Note "Automatic Elevator Connection Ka 2 and Ka 2 B; Ka 6; K 7 and K 8. This document is also fully applicable for the ASK 13 and ASK 18.
As the earlier German AD "Lufttüchtigkeitsmitteilung (LTM) 4/62" is superseded it has to be checked as well whether the additional pushrod support according to:

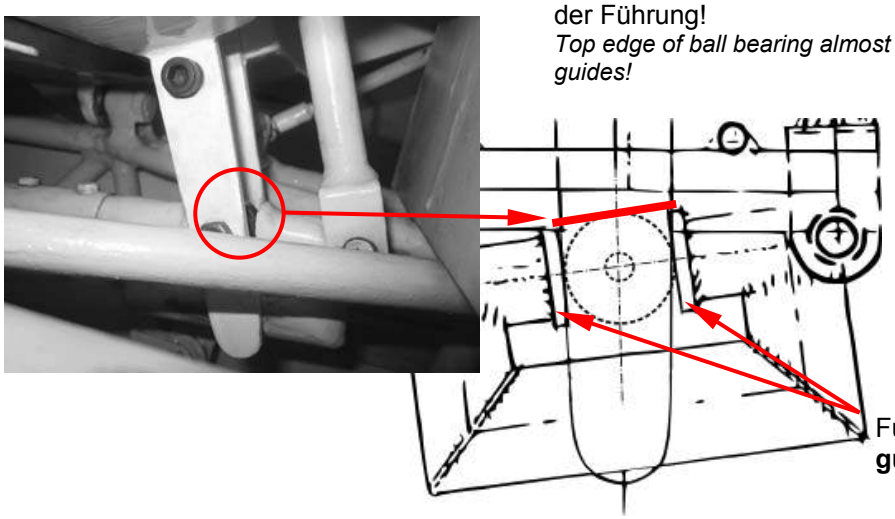
- *modification no. 7 for Ka 2 and Ka 2B*
- *modification no. 7 for K 7 (pushrod support linkage) respectively modification no. 8 for K 7 (pushrod guiding)*
- *modification no. 6 for K 8 (pushrod support linkage) respectively modification no. 7 for K 8 (pushrod guiding)*

is installed. If the support of the pushrod as stipulated by LTM 4/62 is missing, it has to be retrofitted as part of this Technical Note.
Additionally the rear part of the elevator control rod has to be checked for straightness between the last support and the automatic elevator connection and replaced where required.

Check the rear fuselage for bend tubes (not on Ka 2, Ka 2b und Ka 6) and measure the longitudinal dihedral. This might also be a reason for an alteration of the parallelogram guide.

This copy of the Technical Note has to be inserted in the Flight and Operations Manual of the respective glider as an annex, and a corresponding entry must be made into the "Amendments to the Manual"

Oberkante Kugellager in etwa bündig mit der Führung!
Top edge of ball bearing almost flush with guides!



Führung
guides

Material und Zeichnungen:
Material and Drawings:

„Automatischer Höhenruderanschluss" für Ka 2 und Ka 2b, Ka 6, K7 und K 8 von 1961

Automatic Elevator Connection Ka 2 and Ka 2 B; Ka 6; Ka 7 and K 8 dated 1961

Masse und Schwerpunktlage:
Weight (Mass) and Balance:

Kein Einfluss
not effected

Hinweise:
Notes:

Es sei dabei noch an die LTA 72-7/3 erinnert, die in dreijährlichen Intervallen die Überprüfung der Verleimung am Höhenruder verlangt. Wir empfehlen diese Maßnahmen ebenfalls bei dieser Überprüfung zu berücksichtigen.
Wo anwendbar müssen alle Maßnahmen mindestens von freigabeberechtigtem Personal entsprechend EU-VO. 2042/2003 - Teil M. A. 801 b) 1 oder c) geprüft und in den Prüfunterlagen sowie im Bordbuch durch eine Freigabebescheinigung dokumentiert werden. In Ländern, in denen dieses Regelwerk nicht anwendbar ist, sind die nationalen Regelungen zu beachten.

Die Ergänzung des Handbuchs ist im Berichtigungsstand und im Verzeichnis der Handbuchseiten einzutragen, dies kann der Halter durchführen.

At this opportunity, we remind of AD LTA 72-7/3, which requires the inspection of the glue joints at the elevator in 3-year intervals. We recommend to consider this action as well during this inspection.
Where applicable all actions are to be inspected at least by certifying staff according to Commission regulation (EC) 2042/2003 - Part M. A. 801 b) 1 or c), and have to be certified in the sailplane inspection documents and in the sailplane logbook by means of an 'aircraft certificate of release to service'. In countries where these rules are not applicable national regulations have to be observed.
The amendment of the manual has to be entered on the page „Record of Revisions" and in the „List of effective pages", this can be done by the operator.

Poppenhausen, den 08.01.2013

Alexander Schleicher
GmbH & Co.
i.A. (M. Heide)

Diese Änderung wurde mit Datum vom **03.09.2012** durch die EASA mit der Änderungsnummer **10041262** anerkannt.
*This Change has been approved by the EASA at the date of the **09/03/2012** with the Minor Change Approval* **10041262**.

Alexander Schleicher Segelflugzeugbau Wasserkuppe / Rhön	Automatischer Höhenruderanschluß Automatic Elevator Connection	**Segelflugzeugmuster Ka 2 u. Ka 2 B; Ka 6; K 7 und K 8**

Mögliche Fehlerquellen im automatischen Höhenruderanschluß der Segelflugzeugmuster Schleicher Ka 2 u. Ka 2 B; Ka 6; K 7 und K 8 .

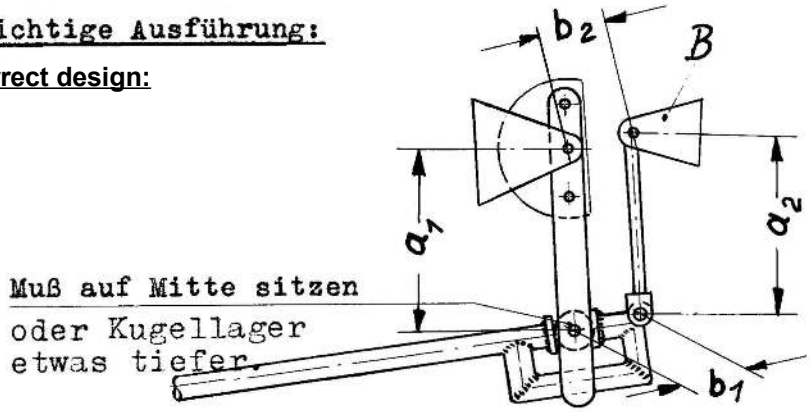
Possible source of defect in the automatic elevator connection of sailplane designs Schleicher Ka 2 and Ka 2 B; Ka 6; K 7 and K 8.

Auf diese Punkte ist bei der Stück- und Nachprüfung besonders zu achten:

Watch particularly these items during final airwothiness or TC inspection:

1. Richtige Ausführung:

1. Correct design:



Must be right in the middle
or ball-bearing slightly lower.

$a_1 = a_2$

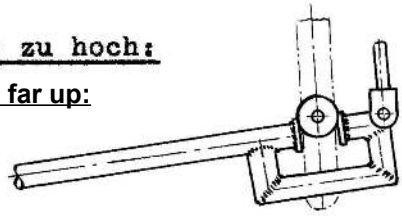
$b_1 = b_2$

b_2 darf bis zu 4 mm größer als b_1 sein, keinesfalls kleiner. Mit Stechzirkel nachmessen. Hierfür eine Hälfte des Ruders abnehmen.

b_2 may be up to 4 mm longer then b_1, in no case shorter. Verify using dividers. Therefor detach one half of the elevator.

2. Kugellager sitzt zu hoch:

2. Ball-bearing located too far up:

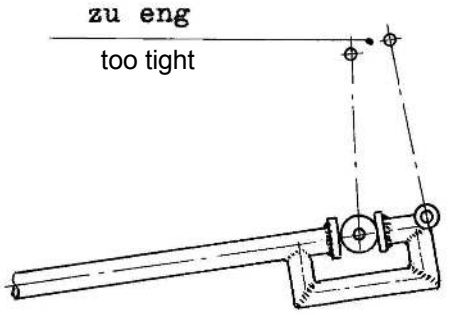


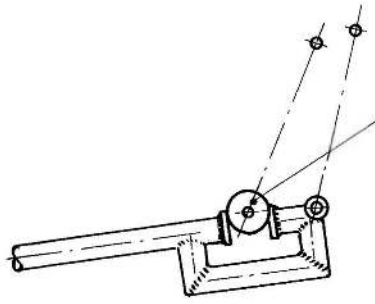
Ein neuer Lagerbock "B" muß mit korrigierten Maßen angefertigt werden wenn die angegebenen Abstände nicht stimmen.

If the given distances are not correct, a new bearing bracket „B“ with corrected dimensions has to be prepared.

3. Parallelogrammführung stimmt nicht:

3. Parallelogram guide incorrect:





Läuft heraus bei Ausschlag

Richtung drücken

Is running out when pushing the stick forward

Der umgekehrte Fall kann auch vorkommen, ist aber weniger gefährlich.

The inverse case is possible too, yet less dangerous.

4. **Der Anschlag der Höhensteuerung muß vorne am Sitz erfolgen. Bei Anschlag hinten kann die Höhenruder-Stoßstange durch die sehr große Handkraft geknickt werden.**

4. The limit stop of the elevator control has to take place in front at the seat. If the limit stop takes place at the rear, the elevator push rod may buckle under the high hand load.

DVL-PfL geprüft:

PfL 43 A — Wuppers — 5. Dez. 1961

PfL 53 A — Reinke — 2. Okt. 1963

Translation added: 05.2012 M. Heide

The translation has been done by best knowledge and judgment. In any case the original text in German is authoritative.