

Operating Instructions
for the Sailplane
Schleicher K8 and K8 B

- A) Main data
- B) Minimum equipment
- C) Wing-and tail setting
- D) Assembly and disassembly
- E) Flying operations
- F) Maintenance
- G) Locations of C. G.

Attachments:

1. Three-sides view
2. Weight and balance
3. Elevator unit assembly

A) Main data

Weights

Empty weight:	420 lbs.
Max. useful load:	265 lbs.
Gross weight:	685 lbs.
Max. weight of non-supporting structure:	440 lbs.

Approved for:

Shockcord start:	yes
Auto-winch tow:	up to 60 mph
Aero-tow:	up to 80 mph
Glide, gusty conditions:	up to 80 mph
calm conditions:	up to 120 mph
Acrobatics:	none

Suited for:

Primary training:	none
Training of emergencies:	yes

Stress classification:

Class II, according to the German Glider
Stress Specification (BVS).

B) Minimum equipment

Four parts safety belt,
airspeed indicator with a range up to
125 mph,
altimeter,
back-pad with solid filling about 4 in.
thick (compressed) if no parachute will
be used,
trimming plan,
data-plate.

C) Wing- and tail setting

(See three-sides view)

The angles of setting and wing wash-out as well as the deflections of the control surfaces are to be gathered from the three-sides view.

Pay attention to the tolerances if repair is necessary.

The position of the ailerons is influenced by the elevator control on account of a special kinematic of the control system. The ailerons have a normal setting if the stick has a normal or pushed position. A pulled stick means lifting the ailerons somewhat.

The deflections of control surfaces and the extension of dive brakes are limited:

Rudder: The rudder is non-adjustable stopped in the rear on the lower rudder hinge fitting.

Ailerons: The control stick is stopped by hardwood blocks on the seat supporting tubes.

Elevator

- To the rear: Non-adjustable stop. The control stick strikes against the seat edge.
- To the front: Adjustable stopper on the lower side of the elevator push-pull tube striking against the control stick.

Dive brakes

- To the rear: Adjustable stopper on the horizontal push rod striking against a frame tube.
- To the front: Non-adjustable stop.
The shift lever strikes against a stopper on the frame.
The angle range of the lever will be regulated by this stop device.
The lever movement to the front may not exceed the top center point about 0.4 in. measured from the ball bearing of the forked vertical push rod.

D) Assembly and disassembly

Assembly

Clean and lubricate bolts and holes.

Connect left wing sideways to the fuselage,
put in the nose bolt.

Caution! Do not tilt the fuselage.

Do the very same with the right wing.

Connect the main spar fittings with bevelled
bolts (put in the lower bolt first). Tighten
the bolts. Moving the wings a little will
facilitate this procedure. Safety the main bolts
with cowling safety pins.

Connect attachment fittings of ailerons and
dive brakes. Safety with cowling pins.

Set up the elevator unit by suspending the
rear eyebolts on the fuselage pins and
tighten the front bolt. Safety with cowling
pin. Pay attention to the correct position of
the control lever (see the sketch of elevator
unit assembly).

Connect the Flettner push rod to the elevator
control lever by means of a split pin.

Check clearance and correct operation of
controls, dive brakes, and automatic release
of the tow coupling.

Make general inspection.

Check pressure of the landing wheel.
(35 lb/sq. in.)

Attach fairings.

Disassembly is essentially the reverse of
assembly. Lubricate all attachments
to prevent corrosion.
It is advisable to tie the Flettner
push rod.

E) Flying operations

Trimming

The sailplane may be flown with pilot weights of 132 lbs. up to 220 lbs.

With weights of this range trimming is not required.

Pilots of less weight have to use lead-cushions.

A spring balance on the control stick adjusts the desired manual force of elevator control.

The Flettner balance acts equivalently: movement to the front means nose-heaviness, movement to the rear means tail-heaviness,

Adjustment of rudder pedal control

Draw back the pedals with heels and lock the side click-stop devices of the control cables into the desired position. This procedure will be possible even during the flight.

Auto-winch tow

Preset breaking point No. II

Max. tow speed : 60 mph.

Notice: During winch tow pulling the stick means increase of speed.

After take off push the stick a little forward.

Best climbing attitude will be given with control stick in normal position.

Do winch high launching only with C.G. coupling.

E I) Supplement to the trim plan:

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

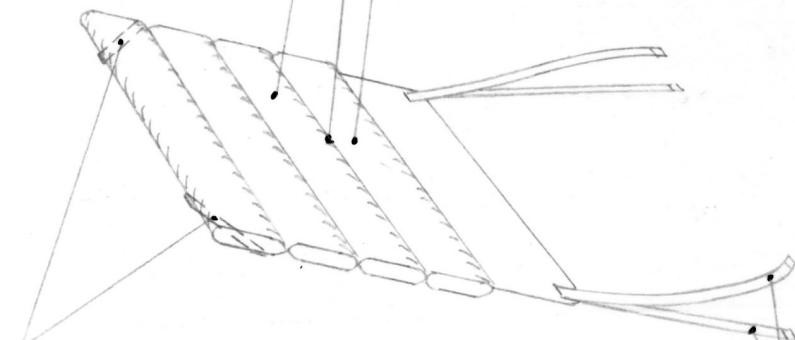
It is recommended to use a lead cushion prepared after the sketch below.

The weight of the ballast cushion should be 20 or 30 lbs. This weight is to be considered when using the trimplan.

Heavy canvas.

*Adjust size
to seat*

*About 4 times separated.
Fill with lead shot or
lead sheet stripes.*



*Webbing to hook in
at the seat corners.*

*Heavy webbing to fix
it on steel tubes or
belt triangle.*

- 6 b -

K 8 - Flight Manual

Trim by weight

Fixing the 17 lbs standard trim weight at the foot board will compensate for 26 lbs pilot weight.

Aero-Tow

Preset breaking point No. I
(min. 661 lbs. - max. 992 lbs.)
Max. speed: 80 mph.

The nose coupling is normal for aero-tow.
Using the C.G. coupling is permissible if
textile cable is applied, max. length 328 ft.
Pull coupling fully through.

Notice: Check the attachments of the cockpit
canopy and of the dive brakes always
before taking off!

Free flight

The values specified as follows are design
values. They relate to the equivalent air-
speed (EAS) - (dynamic pressure).

Pay attention to the deviation of the indi-
cated airspeed (IAS) which depends on the
location of the venturi tube.

The diagram Fig 1 shows the deviation of
IAS versus EAS provided that a normal venturi
tube 3,5 on the nose of fuselage is installed.
($C = 0,125$).

Stalling speed (V_{S_0}) - 32 mph.
(at a gross weight of 595 lbs.)

Minimum sinking speed - at 38 mph.
(horizontal flight)

Best gliding angle - at 47 mph.

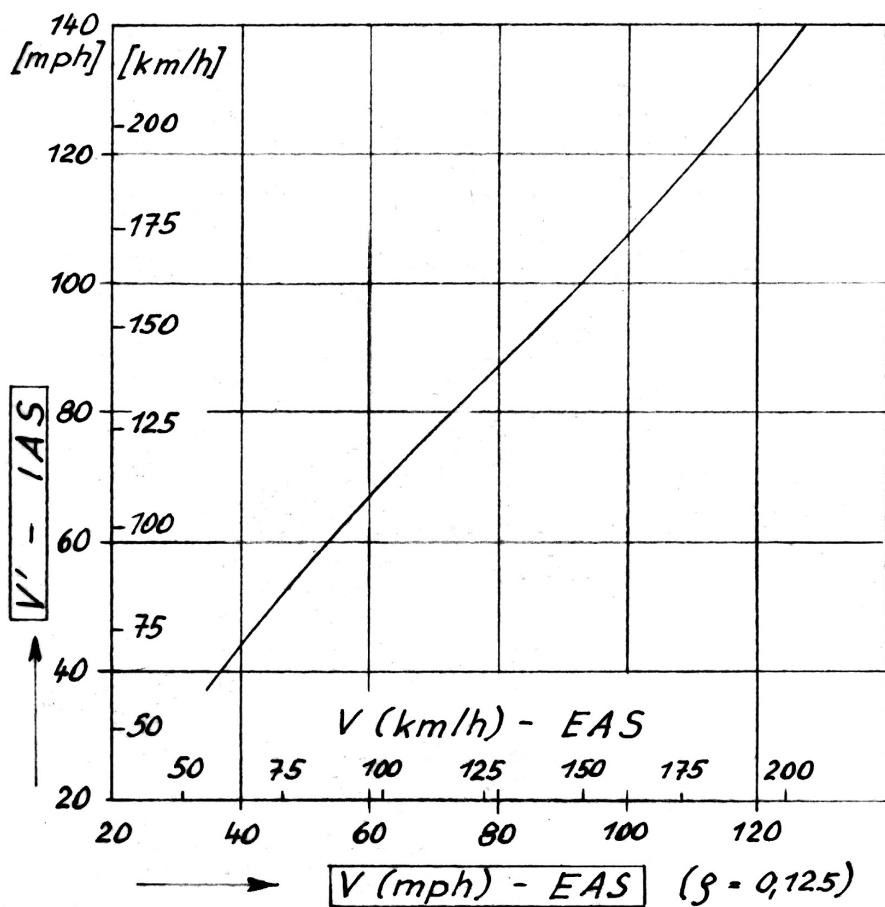


Fig. 1

Landing

Approach with a speed of approx. 44 - 50 mph. The gliding angle will be controlled widely by application of dive brakes.

Touch down with dive brakes not fully extended and do not pull too much trough.

The plane will be slowed down by pushing the nose down and sliding on skid.

Emergency

The sailplane can be held in a stalling position with fully pulled stick and necessary rudder control. Applying harder rudder brings the plane into a spin. Taking back all controls into normal positions will stop the spin.

When flying with high speeds the speed limits are to be observed.

As soon as the speed exceeds 80 mph extend slowly the dive brakes.

Notice: At high speeds the lever force of the dive brakes acts in the extending direction.

Raindrops, rime, and icing will deteriorate the wing surface so much as to change the flight performances.

Therefore be cautious when approaching in rain, keep sufficient speed in advance.

F) Maintenance

Moisture is the most serious trouble with wooden planes. Even a steel tube fuselage will be kept dry. Take always care that no water seeps into inner wing compartments. If penetration is suspected keep the wing in a dry room and turn it over daily. The sailplane is especially affected on an open trailer. Cover the wing roots in any case that no water will be splashed in. Moisture in the plane also will be caused by sweat water,

Strong sun irrigation affects the finish. The plane shall not be exposed to the sun more than necessary. The care of the surface finish by means of good provisions increases the durability of the finish, improves the surface, and consequently the flight performance. It is not important to get the surface superfinely polished but to remove dust, dirt splash, and similar contaminations.

Sealing up slots by means of adhesive tapes will also be of use for improving the performance. But do not seal the canopy when bailing out shall be possible.

Clean the plexiglas canopy by means of appropriate provisions, or in the case of need by water. Use a soft and clean cloth. Do not rub with a dry and hard one.

Lubrication of bearings:

The ball bearings are sealed as far as possible and they normally do not require lubrication for a long period. The wing root bearings only which are not sufficiently protected are to be cleaned, using gasoline and lubricated.

The grease fittings on the swing bearings and on the swing lever of the fin which is connected to the push-pull tube of elevator control must be lubricated respectively after 25 flying hours.

The attachments of the control surfaces and OTHER hinge bearings are to be disassembled, cleaned, and lubricated when carrying out the annual overhaul.

The C.G. tow coupling on the bottom of the fuselage will be especially exposed to soiling and requires a frequent cleaning and lubrication. If the sailplane will be often flown on stony and sandy fields it is advisable to secure the lower side of the skid by fastening a steel covering of about 0,04 in. thickness.

The tailskid plate must be reinforced if abrasion will be observed. Take off the skid and weld on a .008 in. steel plate.

Check currently the safety belts. They must not show tears, damp stains, and rusty spots.

Tire pressure: 35.5 lb./sq.in.

Repairs of the main spar must be done by experts, repairs of the steel tube fuselage by approved welders. Inform the manufacturer if extensive repair work is necessary and ask his advice.

G) Locations of C.G.

The locations of C.G. have an important influence on the flight performance. Observe exactly the admissible limits.

A displacement of the C.G. too far back will cause emergency conditions. Thereby stalling conditions and especially spinning properties (flat spin!) change for the worse.

The sensitivity of the elevator increases.

A location of the C.G. too far back will result in deteriorating the flight performance and flying with max. lift is no longer possible.

Following limits of gross weight C.G. locations are tested:

a) Foremost location: 9.7 in.

b) Aftmost location: 15.4 in.

aft of the wing leading edge at the station of rib 1.

Check the locations of the C.G. if additional equipment will be installed or if repair work and a new finish have been done.

One may take as a rule that planes get weightier in course of time and thereby tail-heavier.

It is advisable to carry out a new weight and balance determination in connection with the annual overhaul.

Cleaning of Plexiglass-canopy only with
Plexipol and Plexiklar. If necessary water.
Soft cloth (gloves-cloth). In no case rub
with hard cloth dry on Plexiglass.

Lubrication of bearings:

The ball-bearing are, so far as possible,
normally covered and therefore will need
no special maintenance. Only the bearings at
the wing-root, where the rigging-connections
do not allow an unobjectionable protection,
must be cleaned with petrol when fouled, and
greased again.

The Greas-Nipples of the pedal-bearings
and of the elevator-pushrod-oscillator at
the fin are to be greased about every
25 flying hours.

The rudder- and other plain-bearings are to be
dismantled, clean ed and greased at the yearly
overhaul.

Tyre press 35 psi.

The c.g. hook especially is exposed to dirt and needs often cleaning and oiling.

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-plate must be renewed by welding on a 2 mm steel plate from time to time. The tail-skid-plate is to be removed for this purpose. Do not anneal the spring.

The pressure take-openings for the instruments at the fuselage are to be sealed with adhesive tape on transport or longer parking.

During out of use it will be the best to dismount the instruments and store them in a dry room. When mounting connect right.

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

Repairs: All larger repairs and overhauls must be effected by the manufacturer. In case of need Mr. Schleicher will inform.

G) Centre of Gravity:

Great influences to the flying characteristics has the center of gravity. Therefore, the prescribed limits must be kept and not exceeded. Far aft position is particularly dangerous. The stalling and spinning characteristics will change then very badly. The sensibility of the elevator will increase. Too much front location of c.g. diminish the performance, and the glider cannot be flown at its maximum lift coefficient.

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

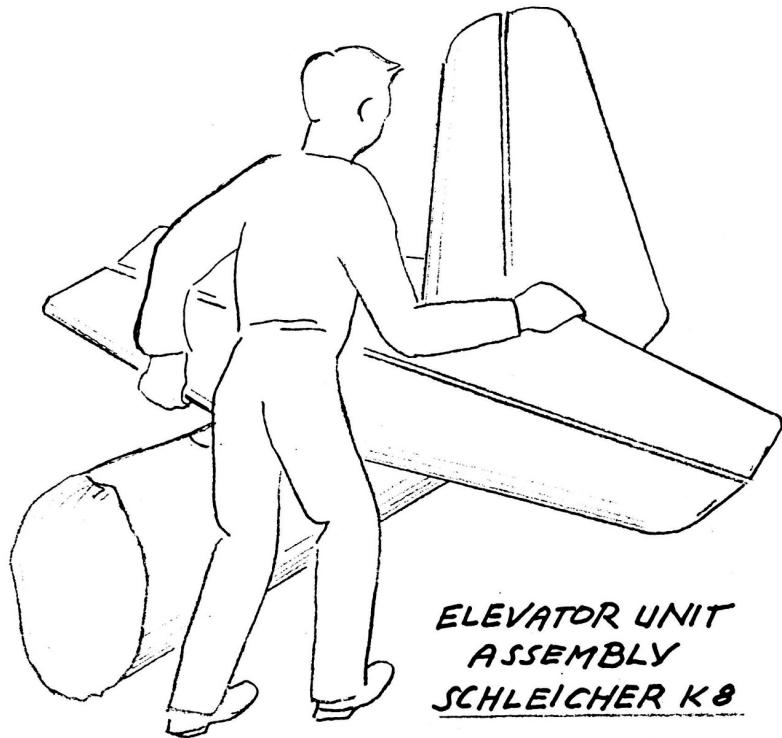
a) max. forward position:

7 inches behing leading-edge of wing
at rib No. 1

b.)max. aft position:

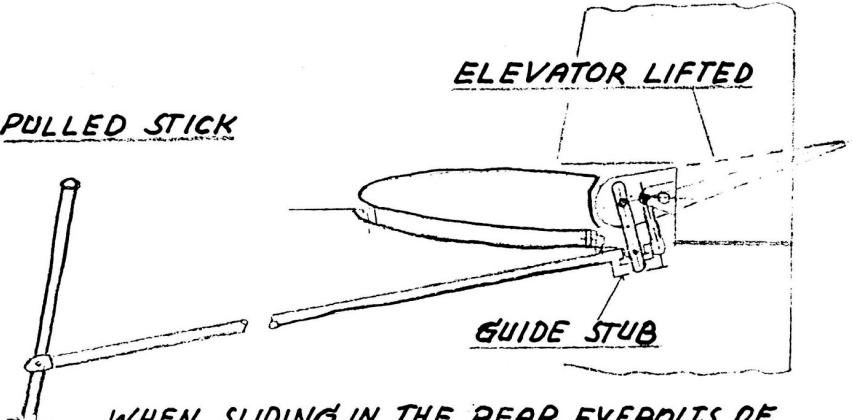
14 inches behind wing-leading-edge at
rib No. 1

Pay attention to c.g. when additional equipment is installed, at repairs and renewing of finish. One can take it as a rule, that gliders become heavier during their life and become tail heavy. Therefore it is advisable to have a new weightregulation of the parts and c.g. balance at each yearly overhaul.



ELEVATOR UNIT
ASSEMBLY
SCHLEICHER K8

PULLED STICK



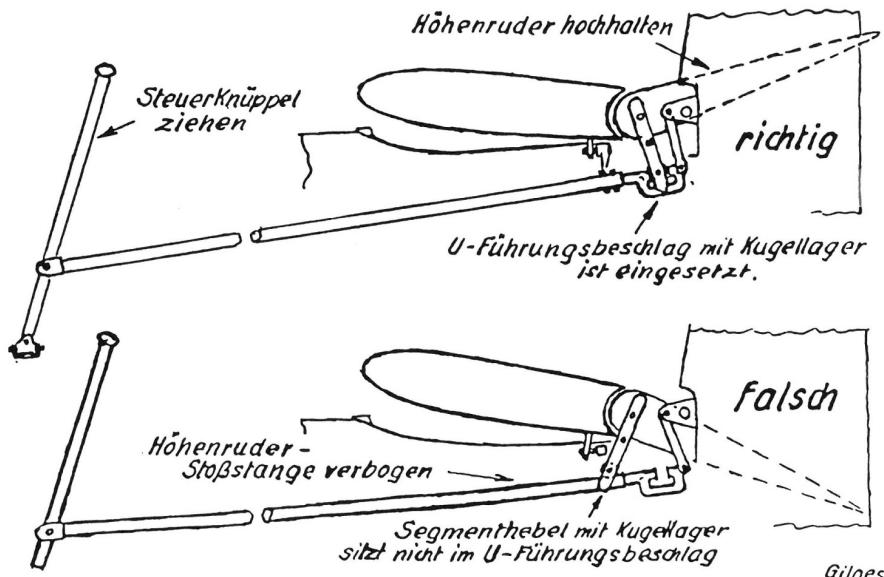
WHEN SLIDING IN THE REAR EYEBOLTS OF THE STABILIZER IT IS ADVISABLE TO LIFT THE ELEVATOR SOMEWHAT. THE BALL BEARING OF THE ELEVATOR CONTROL LEVER MUST FIT INTO THE GUIDE STUB OF THE PUSH-PULL TUBE TO AVOID THE RISK OF BENDING THE TUBE.

Höhenruder-Montage

der Segelflugzeuge
Ka 2b, Ka 8,
Ka 7 und Ka 8.



Beim Einführen des Höhenleitwerkes in die hinteren Augenbolzen darf das Höhenruder nicht nach unten hängen, sondern muß hochgehalten und das Kugellager des Segmentthebels in den U-Führungsbeschlag eingeführt werden!



Gilges

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 numberapplicability:

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:

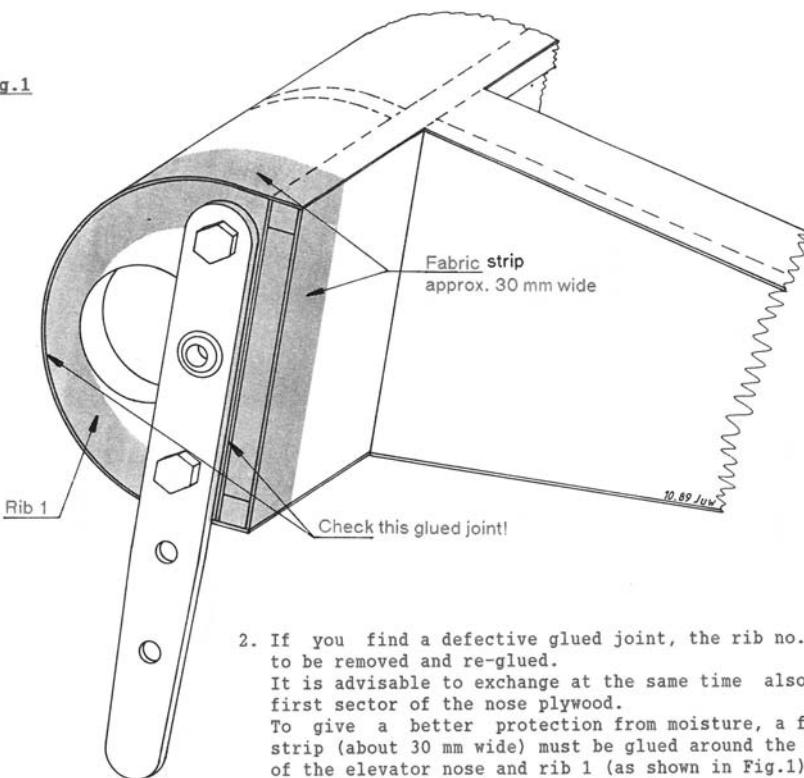
A glider of the model K7 failed to gain normal flight attitude immediately after tow rope release on winch launch. With the stick full back only the left elevator could be actuated in the correct direction; the right elevator deflected downwards. The reason for this was a loose glue bond at the elevator 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.

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.

SHEET:
3 of 3

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.

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.

Weiterverteilung sowie Vervielfältigung dieser Unter-
lage, Verbreitung und Mitteilung dieses Inhalts nicht
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Zweckentzündungen verpflichten zu Schadener-
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AIRWORTHINESS DIRECTIVE

| 72-7/3 Schleicher

Date of issue:

| 13. Dez. 1989

Affected Sailplane:

German Type Certificate

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

Subject:

Elevator

Reason:

Loose glue joints on rip 1 of the elevator

Action:

| In accordance with the respektive Technical Note

Compliance:

Before the next start

Technical publications of the manufacturer:

Alexander Schleicher, Technical Note, October 4, 1989 "Elevator"

Model Ka 2 and 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

which become herewith part of this AD and may be obtained from Messrs.

Alexander Schleicher GmbH & Co. Segelflugzeugbau,
D-6416 Poppenhausen, Wasserkuppe, Federal Republic of Germany

Accomplishment and log book entry:

Action 1 and 3 to be accomplished by a skilled person.

Action 2 to be accomplished by an approved service station.

The accomplishment of this AD must be certified by a licensed inspector in the powered gliders inspection documents and in the log-book.

Note:

| This Airworthiness Directive replaces AD-No. 72-7/2 of August 24, 1989.

new zip code: D-36163

- Subject:
- A1) Canopy retaining cord
 - A2) Rudder pedals
 - A3) Elevator control linkage
 - A4) Inspection of the fuselage tube skeleton and the control linkages for corrosion.
 - B1) Amendment of the K8 Flight and Operations Manual.
 - B2) Specification of the max.diameter for the wing attachment pins

Serial number

applicability:

K8, K8B, K8C, Data Sheet no.216, all serial no.s including any license- or home-built gliders and any variations thereof.

Compliance:

- ad A) Action to be accomplished with each annual C. of A. inspection, but for the first time before or on April 30, 1996.
- ad B1) Action to be accomplished with the next annual C. of A. inspection, but before or on April 30, 1996, at the latest.
- ad B2) As need be.

Reason:

For safety reasons and on requirement by the German CAA (Luftfahrt-Bundesamt) a complete inspection of the fuselage tube skeleton and of all control linkages is scheduled and required by this Technical Note.

- ad A1) When a canopy retaining cord is used which either does not comply with the Type Certification status and/or is wrongly fitted, it may cause the canopy not to detach from the fuselage in case of canopy emergency jettison.
- ad A2) In case of extreme overloading the rudder pedals the attach collars of the pedal boards may bend. As a result also the full deflection of the rudder can become restricted.
- ad A3) The inspections of several aircraft reported that pre-damaged, bent and broken elevator push rods had been found.
A serious flight accident happened which was presumably due to a bent elevator push rod which remained undetected for a longer period and then caused the rod to break at the kink point.
Where the keel tube has been bent (eg: in a crash landing) it is possible that also the elevator push rod has been damaged without this being noticed. Also on transports in rough terrain it is possible that the elevator may deflect downwards and hence by its mass may bend a pre-damaged elevator push rod leading to a break of the rod.
- ad A4) As a consequence of penetrated moisture corrosion damages may develop at the inside walls of the tubes of the fuselage skeleton and of the control linkages.
- ad B2) Play between wing-to-fuselage attachment can be removed by reaming the attachment fittings and using oversize pins. If "attachment pins for wing, front" and/or "Plug-in pins for wing attachment, rear" have to be replaced, oversize pins may be used.

new zip code: D-36163

Action:

- ad A1) Check whether the canopy retaining cord uses a snap hook as weak link at the fuselage (eg: Simplex-snap hook to spec DIN 5287, hook length 30 to 35 mm). This snap hook should open at a tensile load of \approx 34 kg.
Other means of fixing, such as leather sloop or Nylon cord without weak link are not permissible and must be replaced by the prescribed type of fixing.
- ad A2) Checking the rudder pedals:
With the rudder neutral the pedals left and right must be evenly adjusted. Check the pedal board angle versus the pedal (dimensions see drawing L-216.42-U01). The angle must meet the specified dimension.
Engage the pedal adjustment into its foremost position and check full deflection of the rudder.
Where pedals or attachment collars are bent, these can be either repaired or replaced by new ones.
In order to impede the bending of the pedal boards it is optionally recommended to weld an additional butt strap onto the attachment collar (see Fig.A2).
- ad A3) Inspect elevator push rods L-216.44-U 01 and L-216.44-U 02 for bending, deformation, or damage. If any of these are found, the push rod must be replaced by a new one. Never try to straighten any bent push rod; even only slightly bent rods must be replaced !
- ad A4) Inspect for corrosion:
If there is suspicion of corrosion, the keel tubes or the primary tubes of the fuselage skeleton as well as all control linkage tubes using a control check hole must be inspected internally for corrosion. Tubes may also use drill holes for the purpose of mounting fairings, pockets etc. and these are particularly endangered.
So the wall thickness must be inspected by suitable procedures. The specification of the wall thickness of the fuselage skeleton tubes is detailed in drawing L-216.11-S1, issue Jan.17, 1958, or L-216.11-S1 with revision entry dated Nov.24, 1961, applicable as of serial number 1014.
Where in doubt check the wall thickness by knocking (check from the sound) or by a suitable ultrasonics test equipment for measuring the thickness of the layers, else in case of push rods with thread connectors check the tube inside wall for corrosion damages using an endoscope.
If the inside tube walls are all right, then the interior of the tubes must be preserved. In any case this must not increase the mass of the push rods noticeably!
Where rust is found, tubes must be replaced.
During each annual C. of A. inspection checks for rust pitting or rust formation must be included.

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ad B1) This Technical Note must be inserted into the Flight and Maintenance Manual K 8 as annex to "Attachments" and the insertion must be certified in the Manual.

ad B2) For the maximum oversize diameters of the "attachment pins for wing, front" (AS P/N 080.11.0730) and/or "Plug-in pins for wing attachment, rear" (AS P/N 080.11.0511) please observe:

the material thickness of the fitting around the bore at its thinnest section must still be at least half of the diameter of the pin!

The bore in the "wing attachment fitting, front" and in the "main fitting, rear" must have H7 tolerance (off size). If tolerance is exceeded, the fittings must be replaced.

Material &
drawings:

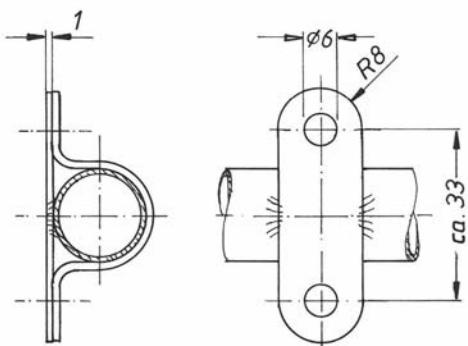
Any required materials and/or replacement parts may be ordered from Messrs. SCHLEICHER (Tel. +49(0)6658-890 or -8929, FAX +49(0)6658-8940) stating the glider type and the serial number of the aircraft in question.

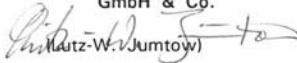
For the interior wall preservation of the tubes you may use e.g. the preservative agent "Hohlräumkonservierung ML", P/N 3762, by Messrs. VOSSCHEMIE or any equivalent product.

Drawings applicable to this TN:
L-216.42-U01; L-216.44-U 01; L-216.44-U 02;
L-216.11-S1, issue 17.01.1958 or
L-216.11-S1, rev. of 24.11.1961, valid as of s/n. 1014.

Fig. A2

Reinforcing the attachment collars for pedal boards at the pedal assembly. Material: 1.7734.4
Welding procedure WIG to spec DIN 1912, welding wire material: 1.7734.2



SHEET: 4 of 4	K 8 Technical Note No. 24	Alexander Schleicher GmbH & Co. Segelflugzeugbau D-3616 Poppenhausen
new zip code: D-36163		
<p><u>Notes:</u> If the inspection as per actions A2, A3, or A4 reveals any damages, a copy of the report of findings must be returned to Messrs. SCHLEICHER including the serial number of the aircraft in question, its number of take-offs and total flight hours!</p> <p>The above actions must be accomplished by a competent person. The accomplishment of the actions must be certified by a licensed aviation inspector in the glider's inspection documents, in the Flight and Maintenance Manual, and in the log-book.</p>		
<p>Poppenhausen, Dec.4, 1995</p> <p style="text-align: right;">ALEXANDER SCHLEICHER GmbH & Co.  (Hutz-W. Jumtow)</p>		
<p>The German original of this Technical Note has been approved by the LBA under the date of Dec.7, 1995 (signature: WALTER). The translation into English has been done by best knowledge and judgement; in any case of doubt the German original is controlling.</p>		
<hr/> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">"Weißgabe sowie Veröffentlichung dieser Unterlagen, d. Kennzeichnung d. Materialien, in ihm enthaltene nicht gängige Begriffe sowie nicht ausdrücklich angeführte Angaben sind alle Rechte für den Fall der Patentschutzfrist oder Gebrauchsmuster-Erlangung vorbehalten."</p>		



Airworthiness Directive

In case of any difficulty, reference should be made to the German original issue

96-005 Schleicher

Date of issue: January 22, 1996

Affected airplanes:

German Type Certificate No.: 216

Schleicher

K8, K8B und K8C including any license- and home-built sailplanes
- S/No's.: all

Subject:

- A1) Canopy retaining cord; inspection/replacement
- A2) Rudder pedals; inspection/modification
- A3) Elevator control linkage; inspection/replacement
- A4) Inspection of the fuselage tube skeleton and the control linkages for corrosion
- B1) Amendment of the K8 Flight and Operations Manual
- B2) Specification of the maximum diameter for the wing attachment pins

Reason:

For safety reason and on requirement by the LBA a complete inspection of the fuselage tube skeleton and of all control linkages is scheduled and required by the Technical Note.

Actions:

- ad A1) Check whether the canopy retaining cord uses a snap hook as weak link at the fuselage
- ad A2) Inspection and adjustment of the rudder pedals. To prevent bending of pedal boards, it is recommended to modify the attachment collar.
- ad A3) Inspection of elevator push rods for bending, deformation or damage. If necessary, replace rods by a new one.
- ad A4) Inspection of fuselage skeleton and control linkage tubes for corrosion. If necessary, replace concerned parts.
- ad B1) Insert Technical Note into Flight and Maintenance Manual
- ad B2) Specify diameter for the wing attachment pins. If the tolerance of the bore in the wing attachment fitting is exceeded, the fittings must be replaced.

Compliance:

Actions A1) up to A4) must be performed at each annual inspection, but for the first time at latest on April 30, 1996.

Action B1) must be performed at the next annual inspection, but not later than April 30, 1996.

Action B2) Recommended if necessary.

Technical publication of the manufacturer:

Schleicher Technical Note No. 24, dated December 04, 1995 which becomes herewith part of this AD and may be obtained from Messrs.

Alexander Schleicher GmbH & Co
Huhnrain 1

D-36163 Poppenhausen

Federal Republic of Germany

Accomplishment and log book entry:

Action to be accomplished by an approved service station and to be checked and entered in the log by a licensed inspector.

* * *

Muster	Ka 6	TM-Nr. 25
Type:	K 7	TM-Nr. 22
	K 8	TM-Nr. 28
	ASK 13	TM-Nr. 18
	ASK 16	TM-Nr. 15
	ASK 18	TM-Nr. 8

Gegenstand: Inspektion des mittleren Höhenruderlagers
Subject *Inspection of the central support of the elevator*

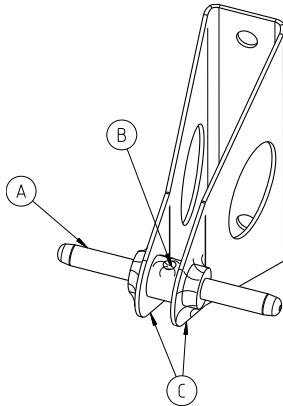
Betroffen: Ka 6 Kennblatt Type Certificate LBA 205,
Applicability: Baureihen Variants Ka 6, Ka 6/0, Ka 6B, Ka 6BR, Ka 6C, Ka 6CR, Ka 6B-S
K 7 Kennblatt Type Certificate LBA 211
K 8 Kennblatt Type Certificate LBA 216,
Baureihen Variants K 8, K 8B, K 8C
ASK 13 Kennblatt Type Certificate LBA 267
ASK 16 Kennblatt Type Certificate LBA 758
ASK 18 Kennblatt Type Certificate LBA 307,
Baureihen Variants ASK 18, ASK 18B
Bei Ka 6: alle Werk-Nummern mit gedämpften Leitwerk (Pendelleitwerk nicht betroffen).
Bei den übrigen Typen: alle Werk-Nummern.
All Ka 6 with fixed horizontal stabilizer (no all moving tails affected).
Of the other types: All serial numbers

Klassifizierung: Geringfügige Änderung
Classification: Minor Change

Dringlichkeit: Vor der nächsten Jahresnachprüfung
Compliance: Before the next annual inspection

Grund: Bei einem Segelflugzeug wurde festgestellt, daß die Achse (A) des Höhenruderlagers lose war. (siehe Fig. 1)
Reason:

Fig. 1



Die Achse ist in einer Buchse geführt. Durch ein Loch (B) in dieser Buchse ist sie festgeschweißt. Diese Verbindung hat nicht mehr bestanden.

On one glider it was found, that the axis (A) of the central support of the elevator was loose. (see fig. 1). This axis is supported in a bushing. Through a hole (B) in this bushing, the axis is fastened by a weld. This welded connection did not exist any more.

Maßnahmen: Das Höhenruder demontieren. Prüfen, ob die Lagerachse (A) fest sitzt. Dabei sind zusätzlich auch die Bleche des Lagerbocks rund um die Schweißnähte (C) auf Risse zu prüfen (mindestens mit einer Lupe 10facher Vergrößerung). Gegebenenfalls ist der Lagerbock zu ersetzen. Diese TM ist als Anhang in das Flug- und Betriebshandbuch einzufügen und im Berichtungsstand einzutragen.
Unmount the elevator. Inspect the axis (A). It must have a firm seat. At that occasion, the sheet metal of the support is to be checked for cracks around the welds (C) (at least with a 10x magnification loupe). When indicated, the support must be replaced. 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 und Zeichnungen: Falls Ersatz bestellt werden muß, lauten die Bestellnummern:

Ka 6	L-205.33-U170, Mittleres Höhenruder-Lager
K 7	L-211.33-U08, Mittleres Höhenruder-Lager
K 8	L-216.32-U08, Mittleres Höhenruder-Lager
ASK 13	130.33.0130, Mittleres Höhenruder-Lager
ASK 16	160.33.0005, Mittleres Höhenruder-Lager
ASK 18	L-307-33.0003, Mittleres Höhenruder-Lager

In case replacement must be ordered, the part.-numbers are listed above

Masse und Schwerpunktlage: Kein Einfluß
*Weight (Mass)
and Balance:*

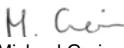
Hinweise: Es sei dabei noch an die LTA 72-7/3 erinnert, die in dreijährlichen Intervallen die Überprüfung der Verleimung am Höhenruder verlangt (außer ASK 16). Wir empfehlen diese Maßnahme bei jeder Durchführung der LTA 72/3 zu wiederholen.
Notes: Alle Maßnahmen sind von freigabeberechtigtem Personal entsprechend EU-VO. 2042/2003 Teil M / Teil 66¹ zu prüfen und in den Prüfunterlagen sowie im Bordbuch eine Freigabe zu bescheinigen. 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 (with the exception of the ASK 16). We recommend to repeat this action every time the actions of AD LTA 72-7/3 are carried out.

All actions are to be inspected by certifying staff according to Commission regulation (EC) 2042/2003 Part M / Part 66², and have to be certified in the sailplane inspection documents and in the sailplane logbook. The amendment of the manual must be entered on the page „Record of Revisions“ and in the „List of effective pages“, this can be done by the operator.

Poppenhausen, den 25.05.2010

Alexander Schleicher
GmbH & Co.

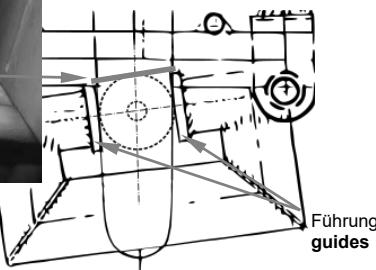
i.A. 
(Michael Greiner)

Diese Änderung wurde mit Datum vom 17.05.10 durch die EASA mit der Änderungsnummer 10030052 anerkannt.
This Change has been approved by the EASA at the date of the 17.05.10 with the Minor Change Approval 10030052.

¹ Solange keine Festlegungen für freigabeberechtigtes Personal für Segelflugzeuge und Motorsegler getroffen wurden, gelten noch die einschlägigen Vorschriften des Mitgliedstaates (§66.A.100).

² As long as no provisions for certifying staff for sailplanes and powered sailplanes were laid down, relevant legislation of the member states is applicable (§66.A.100).

<p>Blatt 1 von 3 Berichtigung 1 / Revision1</p>	<p>Technische Mitteilung für Technical Note for</p>	<p>Alexander Schleicher GmbH & Co. Segelflugzeugbau D - 36163 Poppenhausen</p>
<p>Muster <i>Type:</i></p>	<p>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</p>	
<p>Gegenstand: <i>Subject</i></p>	<p>Überprüfung des automatischen Höhenruderanschlusses <i>Inspection of the automatic elevator control connection</i></p>	
<p>Betroffen: <i>Applicability:</i></p>	<p>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 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</p> <p>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. <i>All Ka 6 with fixed horizontal stabilizer (all flying tails not affected).</i> <i>K2 and K2b for serial numbers with modification 2 accomplished only (automatic elevator control connection).</i> <i>Of the other types: All serial numbers</i></p>	
<p>Klassifizierung: <i>Classification:</i></p>	<p>Geringfügige Änderung <i>Minor Change</i></p>	
<p>Dringlichkeit: <i>Compliance:</i></p>	<p>Überprüfung bei der nächsten Jahresnachprüfung / Prüfung der Lufttüchtigkeit, einfügen dieser Technischen Mitteilung in das Flug- und Betriebshandbuch bis zum 31.12.2012. <i>Check during the next annual inspection / airworthiness review, insert this Technical Note into the flight and operation manual before 12.31.2012</i></p>	
<p>Grund: <i>Reason:</i></p>	<p>Bei einer ASK 13 kam es während der Startphase zu einem Problem in der Höhensteuerung. Nach der Landung konnte eine Fehlstellung des automatischen Höhenruderanschlusses festgestellt werden. Dies wurde vermutlich durch eine fehlerhafte Reparatur im Bereich des Höhenleitwerks verursacht. <i>During take-off a problem occurred in the elevator control of an ASK 13. After the landing a mis-alignment in the automatic elevator control connection was detected. This was presumably caused by an incorrect repair at the area of the tailplane.</i></p>	
<p>Maßnahmen: <i>Action:</i></p>	<p>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:</p> <ul style="list-style-type: none"> • Änderung Nr. 7 der Ka2 und Ka 2B • Änderung Nr. 7 der K 7 (Stützschwinge) beziehungsweise Änderung Nr. 8 der K 7 (zusätzliche Stoßstangengestützung) 	

<p>Blatt 2 von 3 Berichtigung 1 / Revision1</p>	<p>Technische Mitteilung für Technical Note for</p>	<p>Alexander Schleicher GmbH & Co. Segelflugzeugbau D - 36163 Poppenhausen</p>
<ul style="list-style-type: none"> • Änderung Nr. 6 der K 8 (Stützschwinge) beziehungsweise Änderung Nr. 7 der K 8 (zusätzliche Stoßstangengestaltung) <p>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.</p> <p>Diese TM ist als Anhang in das Flug- und Betriebshandbuch einzufügen und im Berichtsstand einzutragen.</p> <p><i>After repairs at the area of the tailplane or during an annual inspection / airworthiness review perform the following examinations:</i></p> <p><i>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.</i></p> <p><i>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:</i></p> <ul style="list-style-type: none"> • 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) <p><i>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.</i></p> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>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".</i></p>		
		
<p>Oberkante Kugellager in etwa bündig mit der Führung! Top edge of ball bearing almost flush with guides!</p> 		
<p>Material und Zeichnungen: Material and Drawings:</p> <p>„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</p> <p>Masse und Schwerpunktlage: Kein Einfluss Weight (Mass) and Balance: <i>not effected</i></p>		

<p>Blatt 3 von 3 Berichtigung 1 / Revision1</p>	<p>Technische Mitteilung für Technical Note for</p>	<p>Alexander Schleicher GmbH & Co. Segelflugzeugbau D - 36163 Poppenhausen</p>	
Hinweise: <i>Notes:</i>		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.			
<p><i>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.</i></p> <p><i>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.</i></p> <p><i>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.</i></p>			
Poppenhausen, den 08.01.2013		<p>Alexander Schleicher GmbH & Co. i.A.  (M. Heide)</p>	
Diese Änderung wurde mit Datum vom 03.09.2012 durch die EASA mit der Änderungsnummer 10041262 anerkannt. <i>This Change has been approved by the EASA at the date of the 09/03/2012 with the Minor Change Approval 10041262.</i>			

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

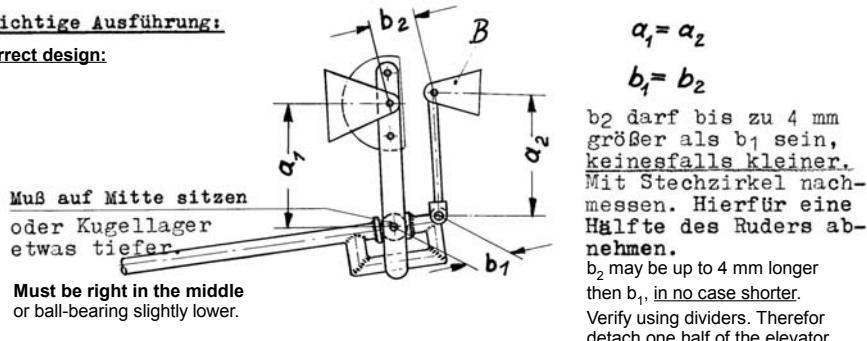
Possible source of defect in the automatic elevator connection of sailplane designs Schleicher Ka 2 and Ka 2 B; Ka 6; K 7 and K 8.

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

Watch particularly these items during final airworthiness or TC inspection:

1. Richtige Ausführung:

1. Correct design:



2. Kugellager sitzt zu hoch:

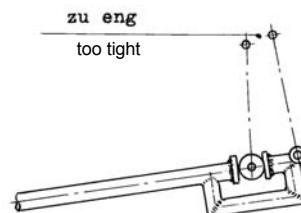
2. Ball-bearing located too far up:



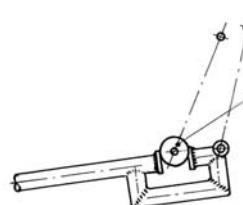
Ein neuer Lagerbock „B“ muß mit korrigierten Maßen angefertigt werden wenn die angegebenen Abstände nicht stimmen.

3. Parallelogrammführung stimmt nicht:

3. Parallelogram guide incorrect:



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



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-PIL geprüft:



Wipper



Reinhard

2. Okt. 1963

- 5. Dez. 1961

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.