



AIRWORTHINESS DIRECTIVE

TYPE AFFECTED: ASK 21 - All serial Nos. up to 21345 (inclusive)

SUBJECT:

1. Inspection of rudder pedals
2. Flight/Maintenance manual amendments
3. Inspection/replacement of airbrake fuselage mounted bellcrank
4. Inspection/modification of the rear canopy hinge

BACKGROUND: Alexander Schleicher Technical Note 20 and LBA AD 88-2 both request the above 4 actions be taken, for the reasons spelt out in Technical Note 20 which forms part of this A.D. A failure to hook up flight controls has been a significant problem overseas. The importance of complying with GFA AD 177 cannot be over emphasised.

ACTION REQUIRED: 1. Before next flight

Technical Note 20, Section 1.1, 1.2, 3.1, 3.2, 4.1 and 4.2 are to be carried out before further flight by the holder of a DoTC 1109 inspectors certificate rated "C. of A." (any type).

The inspections and all rectifications arising must be entered into the glider's logbook by the inspector.

2. At or before next Form 2 inspection

Replace the original factory fitted airbrake system bellcrank with a new bellcrank and bracing complying with Drawing 210.43.S5.

3. Each Daily Inspection

Check rear canopy hinge for cracks in accordance with Drawing 210.12.S5. (Disregard if hinge is modified to Drawing 210.12.S5 Sheet 2).

4. Each Form 2

Check rear canopy hinge for cracks in accordance with Drawing 210.12.S5, irrespective of modification status.

5. Manual amendments

It is the owner/operators responsibility to keep the Flight and Maintenance manuals up to date and fully amended. The replacement pages listed in TN 20 are to be exchanged as soon as possible.

Note: It is the owner/operators responsibility to ensure that pilots, instructors and Daily Inspectors are aware of the manual amendments.

Issued by: *N. Burns* Chief Technical Officer,

11.2.88

For and on behalf of:

GLIDING FEDERATION OF AUSTRALIA

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6. Welding

Welding required to modify the rear canopy hinge is to be carried out by a DoTC licensed welder or a GFA authorised welder. The welder is to record the work by logbook entry.

WEIGHT AND BALANCE: No significant changes

DOCUMENTATION: Amended Flight manual pages available from the GFA Secretariat. Bldg. 130 Wirraway Rd. Essendon Airport Vic. 304

COMPLIANCE: The requirements of this Airworthiness Directive are mandatory. This Directive is issued pursuant to Air Navigation Regulations under the delegated authority of the Secretary of the Department of Transport and Communicatio

NOTE: Parts and service available from Alexander Schleicher Australian agent -
Sailplane Services,
P.O. Box 324,
Narromine N.S.W. 2821

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ASK 21
Technical Note
No.20

Alexander Schleicher
Segelflugzeugbau
6416 Poppenshausen

Subjects:

1. Inspection of the rudder pedals.
2. Change/supplement to the Flight and Maintenance Manuals in order to provide the owners with new inspection and assembly instructions.
3. Inspection and exchange of the airbrake bellcrank in the fuselage.
4. Inspection and if the case arises, reinforcement of the rear canopy hinge.

Serial number applicability:

All serial no.s 21001 thru 21345 including;
this is factory-standard as of serial no. 21346.

Compliance:

Actions under points 1.1, 1.2, 3.1, 3.2, 4.1 and 4.2 prior to the next take-off.
The action under point 4.3 is optional.
All other actions until the next annual glider re-inspection, however, at the latest by April 30, 1988.

Reason:

1. With some few ASK 21s it happened that the plastic tube slipped out of the S-shaped rudder pedal tube and jammed the rudder when the pedals were in the rear position.
2. Past experience keeps showing that the assembly of the quick-release connectors of the control circuits at the wing to fuselage transition and especially at the elevator (the latter applies only to the serial no.s up to 21205, after that the ASK 21 series production included the automatic elevator connection as factory-standard) again and again has been done incorrectly or even just completely forgotten.
In order to prevent this from happening, the manuals are supplemented with new inspection and assembly instructions referring to the points in question.
3. In two cases the pre-flight checks on the ground with the ASK 21 showed the airbrake bellcrank in the fuselage (210.43.0005) cracked --> see Maintenance Manual p.16, item 5 (for the US-edition of the manuals see the corresponding "Instructions For Continued Airworthiness" p. 19, item 5).
4. With a few ASK 21s the support tube for the gas spring at the rear canopy hinge was broken. These cracks result from the fact that the gliders were left outside with the canopy open for a longer period of time and by this an overload of the canopy hinge due to continuous shaking in the wind was caused. This is a gross operating error ! On the Flight Manual p. 37, V.3, it is clearly stated "When parking the sailplane the canopies have to be locked." (For the FAA-approved US-Edition of the Flight Manual this is p.43, V.3. !).

Zusammenfassungen, verpflichten zu Schaden, soz. Alle Rechte für den Fall der Patentierung oder Gebrauchsmuster-Eintragung vorbehalten.

Weitergabe sowie Vervielfältigung dieser Unterlagen, Verwertung und Mitteilung ihres Inhalts nicht gestattet, soweit nicht ausdrücklich zugestanden.

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ASK 21
Technical Note
No.20

Alexander Schleicher
Segelflugzeugbau
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Action:

1.1 Prior to the next take off it must be checked whether the plastic tube has slipped out of the S-shaped rudder pedal tube.

Note: the plastic tube is in its correct place when its both ends stand out from the S-shaped tube for about the same length.

1.2 If the plastic tube has slipped out or displaced, the following action must be taken prior to the next take-off: the plastic tube must be completely pulled out of the S-shaped tube, then has to be de-greased and sanded with emery paper (40 grains). Now a thickened resin-hardener mixture is brushed on the outside of the plastic tube and then the tube is pushed again into the S-shaped tube such that its both ends stand out from the S-shaped tube for the same length. Watch out: the resin must not get between the rudder cable and the plastic tube ! Finally fill in further resin-hardener mixture between the two tubes from above using an injection syringe.

1.3 The plastic tube being in its correct place and fixed such that it will not shift when pressure is applied to the tube end (unload the rudder pedal spring for this purpose), the flight operation can be continued.
In any case for all gliders this action (filling in the resin-hardener mixture between the two tubes from above using an injection syringe; see point "Material") must be accomplished until the next annual glider re-inspection, however, at the latest by April 30, 1988.

2.1 The following pages in the manuals must be exchanged for respectively added as new pages with the note "TN-No.20 dated 16.10.87" :

Flight Manual: Check List 1 and pp. 21, 36a, 36b, 37.
Maintenance Manual: pp. 40a, 43a, 43b and 43c.

For the FAA-approved US-Edition of the manuals this applies to the following pages:-

Flight Manual: pp. 2, 3, 4, 30, 31, 42, 42a, 43.
Instructions For Continued
Airworthiness: pp. 2, 3, 43, 45, 45a, 45b, 60.

2.2 The accomplishment of the change/ supplement to the Manuals must be documented on the respective page "Amendments Record" (for the FAA-approved US-edition this applies to the page "Log Of Revisions").

2.3 The inspection and assembly instructions provided on the new manual pages must be duly regarded !

3.1 Prior to the next take-off it must be checked if the air-brake bellcrank in the fuselage shows cracks or deformations --> see Fig. 1.

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**ASK 21
Technical Note
No.20***Alexander Schleicher
Segelflugzeugbau
6416 Poppenhausen*

3.2 If cracks or deformations are found, the airbrake bellcrank must be removed prior to the next take-off and the new bellcrank with an additional support must be fitted --> see drawing 210.43.S5.

3.3 If no damages are found, flight operation can be continued for the present. Until the next annual glider re-inspection, however, at the latest by April 30, 1988, the new bellcrank in the fuselage (210.43.0005) must be fitted.

4.1 Prior to the next take-off it must be checked if the rear canopy hinge shows cracks --> see drawing 210.12.S5.

4.2 If cracks are found, prior to the next take-off the rear canopy must be disassembled and the canopy hinge must be reinforced as shown on drawing 210.12.S5.

4.3 If no damages are found, flight operation can be continued. As the canopy hinge is sufficiently rigid under normal conditions and with proper operation, we are of the opinion that it is not necessary to make the canopy hinge reinforcement mod obligatory. However, this mod can be accomplished optionally.

**Material &
drawings:**

Resin Epikote 162: 100 parts in weight ($\approx$ 50 g),
Hardener Epikure 113: 38 parts in weight ($\approx$ 19 g),
or a similar Epoxy resin.
Aerosil to thicken the mixture: 10 parts in weight ($\approx$ 10 g).
5 off spring clip no. 50030771 (Ford-brake-spring clip).
Airbrake bellcrank in the fuselage (210.43.0005),
Reinforcement for airbrake bellcrank support (210.43.0025)

Drawings : 210.12.S5
210.43.S5

Notes:

The action 1 through 3 can be accomplished by a competent person.

Action 4 must only be accomplished by the manufacturer or by a technical aviation service station holding an appropriate license.

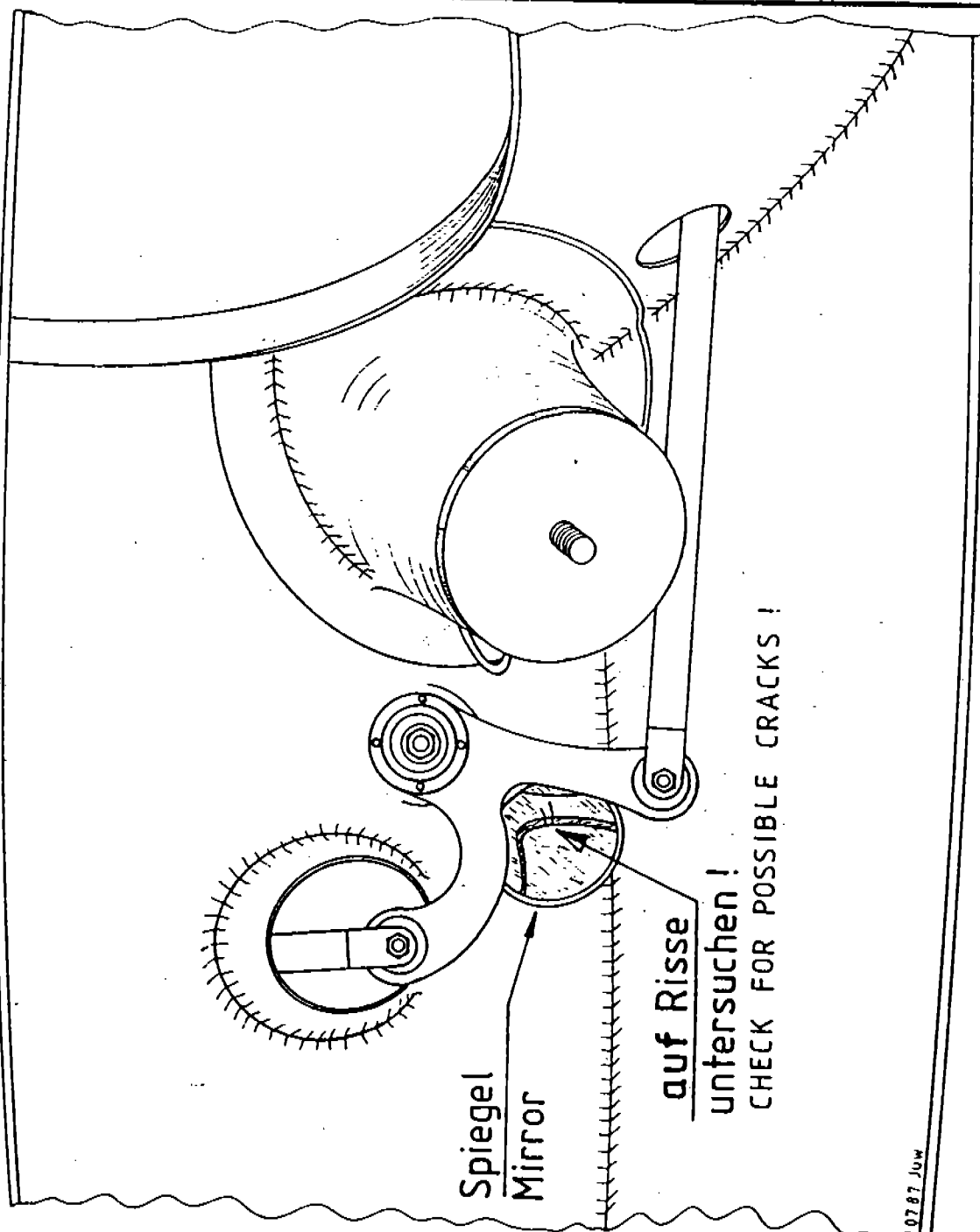
The accomplishment of all actions must be examined by a licensed aviation inspector who has to document the accomplishment in the glider's inspection documents and logbook.

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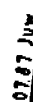
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ASK 21
Technical Note
No. 20Alexander Schleicher
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Poppenhausen, den 16.10.1987

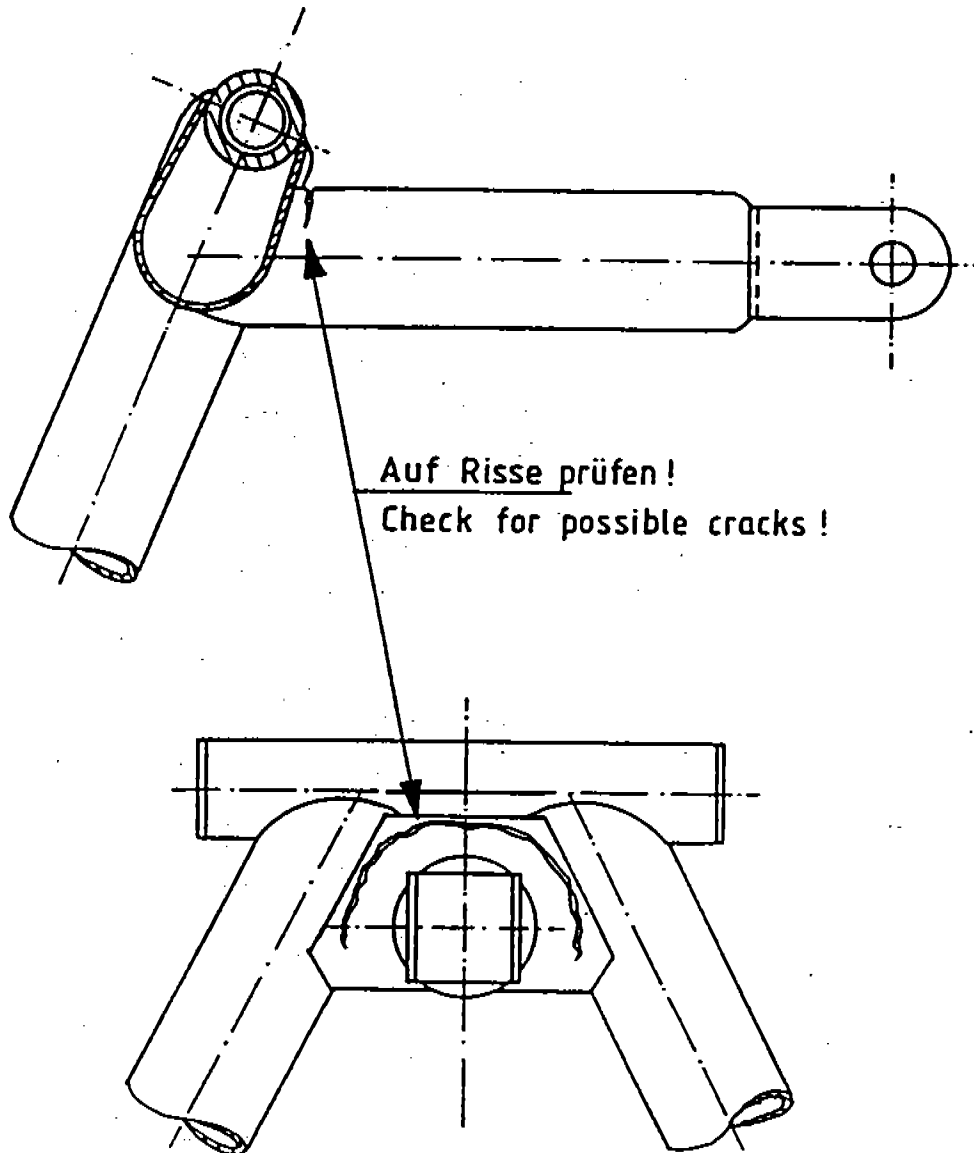
ALEXANDER SCHLEICHER
GmbH & Co.i.A. *[Signature]*
(L.-W. Juntow)

The German original of this Technical Note has been approved by the LBA under the date of Nov. 3, 1987 (signature: FRIEB). The translation into English has been done by best knowledge and judgement; in any case of doubt the German original is controlling.



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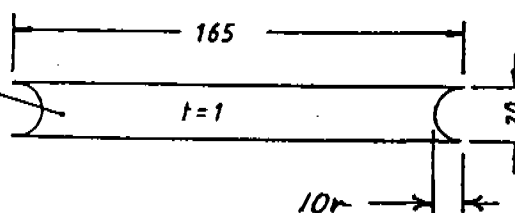
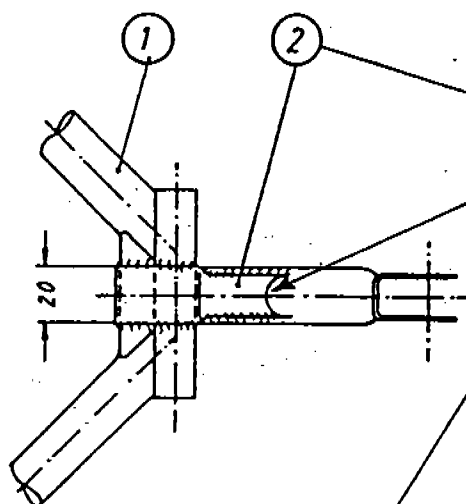
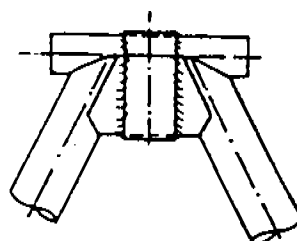
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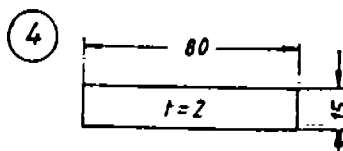
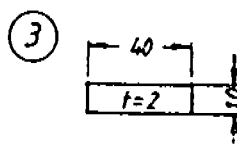
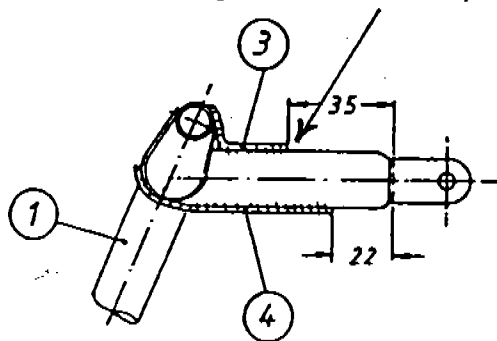
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Wahlweise Ausführung (von London Sailplane LTD.)



WIG-Schweißverfahren DIN 1912

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