



THE GLIDING FEDERATION OF AUSTRALIA

GFA AD 329

AIRWORTHINESS DIRECTIVE

Issue 1

TYPES AFFECTED: Schleicher - ASW 20 and ASW 20L
S/Nos 20001 to 20611 (incl)

SUBJECT: Unintentional pilot induced oscillation

BACKGROUND: German LBA AD 87-148 and Schleicher Technical Note 30 outline procedures that will assist in preventing unintentional pilot induced oscillations. The ASW 20 appears to have had a significantly higher incident/accident rate than similar types, in countries, other than Australia, blamed largely on pilot induced oscillations. A report from France suggests 5 in flight structural failures of which at least one was fatal.

Schleicher's list of pilot induced oscillation contributory factors must apply to all sailplanes to some degree, so this AD is of general interest as well as specific to the ASW 20. Factors that can contribute to pilot induced oscillations and in flight structural overload are:-

- (1) Incorrect fastening of safety harness
- (2) Incorrect installation of safety harness
- (3) Soft/loose cushions
- (4) Loose, unsecured lead ballast on/under seat
- (5) Flying at or outside the aft C.G. limit
- (6) Loose trim control
- (7) Control column with excessive rearward bend
- (8) ASI system errors including lack of appreciation of the difference between IAS and TAS with increasing altitude and use of the correct static ports

ACTION REQUIRED: (1) Within 25 hours flight time

The owner to assess the 8 points above and if necessary, seek the assistance of a GFA inspector (appropriately authorised) to carry out any rectifications considered necessary immediately.

(2) At or before next Form 2 inspection

Comply fully with the actions requested in Schleicher Technical Note 30, which forms part of this AD. This may also require the glider to be weighed if there is insufficient current W/B data.

Issued by: *Mr Burns*

Chief Technical Officer
Airworthiness

18.1.88

For and behalf of:

GLIDING FEDERATION OF AUSTRALIA

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(3) Flight/operations Manual Amendments

Exchange pages:-

ASW 20:- 13,19,20 & 38

ASW 20L:- 14,20,21 & 42

New pages have the same number but are marked TN-30 dated 01-04-87. (Pages available from the GFA Secretariat).

WEIGHT AND BALANCE: Nil effect

ACCOMPLISHMENT: Action (1) is owner responsibility
 Action (2) is to be carried out by appropriately rated GFA inspectors. If a re weigh is necessary that is to be carried out by a GFA inspector authorised "Weighing & W/B". AD compliance and rectification details to be entered into the glider log book.
 Action (3) is an owner responsibility.

COMPLIANCE: This Directive is issued pursuant to Air Navigation Regulations under the delegated authority of the Secretary of the Department of Transport and Communication.

NOTE: For parts and service -

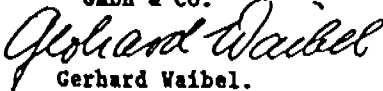
Alexander Schleicher Australian distributor:-

Sailplane Services,
 P.O. Box 257,
 NARROMINE N.S.W. 2821

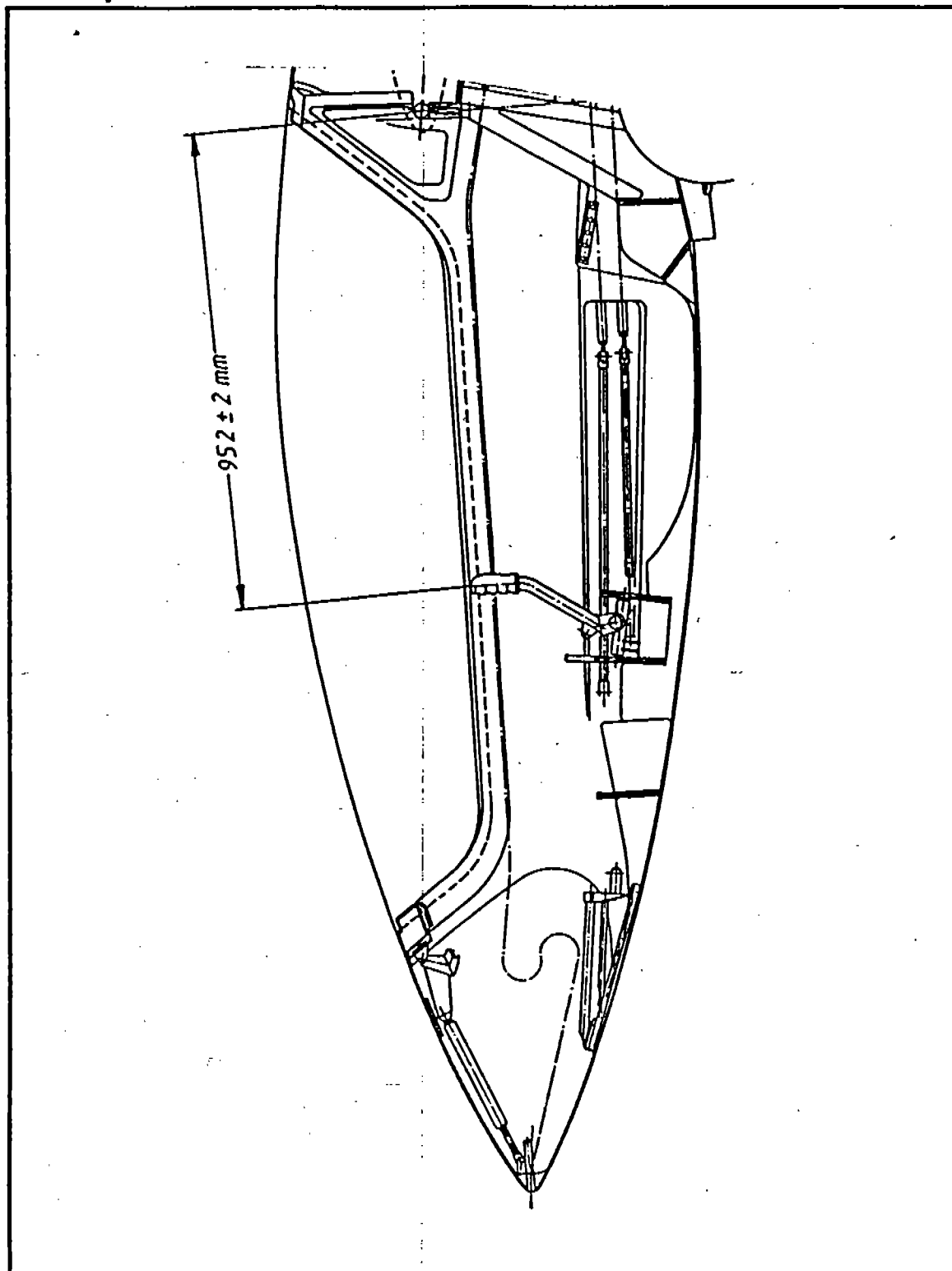
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SHEET: 1 of 2	ASW 20 / 20.L Technical Note No.30	Alexander Schleicher <i>Segelflugzeugbau</i> 6416 Poppenhausen
<p><u>Subject:</u> Preventive measure against unintentional PIO (pilot induced oscillations).</p> <p><u>Serial number applicability:</u> All ASW 20 and 20 L, serial no.s 20001 thru 20611.</p> <p><u>Compliance:</u> Accomplishment of the action required under this T.N. until the next annual glider inspection, but at the latest until March 31, 1988.</p> <p><u>Reason:</u></p> <p>Various flight and accidents reports from pilots with little experience with the ASW 20 do indicate that the pilots themselves did induce (unintentionally) pitch oscillations.</p> <p>Besides strong turbulence and rough air the following circumstances - mostly in multiple combinations - were found:-</p> <ol style="list-style-type: none"> 1. Incorrect fastening of safety harnesses. 2. Wrong installation of asymmetric AUTOFLUG-safety harnesses. 3. Soft seat cushions. 4. Loose lead cushions, used in the seat or on the backrest. 5. Rear C.G. positions. 6. Trim untightened. 7. Sticks misplaced to the rear and sticks which are too much cranked. <p>Sticks which are either too much cranked or misplaced too far to the rear, favor PIOs because in rough air the forearm and the hand on the stick are propped up <u>behind</u> the universal joint of the stick and from this unintentional elevator deflections result which still reinforce the maneuvering g-loads.</p> <p><u>Action:</u></p> <ol style="list-style-type: none"> 1. Check that your stick form is identical with the enclosed drawing (200.48.001). Only sticks with this stated crank angle are permissible; sticks differing from that are no longer allowed, even if there should be a previous LBA-approved Modification For A Single Unit for another stick type. Re-install the original stick type. In the case that a brake lever is (to be) fitted to the stick, the extension by means of the wooden compensating piece (200.48.0012) is permissible. 2. Check the most forward position of the stick as per drawing (200.11.S4) and if necessary re-adjust. The adjustment is done at the variable head in front of the stick; for this purpose the elevator must also be in the full down position within the tolerances given in the Operations Manual page 42 (ASW 20) or page 46 (ASW20 L). 3. Remove the existing trim knob; as the landing gear locking mechanism is no more secure while works at the trim are accomplished the seatpan has to be removed also and the fuselage must be jacked up. The new, spring-loaded trim knob must be installed as shown on drawing 200.49.0030. Attention must be paid that the green knurled head screw ① is absolutely locked with the retaining nut ⑦. 		

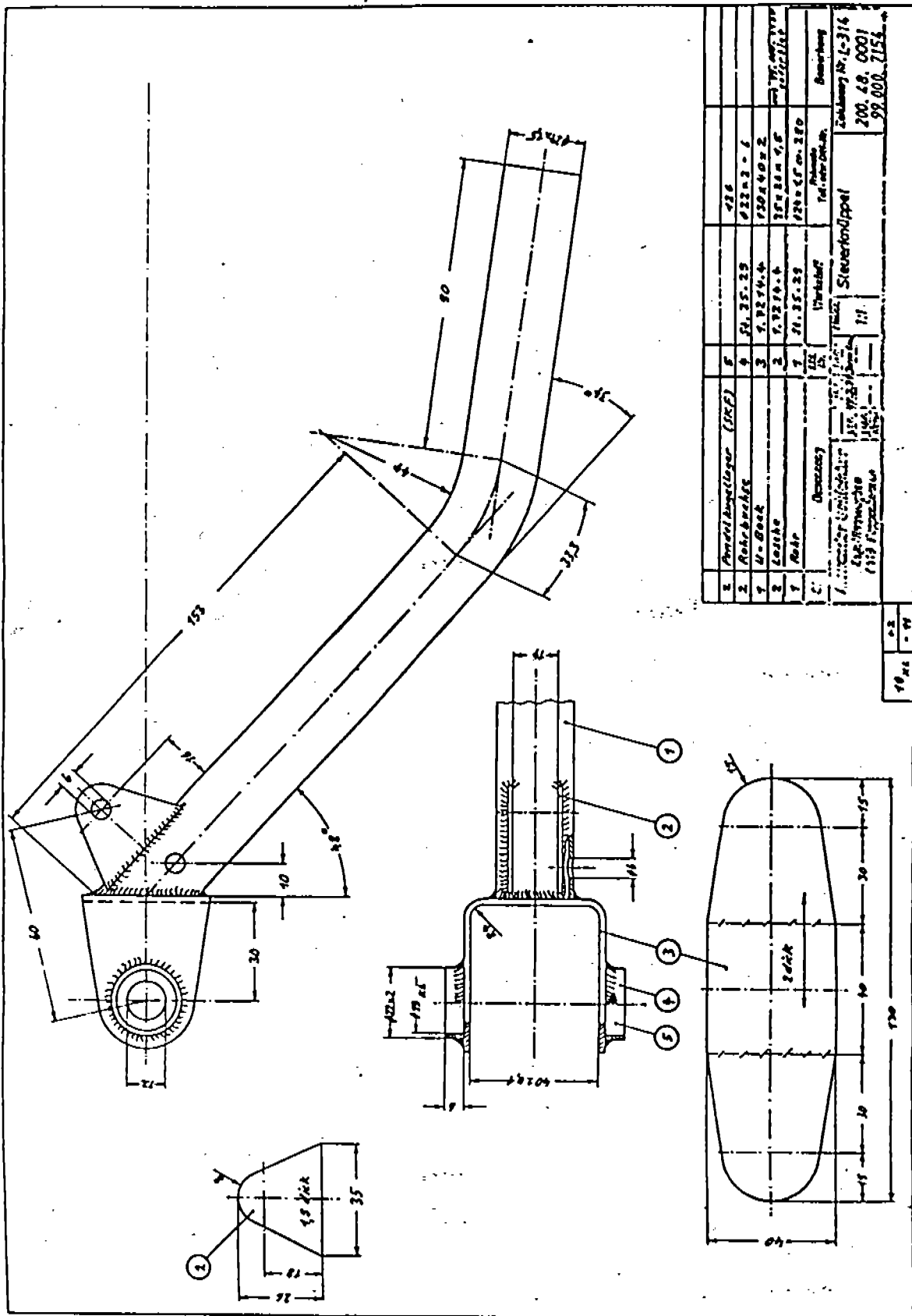
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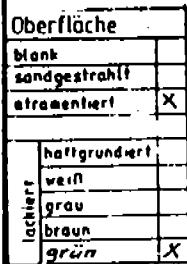
SHEET: 2 of 2	ASW 20 / 20 L Technical Note No.30	Alexander Schleicher Segelflugzeugbau 6416 Poppenhausen
<p>With the elevator in the zero position, the trim knob must be adjusted at about 10 mm behind the front edge of the slotted gate; the adjustment is done at the universal joint of the trim spring pot. Finally check that all parts are free-moving and re-install the seatpan.</p> <p>4. If the 4-part, asymmetric AUTOFLUG safety harness (consisting of shoulder harness FAG 7B-1, and lap belt FAG 7K-1) is installed in your glider, it must be checked whether the short lap belt member is mounted at the <u>right</u> cockpit wall (in flight direction) and is diagonally opposite to the long shoulder harness which is mounted at the main bulkhead close to the red parachute static line anchoring ring. Only then the prescribed position to strap oneself in can be achieved.</p> <p>5. Exchange the following pages in the respective Flight and Operations Manuals:- ASW 20: p. 13, 19, 20, and 38; ASW 20 L: p. 14, 20, 21, and 42; for pages with the same numbers but with the reference entry of T.N. no.30 dated 01.04.87. These pages give important notes for preventing PIO.</p> <p>6. The exchange of the pages in the Manuals must be documented on page 4 "Amendments to the Manual".</p> <p><u>Material & drawings:</u> See drawings: 200.11.54; 200.48.0001; 200.48.0012; and 200.49.0030. Manual pages as stated under above para ACTION, points 5 & 6.</p> <p><u>Mass and C.G.:</u> The influence of this mod is negligible.</p> <p><u>Notes:</u> This action can be accomplished by a competent person. The accomplishment of this mod must be inspected by an aviation inspector holding the appropriate license and certified in the glider logbook and in the inspection certificates.</p>		
Poppenhausen, April 1, 1987		
<div style="text-align: right;"> ALEXANDER SCHLEICHER GbH & Co.  Gerhard Waibel. </div>		
<p>The German original of this Technical Note has been approved by the LBA under the date of April 10, 1987 (signature: SCHMALJOHANN). The translation into English has been done by best knowledge and judgement; in any case of doubt the German original is controlling.</p>		

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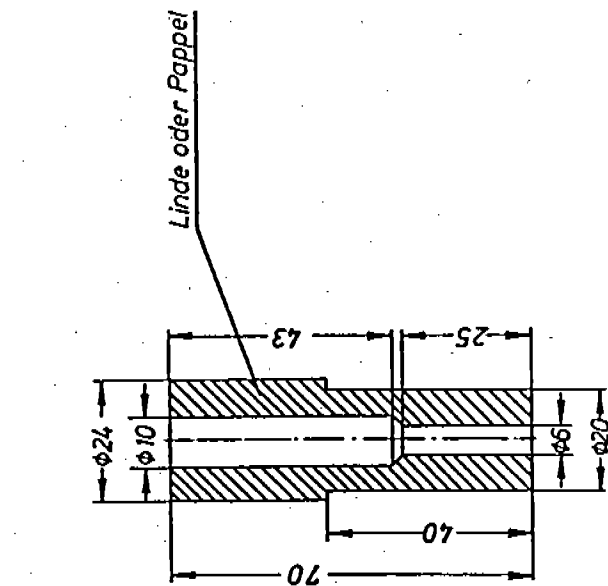


					Datum	Name	Typ	Benennung	Maßst.
				Bearb.	03.08.87	Juv	ASW 20 ASW 20 L	vorderste Knüppel- stellung full forward stick position	1: 10
				Geprü.					
				Norm					
				A. Schleicher Segelflugzeugbau 6415 Poppenhausen			Zeichnungsnummer L-314 200. 11. S 4		Blatt
								TM-Nr. 30	Bl.
Zust.	Änderung	Datum	Na.	Urspr.			Erz. l.	Erz. d.	





1	Klemmgriff	2	RCH 1000	Ø 30 - 27			
1	Rändelschraube M6 x 40 (45)	1	wellweise Al-Leg.	DIN 464 - 5.8	ohne Rändel !		
St.	Benennung	Lfd. Nr.	Werkstoff	Rohmaße Teil- oder DIN-Nr.	Bemerkung		
			Datum	Name	Typ	Benennung	Maßst.
			Bearb. 19. 03. 87	Juw	ASW 20	Klemmgriff für Trimmung Einzelteile	1:1
			Geprü				
			Norm				
			A. Schleicher GmbH & Co Segelflugzeugbau 6416 Poppenhausen		Zeichnungsnummer L-314 200. 49. 0030		Blaß 2 2 Bl
Zust.	Änderung	Datum	Na.	Urspr	Ers I	Ers d	

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