

B.G.A. TECHNICAL COMMITTEE

TECHNICAL NEWSHEET

TNS/5/6/88

PART 1 AIRWORTHINESS "AGGRO". (Please add to the 1988 Red Pages)

1.1 ASW 15 & ASW 15B. In Flight Failure of Wing Structure

LBA A/D 88 - 95 and Schleicher T/Note 23 (herewith) require borescope inspection for penetration of water, and a mould fungus which destroys the balsa spar webs. (Mailed to owners 10/5/88). Could apply to other types incorporating balsa wood.

1.2 Putchatz - Top Rudder Hinge Failure, probably due to tail skid impact damage. The attached sketch recommends areas for inspection, and the introduction of a T.21 skid rubber to the tail skid. (Reported by P. Marks).

1.3 Ventus Tailplane, skin damaged by mass balance weight. Damaged whilst rigging. (Sketch from Cleveland's G.C.)

1.4 Glasflugel Libelle (all series) Kestrel 604 and BS-1. FA AD/88-07-05 draws attention to the need to inspect rudder cables fitted with DIN spec 655, 6 x 7 cables of 2.5mm diameter having a hemp core, and to replace as necessary Hansjorg Streifender T/Notes 201/26, 301/33, 401/20 and 501/4 dated 13/3/87 refer.

1.5 Astirs (Retractable) Front undercarriage leg hinge pin circlips become detached, and the pin works itself out. (Cotswold G.C./T. MacFadyen).

1.6 LS1, LS3, LS4, Loose Wing Root Rib Pins. Gliding Federation of Australia sketch (herewith) requires inspection. Repair scheme as recommended is acceptable to BGA.

1.7 Kestrel - Aileron Skew drives, excessive free play leading to flutter. Assembly with LOCTITE at every joint will minimise backlash. (T. MacFadyen).

1.8 Blanik. Forward Tailskid Attachment - Repair scheme. The attached sketch from Tony Moss (Borders G.C) is approved by B.G.A.

1.9 ASK 21. Speed - Brake Lever Failure at the "Splitter" output to each brake. T/Note 20 in TNS 3/4/88 refers (Reported by Midland G.C.)

- 1.10 Flexible Hose Failures. The attached photograph from AAIB Bulletin 5/88, is self explanatory. Could apply to fuel, hydraulic or lubrication hoses.
- 1.11 Extracts from GASILS (herewith).
- a) Incorrect spark plugs. (Check for approved types).
 - b) IGNITION SWITCH failure. (Chipmunk).
 - c) PA18 Cub - Controls obstructed.
- 1.12 Hoffman Propellers. Inspection of propeller blades. CAA Foreign Airworthiness Directive Vol III, 88-20 refers.
- 1.13 Janus CM. Fuel Supply. CAA A/D Vol III 86-135 refers.
- 1.14 PA25-235 Pawnees. Failure of tailwheel springs. Recurring failures are likely to occur. Spares should be provisioned. Also the tailwheel bolts.
- 1.15 PA25 - 235 Pawnee - Separation of the Brake Disc from the Drum, due to fatigue or corrosion. Cleveland spares should be provisioned. Inspect on D.I. (2 cases reported).
- 1.16 Duplicate Inspection of Controls, and of Critical Joints. The attached copy of BCAR Section A5-3 is self explanatory.

PART 2 GENERAL MATTERS

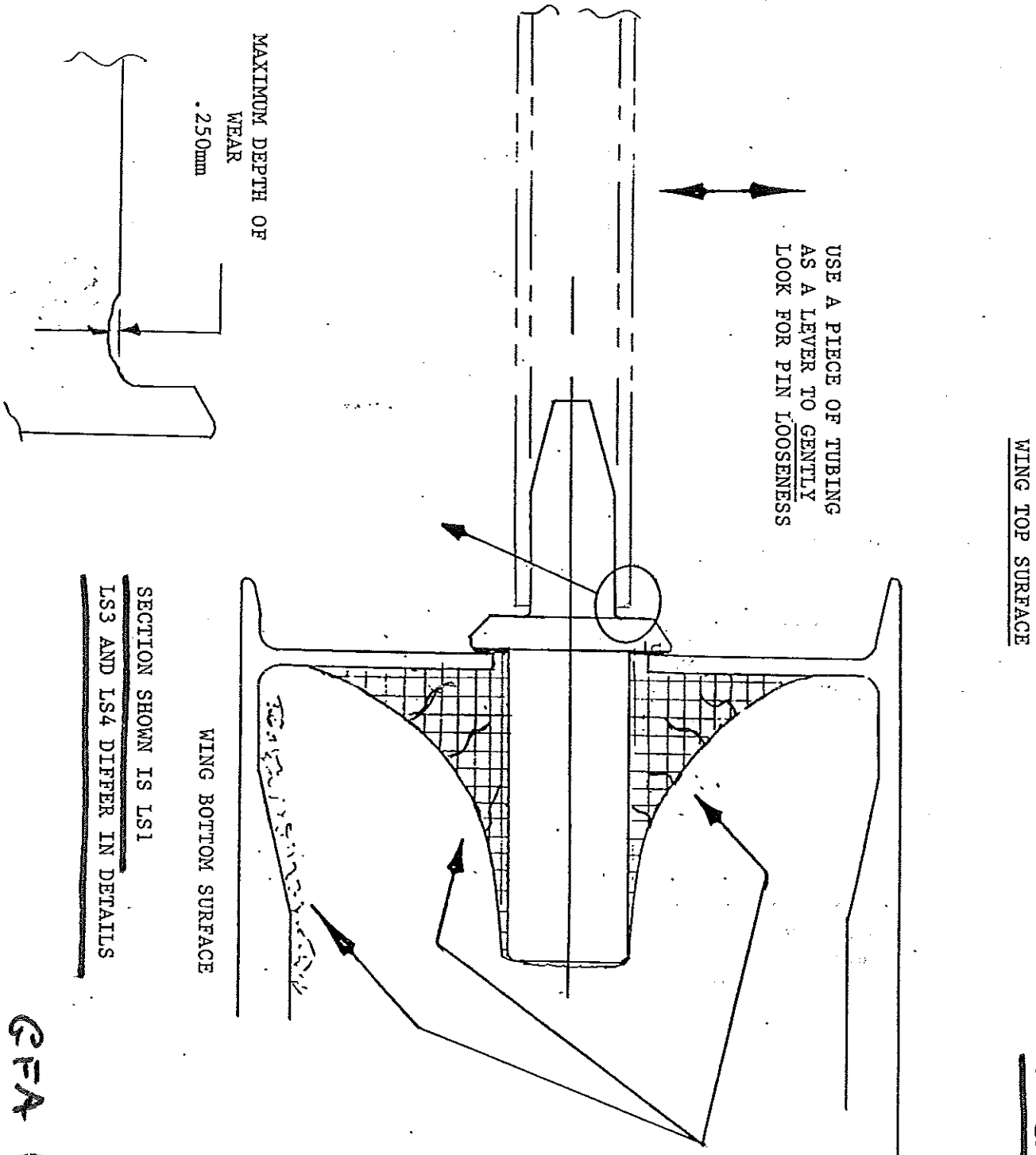
- 2.1 Weighing
- a) Weighing Technical Services (Bill Galen) is contactable on 063877-342.
 - b) Digital bathroom scales cost not much more than £25.00. Hopefully their accuracy is more predictable.
 - c) The removal of some 14lbs of instruments, on transfer of ownership, caused a significant C.G. shift, which was not corrected with ballast. Commonsense failed to prevail!.
 - d) Aircraft should be reweighed whenever their is doubt.
- 2.2 LS3 (Variants). Tech/Bulletin 3038 details the inspection required to extend the life from 3000 hours to 6000 hours.
- 2.3 Mogas. Whereas the BGA is dedicated to the cause of "non-dedicated" sources of supply of Mogas, operators of tugs are advised to check that their Insurance Policies are suitably endorsed. Avgas supplies are now available from Baker Petroleum (Exeter), Conoco, Cyma (London) and Shell & BP. (Carless petroleum of Harwich, supply 80/87 unleaded).

- 2.4 BGA Form 267 (General purpose Glider Airworthiness Report). The signing of this report by a BGA Inspector signifies beyond all reasonable doubt, that the glider to which it refers, is fit for the issue or renewal of its Certificate of Airworthiness. Therefore, it must not be signed if any deferred items effecting airworthiness, remain unresolved. Two recent cases resulting in controversy, have been reported.
- 2.5 "Cosmetics". The airworthiness of aircraft is seldom compromised by poor finish. Protection against corrosion, or water penetration, is a matter affecting airworthiness and is part of a C of A renewal process. The B.G.A. does not wish to become embroiled in commercial disputes which arise because cosmetic repairs have not been included in a C of A renewal inspection. If you take your car for its M.O.T, you will not get a free re-spray!.

R.B. STRATTON.

CHIEF TECHNICAL OFFICER.

FIG. 1.



WING TOP SURFACE

USE A PIECE OF TUBING AS A LEVER TO GENTLY LOOK FOR PIN LOOSENESS

MAXIMUM DEPTH OF WEAR
.250mm

WING BOTTOM SURFACE

SECTION SHOWN IS LS1
LS3 AND LS4 DIFFER IN DETAILS

LS1. LS3. LS4.

INSPECT FOR CRACKS IN THE FILLING MATERIAL AND SIGNS OF WHITE DUST PRODUCED BY "FRETTING".

GFA (Australia)

ASW 15

SHEET: 1 of 4	ASW 15 Technical Note No. 23	Alexander Schliecher Segelflugzeugbau 6416 Poppenhausen
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Subject: Inspection and interior preservation of the wing spar.

Serial number applicability: All ASW 15 and 15 B, including all conversions into motor gliders.

Compliance: Action as per point 1.1 through 1.3 prior to the next take-off.
All further action before December 31, 1988, at the latest.

Reason: 1. With an ASW 15 B in Austria the left wing broke off in flight. Luckily the pilot escaped with his chute.

At inspection of the wing showed that following penetration of water a mould fungus developed in the spar inside destroying the wood. This mould fungus had affected and destroyed the balsal wood spar webs and the plywood blocks of the spar respectively to such an extent that the supporting function of the spar webs was no longer sufficient, this leading eventually to the premature failure of the wing.

2. At the instance of the Austrian Civil Aviation Authority all other ASW 15s registered in Austria had to be inspected and a further four units were found which had been attacked by wood-destroying mould fungi.

3. In section 2.5 " upkeep and Maintenance" of the Flight and Operations Manual of the ASW 15 (p. 18) and ASW 15 B (p. 22 + 23) it is strongly emphasized that moisture and water respectively can have a damaging effect on the structural components of the glider and how - if there is suspicion of penetrated moisture or water - the components have to be dried. Obviously these notes have not been regarded strongly enough.

1.1 The wing spar must be visually inspected for penetrated moisture, mould fungi and/or swelling up! Mould fungi attack shows as discoloration of the wood into blue, brown or grey hues or as white mould fungi in lumpy shape or in cobweb-shaped, but irregular threads.

1.2 For this job you have to drill a hole through the opening in the root rib for the waterballast, using a drill of about 200 mm length (diameter according to the thickness of the endoscope). The endoscope with which the inspection of the spar inside can be done, has to be inserted into this hole (see Fig. 2). With ASW 15 gliders up to the serial no. 15183 there is no opening in the front root rib which, therefore, must first be drilled in this location (see Fig. 1). If you do not have an endoscope available, you can alternatively drill an opening of ø 28 mm.

Wichtigste Punkte: Bei ASW 15 und 15 B ist die Inspektion des Tragflügelträgers auf Feuchtigkeit, Schimmelbefall und Quellung zu prüfen. Bei Verdacht auf Schimmelbefall oder Quellung sind die Tragflügelteile zu trocknen. Offensichtliche Schimmelfäden oder webartige, aber unregelmäßige Strukturen sind als Schimmelfäden zu betrachten. Bei Verdacht auf Quellung sind die Tragflügelteile zu trocknen.

Action:

ASW 15

SHEET: 2 of 4	ASW 15 Technical Note No. 23	Alexander Schliecher Segelflugzeugbau 6416 Poppenhausen
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Through this opening the spar inside has to be inspected using a suitable mirror with suitable lighting mechanism.

1.3 If there are no swelling-ups or indications of penetrated moisture, the hole has to be preserved with resin and then covered with 2 layers glassfiber cloth 92125 (or a similar cloth of approx. 250 g/m²) of about 30 mm ø. The opening of ø 28 mm is re-sealed in accordance with the instructions under point 2.2. The flight operations can be continued for the present. However, a further inspection of the wing spar - in accordance with the instructions given under "Action, point 2.1" - must follow by December 31, 1988 at the latest.

Note: The above points 1.2 thru 1.3 are unnecessary if the actions in accordance with points 2.1 and the following are carried out immediately.

1.4 However if the inspection in accordance with point 1.2 shows that there is moisture, mould fungi and/or swelling up of the wood or if there is suspicion of penetrated water, it is not permissible to operate the glider any longer and in any case a further inspection in accordance with "Action, point 2.1" - must follow immediately.

2.1 As shown in Fig. 3, the wing spar inside must be inspected, using an endoscope (or a suitable mirror with suitable lighting mechanism, e.g. pocket-lamp bulbs soldered on with two stiff, approx. 1 m long wires) for discoloration and for wood-destroying mould fungi: the endoscope has to be inserted through the inspection holes which you have to drill (move the source of light along the spar inside). With ASW 15 gliders up to the serial no. 15183 you have to first drill an opening into the front root rib in accordance with Fig. 1 (this opening already exists on all gliders with serial no.s above 15183).

In order to drill the inspection holes into the airbrakes box, the lower airbrakes have to be disassembled first. The drill cores of the boxes which you have to do with a keyhole saw of ø 28 mm (see Fig. 4), must be sent in for examination to one of the institutes listed under "Notes, point 2."; they must be marked so that they can be assigned again afterwards to the corresponding bore.

2.2 If it is found that the wood parts of the spar inside are not damaged by moisture and/or mould fungi, then the drilled bore holes must be reinforced by means of a GFR-strengthened disk and then closed again by means of a rubber stopper (see Fig. 6). Prior to this, the spar inside must be sprayed out with a solvent-containing preservative in accordance with DIN 68 800, e.g. Aldol Ferifolun 100 made by RHMERS, D-4571 Lönningen, Tel.: 05432-83-0 (see Fig. 5). When using this product "Aldol" you will need about 200 g. It has to be regarded that the edges of the drill holes must be preserved again (see Fig. 6). The bore hole left

Wichtigste Punkte: Bei ASW 15 und 15 B ist die Inspektion des Tragflügelträgers auf Feuchtigkeit, Schimmelbefall und Quellung zu prüfen. Bei Verdacht auf Schimmelbefall oder Quellung sind die Tragflügelteile zu trocknen. Offensichtliche Schimmelfäden oder webartige, aber unregelmäßige Strukturen sind als Schimmelfäden zu betrachten. Bei Verdacht auf Quellung sind die Tragflügelteile zu trocknen.

SHEET:
3 of 4

ASW 15
Technical Note
No. 23

Alexander Schleicher
Segellagzeugbau
6116 Poppenshausen

inside the GRP-circular disk is intended as gate for later inspections and the holes in the rubber stopper are necessary for ventilation.

3. If a swelling up is clearly visible or if there is suspicion that water has penetrated into the spar fork or into the spar stub, the main pin bushings must be removed and the interior between the bushings must be inspected (see Fig. 7).
Normally the main pin bushings are level with the main spar winding or lie slightly back respectively.

4. If discoloration of the balsa wood webs and plywood blocks respectively is found or wood-destroying mould fungi attack is found, the manufacturer must be contacted for repair instructions and for either an accomplishment of a repair or replacement of the whole component.

5. In the Operations Manual the p. 22A (ASW 15) and p. 27A respectively (ASW 15 B) must be exchanged for pages with the same number and the reference entry "TW No. 23 dated 21.04.1988". The exchange of the pages in the Manual must be documented on the page 3 "Amendments to the Manuals".

The GRP-circular disks, the rubber stopper, the Manual pages and the wood preservative are available from the manufacturer.

1. The "Action points 1.1 thru 4." must only be carried out by the manufacturer or by a technical aviation service station holding an appropriate license.
"Action point 5." can be carried out by the owner himself.
The accomplishment of this mod must be certified by a licensed aviation inspector in the glider's inspection documents and in the log-book.

2. Addresses of the institutes:

Bundesamt für Materialforschung und Prüfung
Biologische Materialprüfung
Unter den Eichen 87
D-1000 Berlin 45

Staatl. Materialprüfungsamt Nordrhein Westfalen
Abt. Chemie
Marsbruchstr. 186
D-4600 Dortmund 41

Bundesforschungsanstalt für Forst- und Holzwirtschaft
Institut für Holzbiologie und Holzschutz
Leuschnerstr. 91
D-2050 Hamburg 80

ASW 15

SHEET:
4 of 4

ASW 15
Technical Note
No. 23

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Institut für Holzforschung und Holztechnik der
Universität München
Wiesingerstr. 45
D-8000 München 40

Desowag Materialschutz GmbH
Forschungs- und Entwicklungszentrum
Schwendgersstr. 10
D-4150 Krefeld 11

Fraunhofer-Institut für Holzforschung
Bieröder Weg 54 E
D-3300 Braunschweig
Tel.: 0531 / 3909-336

Poppenshausen, April 21, 1988

ALEXANDER SCHLEICHER
GmbH & Co.
Alexander Schleicher
(Gerhard Walbel)

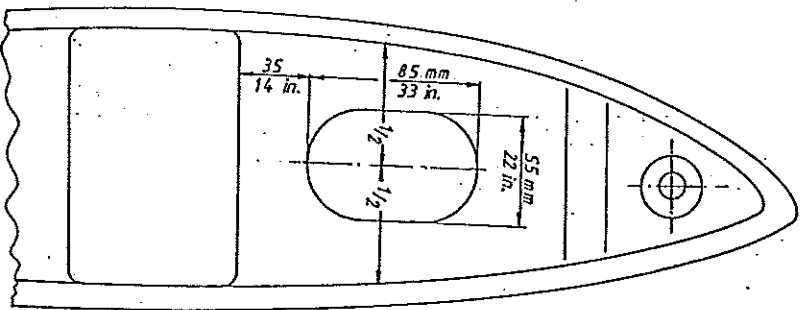
The German original of this Technical Note has been approved by the IBA under the date of April 26, 1988 (signatur: SCHMIDTJOHANN). The translation into English has been done by best-knowledge and judgement; in any case of doubt the German original is controlling.

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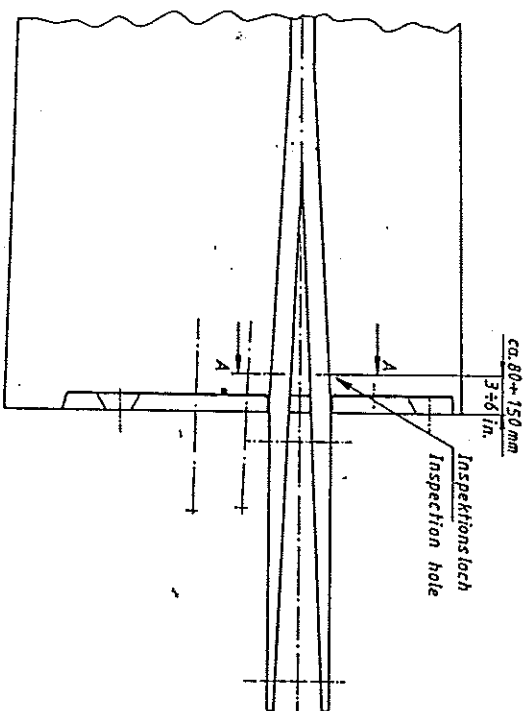


Nur gültig für ASW 15 bis Werk-Nr. 15 183 !
 Only required for ASW 15s up to the serial no. 15183 !

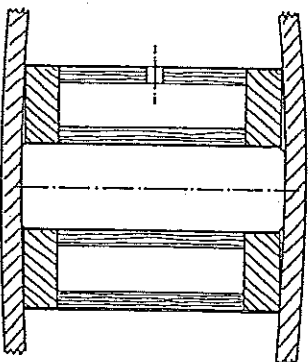
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	Datum	Name					
		Bezahl. 08.04.88	Juv			ASW 15	1:2,5
		Geogr. Norm				Öffnung in Wurzel-rippe	
						Hole in root rib	
Zust.	Änderung	Datum	Nr.	Urspr.	Erstl.		Blatt
						Zeichnungsnummer L-272 TM-Nr. 23	Bl
						Fig. 1	
						A. Schleicher GmbH & Co Segelzeugbau 6416 Poppenhausen	

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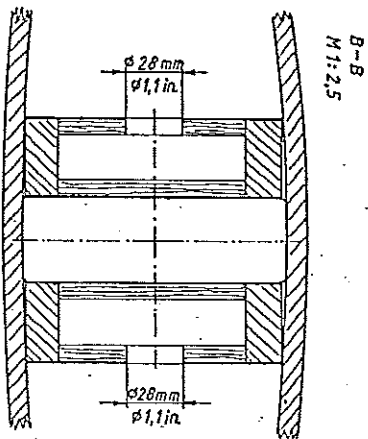
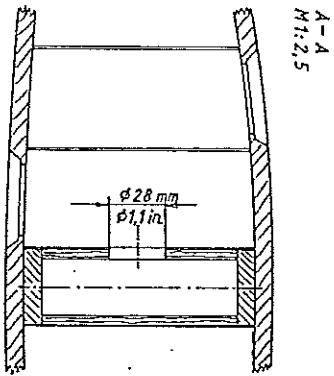
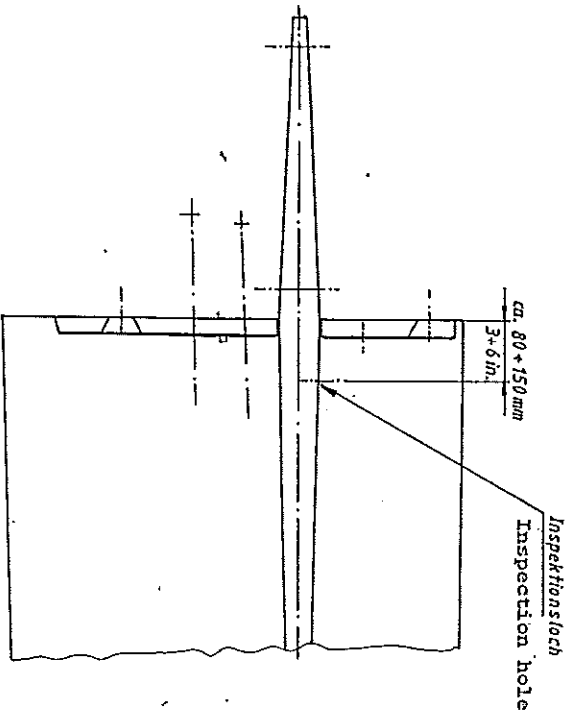
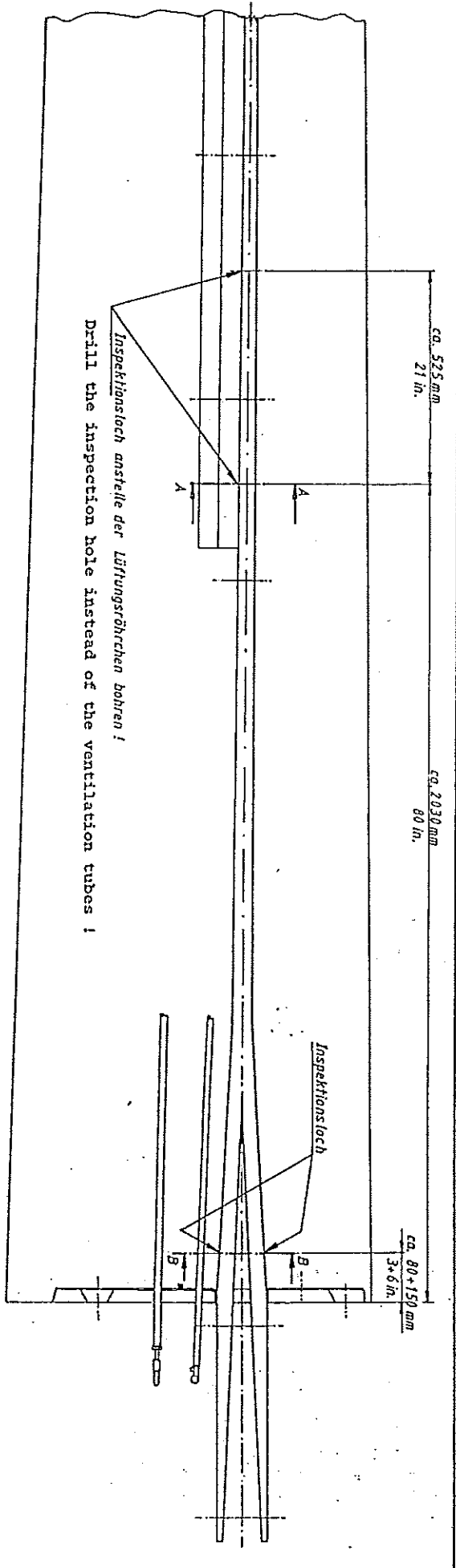


A-A
 M 1:2,5



* Location and dimensions of the inspection holes

Sl.	Benennung		Lfd. Nr.	Werkstoff	Teil- oder DIN-Nr.	Bemerkung	Mensl.
	Datum	Name					
		Bezahl. 14.04.88	Juv			ASW 15 B	1:10
		Geogr. Norm				Verarbeitung der Inspektionslöcher *	
Zust.	Änderung	Datum	Nr.	Urspr.	Erstl.		Blatt
						Zeichnungsnummer L-272 TM-Nr. 23	Bl
						Fig. 2	
						A. Schleicher GmbH & Co Segelzeugbau 6416 Poppenhausen	

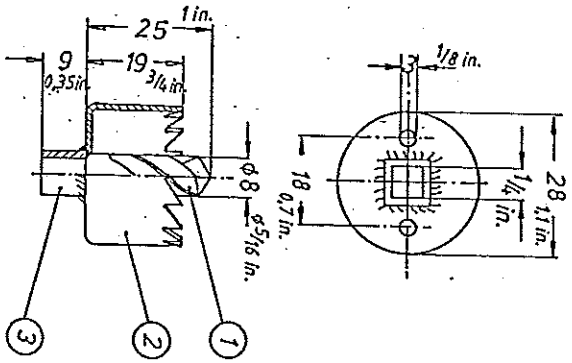


* Location and dimensions of the inspection holes

Sl.	Benennung	Lfd. Nr.	Werkstoff	Raumde Benennung	Bemerkung
		Beim. 1603-88	Juw	ASW 15	Vermaßung der Inspektionslöcher *
		Gepul. Norm		ASW 15 B	
	A. Schlicher GmbH & Co				Blatt 1:10
	Sergelugzeugbau 8516 Popperhausen				
	Zeichnungsnummer L-272				Blatt 1:2.5
	TM-Nr. 23				Blatt 1:2.5

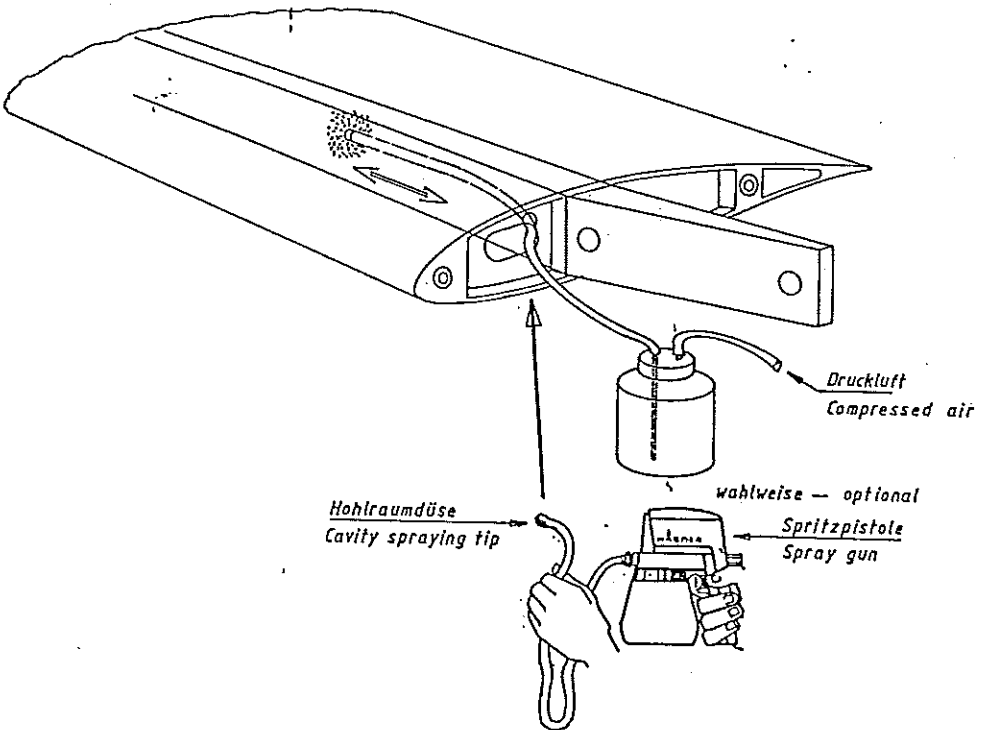
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- (1) Twist drill $\phi 8$ mm
 (2) Keyhole saw $\phi 28$ mm
 (3) Female square socket $1/4$ in.



Sl.	Benennung	Lfd. Nr.	Werkstoff	Reinhalte Teil- oder DIN-Nr.	Bemerkung
1	Innenverkant $1/4$ in.	3		9 - 9	
1	Lochsäge $\phi 28$	2			
1	Spindbohler $\phi 8$	1	HSS		
Sl.	Benennung	Datum	Name	Type	Bemerkung
		Beord. 1/2 04.88	Juv	ASW 15	Lochsäge $\phi 28$ mm
		Geord. Norm			Keyhole saw
	A. Schleichler GmbH & Co Spezialwerkzeugbau 6216 Poppenhausen				
	Zeichnungsnummer L-272 TM-Nr. 23 Fig. 4				
	Blatt				
2	Änderung	Datum	Urspr.	Erst. l.	Erst. d.
					Bl

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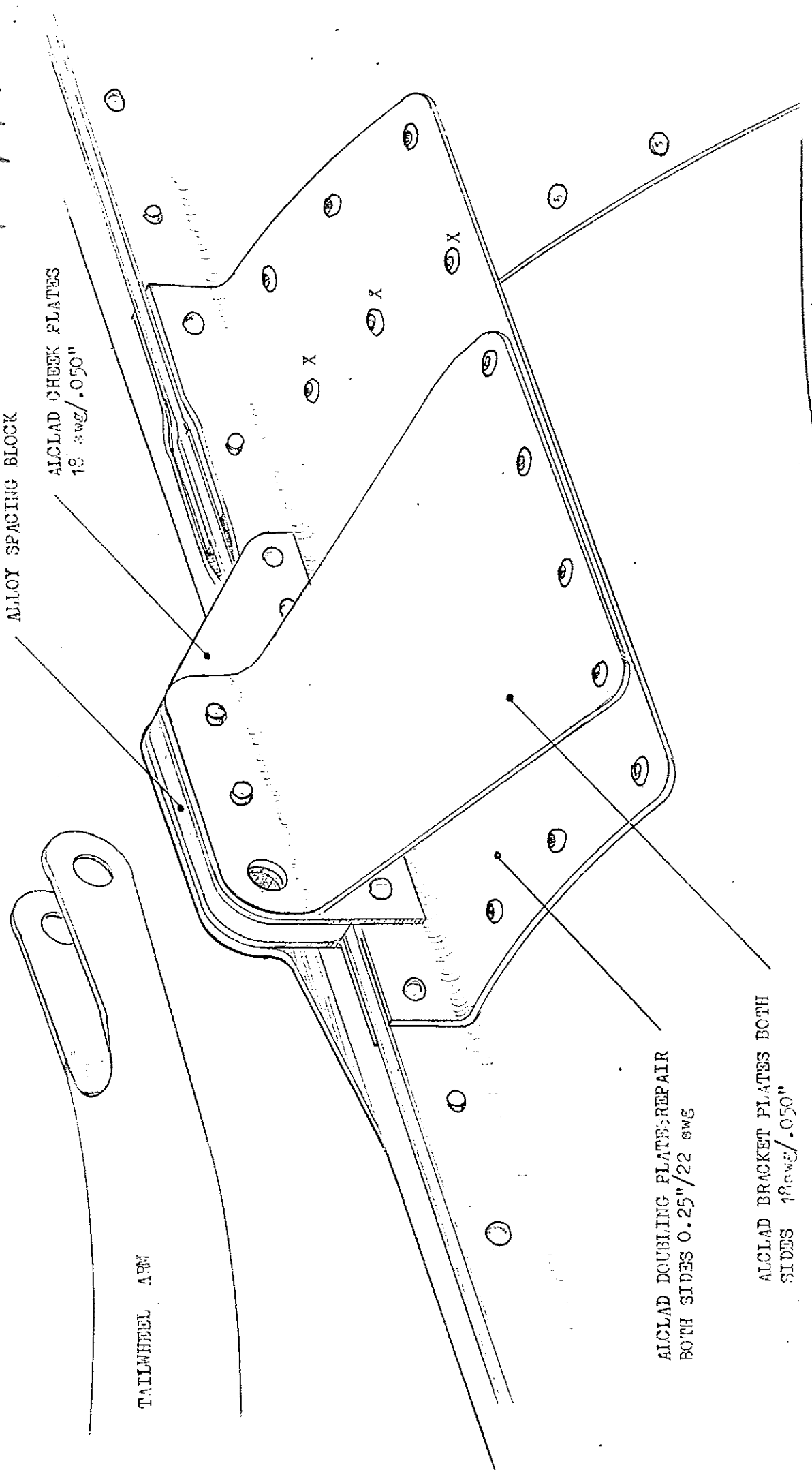


* Preservation of the spar inside space

Sl.	Benennung	Lfd. Nr.	Werkstoff	Reinhalte Teil- oder DIN-Nr.	Bemerkung
		Beord. 1/2 04.88	Juv	ASW 15	Konservieren des
		Geord. Norm		ASW 15 B	Innenholmes *
	A. Schleichler GmbH & Co Spezialwerkzeugbau 6216 Poppenhausen				
	Zeichnungsnummer L-272 TM-Nr. 23 F 5				
	Blatt				
Zust.	Änd.	Datum	Urspr.	Erst. l.	Erst. d.
					Bl

BLANK Tail Skid.
 RGAF/TNS/S/6/88.

DIAGRAM 'C'

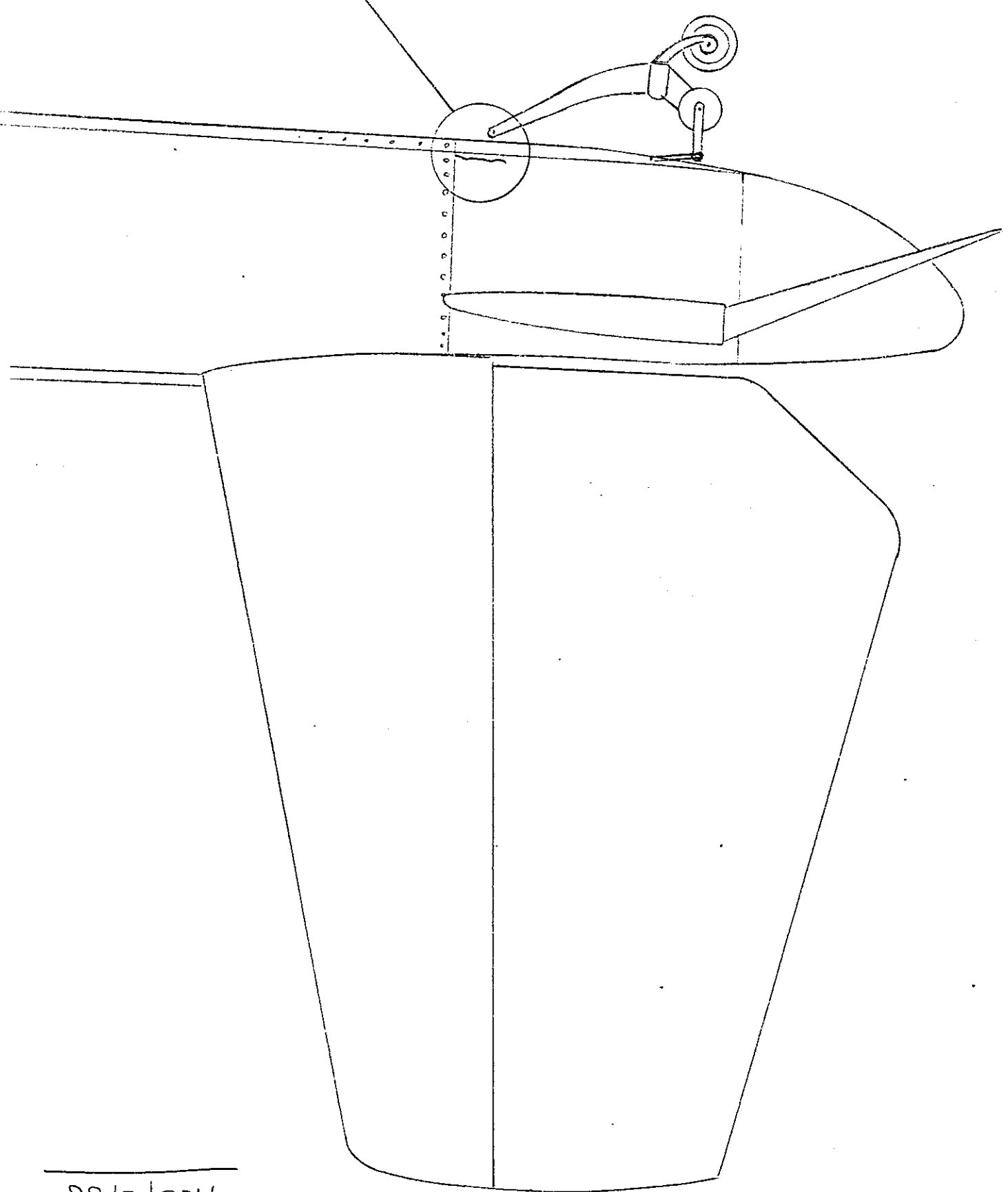


N.B. RIVET PATTERN IN THE DOUBLING PLATES WILL BE ADJUSTED TO CRACKS AND EXISTING RIVET PATTERN. RIVETS MARKED 'X' TO BE AVDEL OR EQUIVALENT. (186)

Longman
 '88 (BORDER EC)
 RGAF TNS/S/88
 Approved. RGAF/Blawick/1/88 *SK*, 12/4 *SC*

BLANK SKID MECHANISM & KOPAK

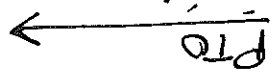
TNS/ST/88



LOCATION OF CAMS

70mm STD 30mm PORT

PTO



88

Engineering (Bordas GC)

SITE REPORT

No. B/C.....

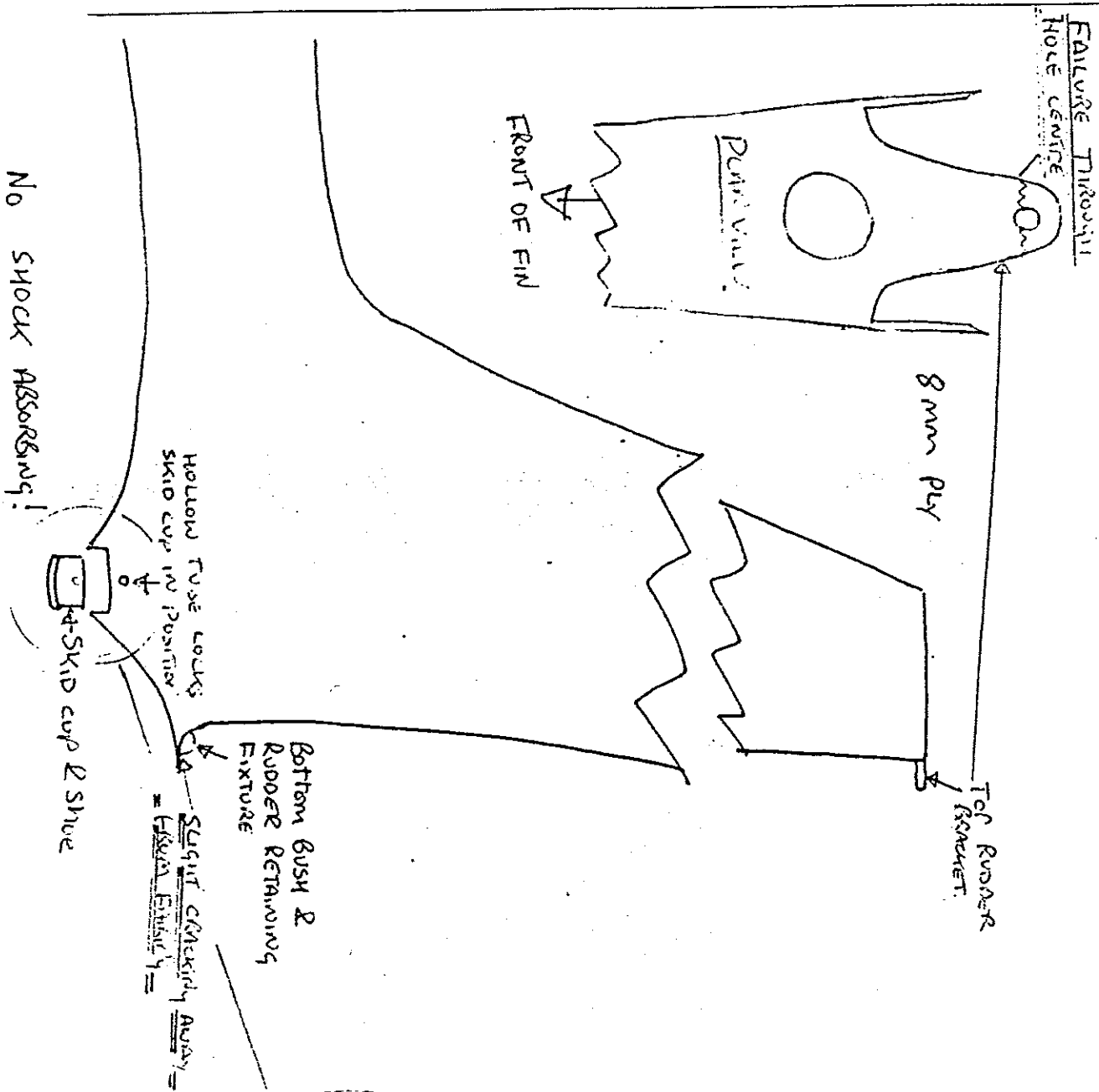
General
Technical Query
Shortage

Date.....

Continuation Sheet No.....

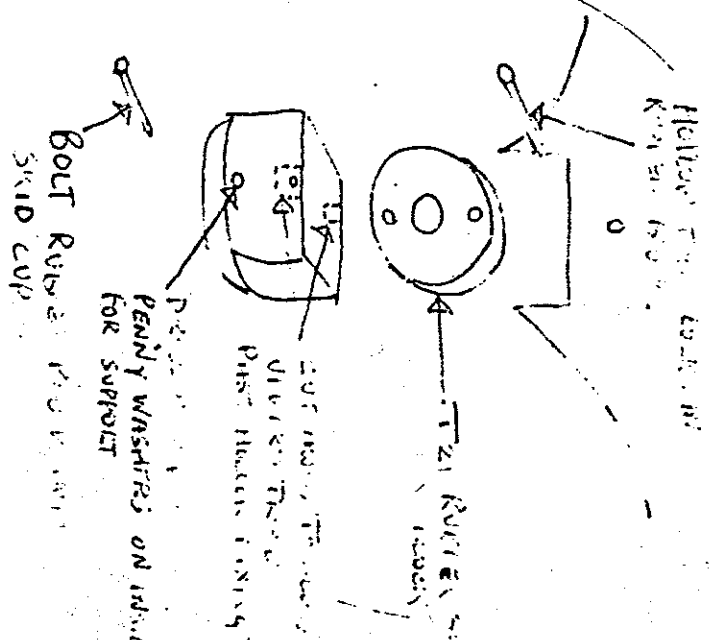
PULMACZ B9A 3203

BGA TMS 5/6/88



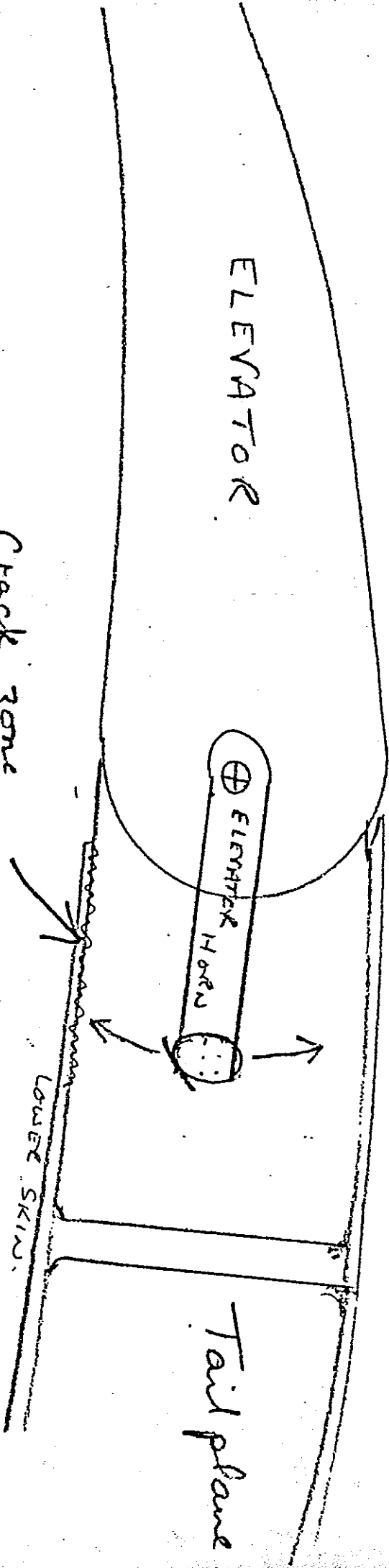
P. HARTZ
 ICSTONE
 Approved. *[Signature]*
 86/4/88

MINOR A.D. to minimize sh
 being furnished to hinge brackets
 Fin! increase in weight 14oz.



CROSS SECTION OF VENTUS TAIL PLANE

Boytms/5/488.



Crack zone
 Caused by down ward
 pressure from elevator horn

DAMAGED WHIST
 RIGGING
 VENTUS.

3/5/88

PROSSA
 Cleveland G.E

SCHENPP-HIRTH JANUS CM SERIES MOTOR GLIDER

<u>CAA AD No</u>	<u>Associated Material</u>	<u>Description</u>	<u>Applicability - Compliance - Requirement</u>
<u>PART 1 - LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES</u>			
85-164		Propeller mounting - Failure of one strut in propeller mounting structure.	Applicable to Janus CM Serial Nos 2 to 6, 8 to 15 and 18. Compliance required as detailed in AD. Schenpp-Hirth Technical Note No 809-1 also refers.
86-135		Fuel supply system - Improvement. Maintenance Manual - replacement pages.	Applicable to Janus CM all Serial Nos. Compliance required as detailed in AD. Schenpp-Hirth Technical Note No 809-3 also refers.

INS/5/88

Issue 5
March 1988

HOFFMANN PROPELLERS

<u>CAA AD No.</u>	<u>Associated Material</u>	<u>Description</u>	<u>Applicability - Compliance - Requirement</u>
<u>PART 1 - LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES</u>			
83-150/4		Calibration of Tachometer and inspection of propeller blades. Introduction of improved blade root retention.	Applicable to variable pitch propeller HO-V62 R/L 160T fitted to Limbach L 2000 engines. Compliance required as detailed in AD. Hoffmann Service Bulletin No. 4C also refers.
88-20		Inspection for cracks in the coating on the suction side near the blade shaft.	Applicable to constant speed propeller HO-V 123 ()-()/180R. Compliance required as detailed in AD. Hoffmann Service Bulletin No 6, EB No I-EC2 also refer.

E2. UNSUITABLE SPARK PLUGS FITTED

Aircraft : Britten Norman BN2A Trislander
Date : February 1988

SPARK PLUGS

GASIL 4/88

During cruise conditions, the left hand engine commenced surging + or - 200 rpm. The engine was shut down as a precaution and the aircraft landed safely.

Engineering investigation, revealed that the left-hand engine which had only recently been installed on the aircraft, although the spark plugs that were fitted had been installed some time ago. In April 1986 Lycoming Service Instruction 1042Q was revised to the R Issue. This stated that SR88 spark plugs were no longer suitable for O-540-E4C5 engines. The plugs on this engine had been overlooked. A fleet check was carried out to ensure that all SR88 plugs are removed from service.

9. ENGINE RAN WITH BOTH MAGNETOS SWITCHED OFF

GASIL 4/88

P/E

Aircraft : DHC1 Chipmunk
Date : December 1987

The pilot was carrying out a magneto dead-cut check after engine start up and he realised that there was no drop in engine rpm with No 1 magneto switched off. Further checks showed that the engine continued to run with both magnetos switched in the OFF position. It was subsequently discovered that there was an open circuit magneto lead inside No 1 magneto cap.

CAA Comment:

Some ten years ago, your author was hand turning the propeller of a Chipmunk to prime the engine prior to start up. Despite being certain that the magneto switches in both the front and rear cockpits were in the OFF position, the engine started on turning the second compression. That incident convinced your author, as I hope that the above incident has convinced you, that you must:

ALWAYS TREAT THE PROPELLER AS LIVE

Aircraft : Piper PA19 Super Cub
Date : Summer 1980

CONTROLS OBSTRUCTED.

The pilot and passenger were setting off for a short local flight when, unknown to the pilot, the passenger placed his camera in the map pocket on the back of the pilot's seat. With the front seat fully back and the camera in the pocket, the rear control column forward movement was restricted. This became apparent to the pilot immediately after take-off as the nose tried to rise. The only way the pilot could get the nose down again was by throttling back.

Fortunately he realised what had happened and called to the passenger to remove whatever was in the pocket, which he did promptly.

The pilot said that he has subsequently cut the map pocket off the rear of the pilot's seat.

CAA Comment:

It is all too easy for non-flying passengers to think that they are being helpful by stowing away loose articles without realising the potential dangers.

Whilst the removal of this pocket probably in no way effected the airworthiness and safety of the aircraft, all pilots/owners should take advice from their engineers before any action more significant than this is taken in the future.

Normally, a control full-and-free check would have detected the presence of such a restriction but it cannot be determined at what point the passenger stowed the camera. See GASIL 1/88 Item 3, "Full-and-Free Control checks".

SUB-SECTION A5

EXPLANATORY NOTE TO CHAPTER A5-3

Revised, 1st September, 1985

DUPLICATE INSPECTIONS

- 1 For many years this Chapter has required duplicate inspections on control systems and units of control systems the failure of which could affect the safety of the aircraft. The CAA has now decided to revise these procedures for the following reasons:-
 - (a) To widen the applicability of duplicate inspection to cover all parts of the aircraft (not only control systems) where malassembly of a single feature could lead to catastrophe, i.e. result in the loss of the aircraft and/or in fatalities (for further explanation see A5-3, 2).
 - (b) To relieve the applicability of existing requirements so that they cover only those areas where malassembly of a single feature could lead to catastrophe.
 - (c) To recognise more clearly that the sole purpose of duplicate inspection is to cover initial assembly or disturbance and not to attempt to deal with failures.
- 2 Certain parts in an aircraft's structure or systems (including controls and control systems) which are vital to the safety of the aircraft, are not only designed to achieve the appropriate high integrity but are also dependent upon specified maintenance actions to safeguard their integrity throughout the life of the aircraft. For such parts normal inspection procedures and techniques may not provide verification with a sufficiently high degree of confidence, and it will be necessary for two independent (duplicate) inspections to be carried out after initial assembly, or re-assembly following disconnection or adjustment.
- * 3 For certain aircraft this Chapter will in future require duplicate inspection of vital points (features the single malassembly of which could lead to catastrophe).
- 4 For such aircraft the CAA will, in future, require that vital points shall be identified and listed in the maintenance documents.
- 5 The identification and listing of vital points will not be required to be made retrospectively for existing aircraft so that alternative standards will need to exist for some time. However, for aircraft for which no listing of vital points was carried out at Type Certification the CAA is prepared to accept such a listing carried out by, or in consultation with, a competent design organisation.

* THIS REQUIREMENT HAS BEEN
INCORPORATED IN THE BCAA'S TECHNICAL
PROCEDURE MANUAL



AIRWORTHINESS DIRECTIVE

BCA/TNS/S/6/88.TYPES AFFECTED:

LS 1 - All series
LS 3 - All series
LS 4 - All series

SUBJECT:

Loss of attachment between the 4 wing root rib pins and the wing root ribs. (Inspection/rectification)
Inspection for wing root rib pin wear.

BACKGROUND:

One case of an Australian LS1 found to have cracking and loosening of the attaching material between the wing root ribs and the 4 wing to fuselage pins.

This problem is known in Europe, the manufacturer having produced a repair method which was considered at best a temporary fix.

The original 4 pins are low grade steel and show early signs of wear at the point of contact with the fuselage bearings. This AD can be followed as a method of pin replacement when pin wear is considered excessive.

Factors causing the pin/rib attachment breakdown are not clear, but wing looseness due to pin wear combined with rough airfield surfaces, unsprung wing walking wheels, etc are all contributory.

ACTION REQUIRED:

(1) Within 25 hours flight time

- (a) Use an inspection mirror, through existing wing root rib holes to check the back of the pin mounting area (see Figure 1). Check the pin for movement (watch the back of the pin with the mirror at the same time).

If movement/cracking is found the glider must be taken out of service and the wing root pins removed and remounted in accordance with GFA Mod 88/2. The fuselage bearings are to be also inspected for any signs of damage or looseness.

- (b) Wing tip freeplay check

Excessive wing tip fore/aft freeplay may contribute to wing root rib pin wear. The wingtip maximum allowable total freeplay fore/aft is 40mm. Freeplay can be reduced by gluing shim washers to the flange of the wing root rib pins. (40mm on 15m span). (Some models are adjustable)

(2) Each Form 2 Inspection

~~Action (1) is to be carried out at each Form 2 inspection irrespective of whether or not the pin installations are modified to GFA Mod 88/2.~~

NOT BCA

Issued by:

A. Burns

Chief Technical Officer,
Airworthiness

24.2.1988

For and on behalf of:

GLIDING FEDERATION OF AUSTRALIA

Sheet 1 of 3

(3) Wing root rib pins and bearings wear limits (Form 2 inspection)

The manufacturer does not state any wear limits for the pins or the fuselage mounted bearings.

This A.D. sets the following limits:-

- (a) Maximum pin groove depth - .250mm
- (b) Maximum out of round of fuselage bearing - .150mm

When these limits are exceeded new pins, either factory supplied, or manufactured to GFA Mod 88/2 must be fitted.

Oval fuselage bearings may be either replaced or machined back to round, in which case the new pins must be manufactured oversize (Ref Mod 88/2).

IMPLEMENTATION: ~~Actions 1, 2 and 3~~

NOT AGA.

~~To be carried out by the holder of a DoTC 1109 Inspectors Certificate authorised "C. of A. FRP".~~

~~If pin replacement is required that must be carried out by the holder of a DoTC 1109 Inspectors Certificate, authorised "Major repair FRP".~~

WEIGHT AND BALANCE: No appreciable change

DOCUMENTATION: GFA Approved Modification 88/2 is available from the GFA Secretariat.

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 Communications.~~

NOT BCA

[Handwritten Signature]
 C.F. AGA
 18/5/88