B.G.A. TECHNICAL COMMITTEE

TECHNICAL NEWSHEET

TNS 3/4/84

PART 1 AIRWORTHINESS AGGRO

Please amend the 1984 "Yellow Pages as required, and in particular insert Page 10a (Janus/Cirrus) omitted in error!

1.1 OPEN CIRRUS Cracks in centre-section tubular structure, probably arising from ground-loop damage? (sketch attached). Inspect as required. (Reported by J. Clarke).

1.2. ASK 21 Cable Release Fairlead to be modified to Tech. Note 10 (attached) to avoid bending loads in the cable which may induce failure.

1.3. KA.2B Heavy Landing Damage induced cracks in "D" box and trailing edge structures. Remove sufficient fabric to allow proper inspection for both primary and secondary structural damage. (Reported by J.M. Scott).

1.4. IS.28 M2A (Motor Glider) C.A.A. Foreign Airworthiness Directives (Vol III) make the following service bulletins mandatory:-

IS-28M2/CO-2	Product improvement modifications
IS-28M2/EO-3	Placard landing gear lock
IS-28M2/CO-4	Landing gear down lock indicator
IS-28M2/EO-5	Maintenance practices and flight manual amendments.
IS-28M2/EO-8	Overhaul life
IS-28M2/EO-10	Flight controls

Owners/operators should obtain copies of the above from C. Chappell, Senior Contracts Officer (Technical), British Aerospace PLC., Brooklands Road, Weybridge. KT13 OSJ and make them available to their maintenance organisers.

1.5. IS.28.M2 (Series) Defects reported to B.G.A./C.A.A.

a) Flap lever fouls floor in 5° position.
b) Airbrake micro-switch insecure
c) Landing gear selector lever centre bolt ripping the debris guard (cockpit)
d) Canopy flexes and jumps out of the guide rails.
e) Rudder pedal attachments to horizontal shaft by single rivet, prone to shearing.
f) Brake malfunction due to failure of flexible cable attachment bracket (sketch attached).

Kent Motor-Gliding Club have proposed modifications which have been passed by B.G.A. to both C.A.A. and to B.Ae. Weybridge.

1.6. Tug Main Gear Failure (Bellanca Scout) Welded repair to "U" bolt failed. Extract from G.A.S.I.L. 2/84 attached.

1.7. MORANE SAULNIER RALLYE (All variants) C.A.A. additional airworthiness directive 002-02-84 dated 3.2.84 and referring to service bulletin 133/2 (1981) requires special anti-corrosion inspections.

1.8. OPEN CIRRUS - Rudder Cables dislodged from rollers, forward of adjustment bar under footwell - (cables damaged), with pedals set fully forward, spring tension was inadequate. (Reported by J. Clarke).

1.9. LS.1 (Series) Weight & Mass Balance of Control Surfaces Maintenance Manual revisions dated 2/1/84 give current tolerances to prevent flutter. Copies from Rolladen Schneider Flugzeugbau GmBH or U.K. agents.

1.10 ASTIR CS Series - Undercarriage Casting Failures Critical areas of the undercarriage support structure should be inspected at regular intervals in an attempt to prevent ultimate collapse due to crack propagation.

1.11. BOCIAN - Main Spars - Cracked. Spanwise cracks in spar booms, from root to inboard of the airbrake box, may have been induced by severe overloading. No outward signs of damage are apparent. Therefore, an "in depth" inspection of Bocians is required after suspicion of overloading. (Reported by Lasham).

1.12. KA.21 Foul between Rudder Cable Adjusting Plate and the Underside of the Airbrake Rod Some protection may be required to the airbrake rod to prevent long-term scoring. Reported by J. Minshall.

1.13 SPEED ASTIR U/C Locking Mechanism The centre mounting bolt int he mechanism to which the pilot's operating lever is attached may become loose, and de-meshing of the gears will result in lost travel. (Reported by D. Austin)

PART 2 GENERAL MATTERS

2.1. Tugs & Motor Gliders Amendments to the Air Navigation Order. - DAILY INSPECTIONS. Article 8(7) has been amended to the effect that:
"A Certificate of Airworthiness now becomes invalid if an inspection required by the Maintenance Schedule approved by the Authority in respect of the aircraft has not been carried out." DAILY INSPECTIONS ARE NOW MANDATORY!

B.G.A. NOTE The Light Aircraft Maintance Schedule (Ref. C.A.A./L.A.M.S.) the "Blue Book" includes a "Check A" to be completed before the first flight of the day. This is not only good practice, but is now a requirement of the A.N.O. Whereas the check is not required to be "certified", it should be recorded in a D.I. Book, which includes space for pilots to log defects/deficiencies. Insurance Policies require aircraft to be operated in accordance with the A.N.O., so you could incur insurance liabilities.

2.2. L.A.M.S. (Check A) Daily Inspection Schedules & D.I. Books Tugs & Motor Gliders.
For ease of reference and implementation the B.G.A. have copied the "Check A" Daily Inspection check list in two sizes (attached) so that copies may be made freely available by pilots/ owners/operators/clubs, and possibly secured in D.I. Books or otherwise displayed?

2.3. Further changes to the A.N.O. include:-

a) Article 9 (Public Transport & Aerial Work Category Aeroplanes). The Certificate of Maintenance is replaced by a Certificate of Maintenance Review.

b) Article 10 The Certificate of Compliance (in respect of repairs, replacements, modifications, maintenance & inspections) is replaced by a Certificate of Release (to Service).

Owner/Pilot Maintenance (Regulation 16) is confined to aircraft in the Private or Special Categories. Records of such work are required (Article 14), but a Certificate of Release is not required.

2.4. Blanik Bulletin L13/045 Fatigue Life (Extension). Subject to inspection in accordance with L13/045, of wing spar bottom flanges, the B.G.A. Technical Committee, having reviewed all the evidence and data available to them, including in-flight strain-gauge measurements during winch-launching in the U.K., have agreed to extend the "safe-life" of Blaniks operated by B.G.A. Clubs to 5,225 flying hours, not exceeding 25,000 launches.

(Copies of the B.G.A.Memorandum dated 5/3/84 titled "Extension of safe-life. L.13 Blaniks" is available from the B.G.A. office, together with Bulletin L13/045.

2.5. New Glider Log Book A soft cover glider log book is now available from the B.G.A. priced £2.75 inc. postage.

R.B. STRATTON
CHIEF TECHNICAL OFFICER

14. LANDING GEAR FAILURE — TUR U/C FAILURE. P/E

Aircraft : Bellanca 8GCBC Scout Registration G-BCSM
Date : November 1983
Notifiable Accident at Saltby, Lincs

Immediately after touch-down the left-hand landing gear started to vibrate. When the speed had dropped to 15-20mph the leg detached allowing the wing and propeller to contact the runway.

Investigation revealed the cause to be 'U' bolt failure allowing the leg to pivot causing a combined down and twisting load on the main attachment bolt, which then failed. The 'U' bolt had failed previously and had been weld repaired. The landing gear attachment bolts have a life of 500 hours, but there was no evidence or record that the bolts had been changed on the 520 hour aircraft. The engineer investigating recommended that the landing gear attachment bolts (Part No MS20007-32 and -28) are changed more frequently if the aircraft is used for glider towing, crop spraying or flying short flights, or following a heavy landing.

Further investigation which included the removal of a sample wing bolt showed it to be seized and very heavily corroded, possibly due to agricultural chemicals.

CAA Comment:
The engineer's advice appears eminently sensible. 'U' bolts should never be repaired, renewal is the only acceptable option.

15. INFRINGEMENT OF ATZ P

ASK 21
Technical Note
No. 10

Alexander Schleicher
Segelflugzeugbau
6416 Poppenhausen

TN 5 | 3 | 84

Subject: Modification of the release cable fairlead.

Affected gliders: ASK 21, serial numbers 21 001 thru 21 196 incl.

Compliance: By March 1, 1984.

Reason: It has been found that in course of time the tow release cable is prone to create loops. Because these loops are relatively short, they lead to strong bending loads on the cable, mainly at the binding clamp.

Action:

1. On receipt of this Technical Note check immediately the tow release cable for possible cracks at the junction clamp.

2. According to the drawing on sheet 2 of this Technical Note the tow release cable must be installed new. It is very important that possibly developping loops do not create strong bending loads on the clamp.
The loops form preferably if one knob is forward and the other behind.
The new arrangement of the tow release cable shall lead to larger loops forming larger radii and thus bringing about lower bending stresses of the cable at the clamp.

3. Page 43 of the Maintenance Manual must be exchanged against page 43 a.

Material: Wire cable 2,4 Ø mm LN 9374.
FRP-component parts must be ordered with Alexander Schleicher.

Weight & balance: Negligible.

Poppenhausen, October 10, 1983

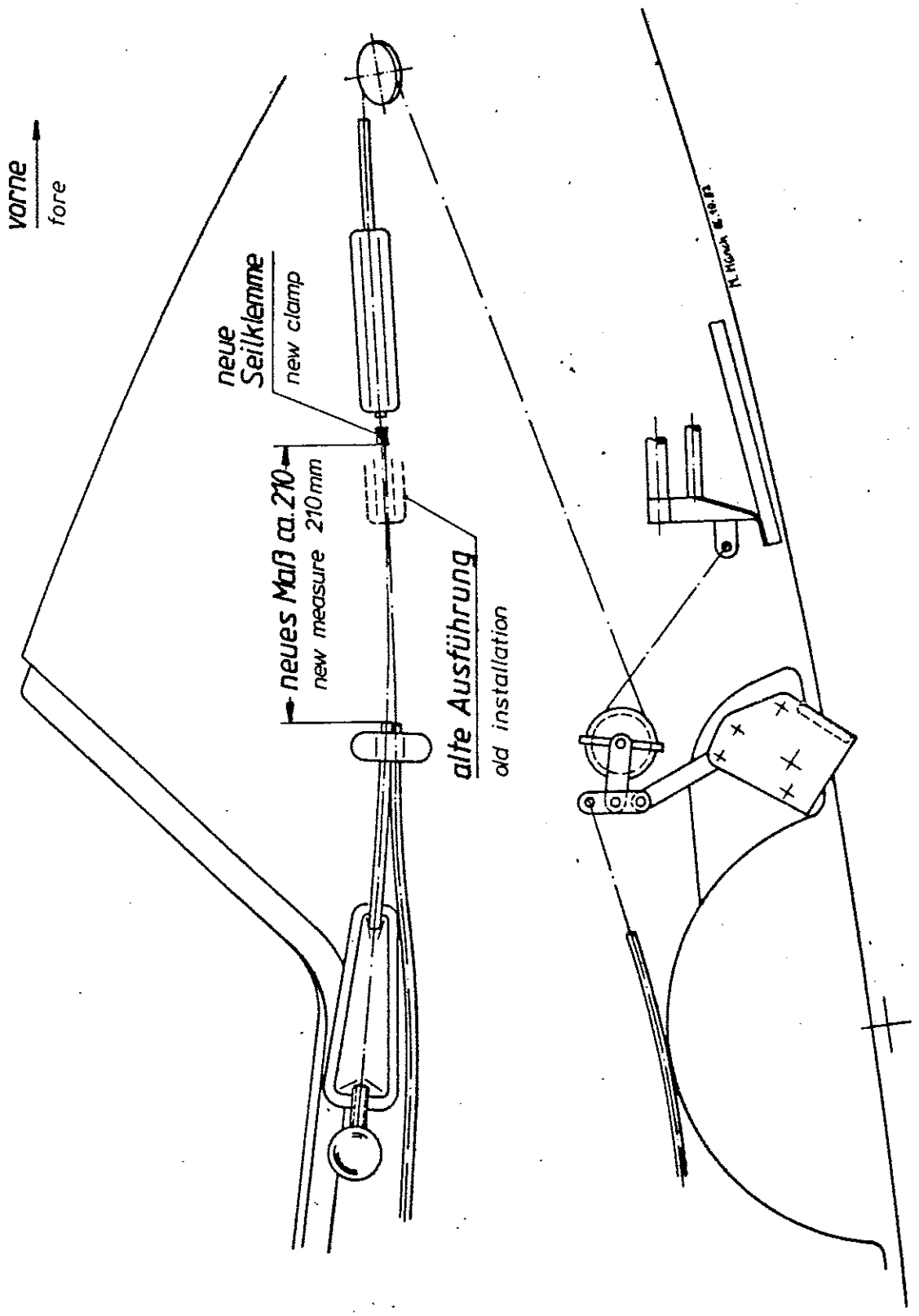
ALEXANDER SCHLEICHER
Segelflugzeugbau

Rudolf Kaiser

This Technical Note has been approved by the LBA under the Date of December 20, 1983, and is signed by Mr.FRIEß.
The translation into English of this T.N. no.15 has been done by best knowledge and judgement. In any case of doubt the German original is authoritative.

ASK 21
Technische Mitteilung
Nr. 10

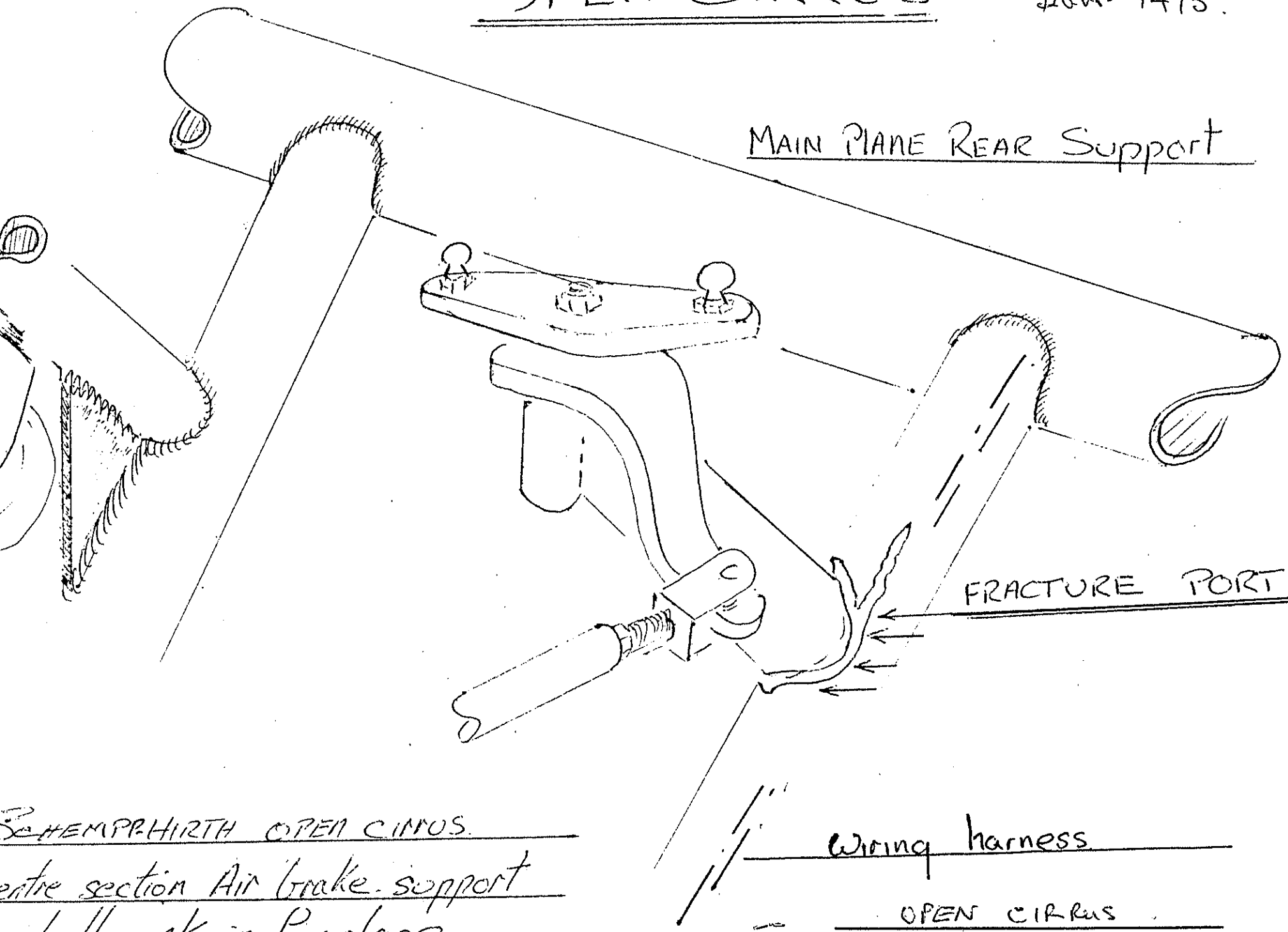
Alexander Schleicher
Segelflugzeugbau
6416 Poppenhausen



OPEN CIRRUS

BGA. 1473.

TNS/3/84



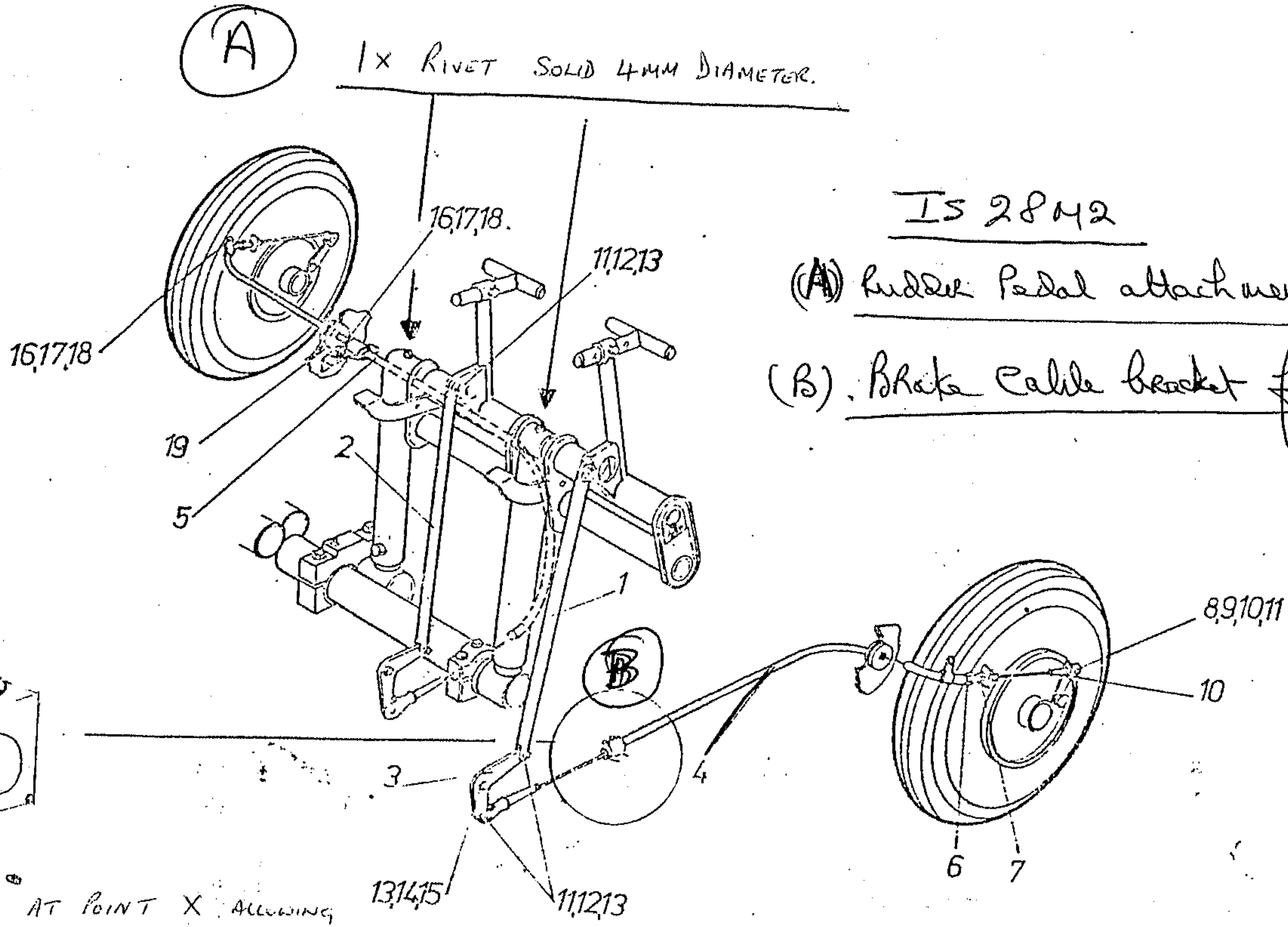
Wiring harness

OPEN CIRRUS

Schempp-Hirth OPEN CIRRUS.

Centre section Air brake support

& bellcrank in Foselage

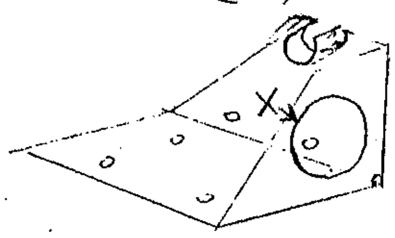


IS 2842

(A) Rudder Pedal attachment,

(B). Brake Cable bracket failure,

DETAIL (B)



BRACKET COLLAPSED AT POINT X ALLOWING EFFECTIVE LENGTHENING OF OUTER BRAKE CABLE (ITEM 4)
∴ LEVER (ITEM 3) HAD EXCESSIVE TRAVEL ALLOWING BRAKE PEDAL TO GO OVER CENTRE AND GEOMETRICALLY ~~LOCK~~ BRAKE

Kent M.G.C 2/84.

L.A.M.S. CHECK "A" B.G.A. DAILY INSPECTION

CHECK LIST

TUGS & MOTOR GLIDERS

Reference should be made to the C.A.A. Light Aircraft Maintenance Schedule (L.A.M.S. - Blue Book)

1. Documentation - Check C of A & Maintenance Check valid.
2. Deferred Defects - check rectifications & records.
3. Loose equipment, covers, control locks, pickets - removed.
4. Frost, snow & ice - removed.
5. Compression check - throttle closed, ignition OFF rotate backwards.
6. Oil level - check and record replenishment.
7. Engine, inspect for oil, fuel, exhaust leaks.
8. Engine, inspect controls & equipment for security & damage.
9. Air intake - check cleanliness & security.
10. Cowlings - check security & damage.
11. Propeller and spinner - check security & damage.
12. Windscreen/canopies - check damage, security & cleanliness.
13. Fuel system - check contents/gauges, drain water traps.
14. Wings - check for damage & security of all items.
15. Landing gear - check shock struts for correct extention.
16. Tyres & brakes - check for condition.
17. Nose/tailwheel - check for condition.
18. Fuselage/empennage - check for damage of all components.
19. Cabin area : Loose article check, fire ext./first aid etc.
20. " " : Cabin/baggage doors - secure.
21. " " : Seat belts serviceable & secure.
22. " " : Flying controls, trimmers, flaps etc. correct operation.
23. " " : Instrument readings - correct.
24. Flight manual/placards - check availability.
25. Avionics equipment - check.
26. Wheel brakes - check correct operation.
27. Complete & sign - daily inspection record.

B.G.A. NOTE: Article 31 of the Air Navigation Order defines the "Pre-flight action by Commander of aircraft", which includes ensuring that "the aircraft is in every way fit for the intended flight", including checks on maintenance, serviceability, loading, fuel, oil, performance and equipment.

CHIEF TECHNICAL OFFICER :
FEBRUARY 1984.

L.A.M.S. CHECK "A" B.G.A. DAILY INSPECTION

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CHIEF TECHNICAL OFFICER :
FEBRUARY 1984.

CASIL. 3/84

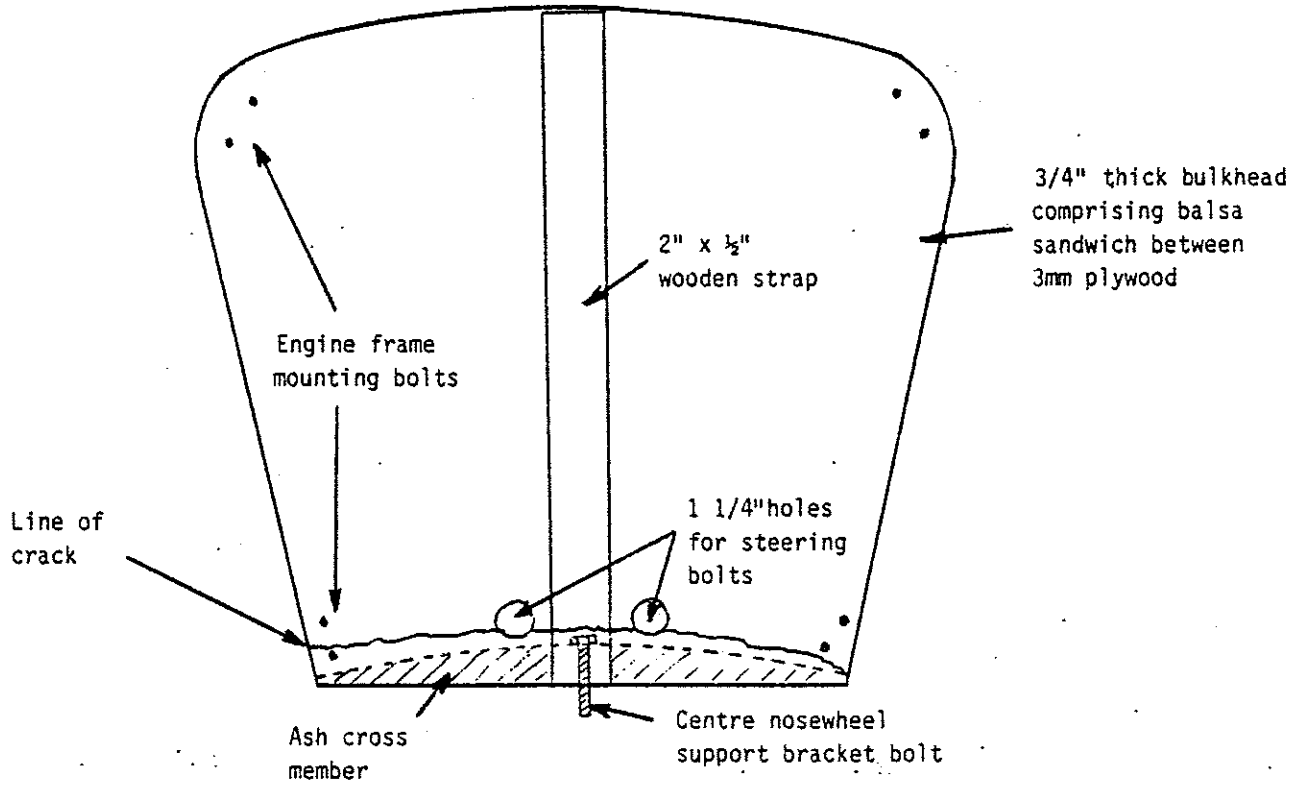
12. FRONT BULKHEAD CRACKED ACROSS WHOLE WIDTH (TURS).

P/E

Aircraft : Robin DR400/160
Date : January 1983

During a landing in a modest crosswind from the right there was severe nosewheel shimmy which continued until the aircraft stopped. Neither the brakes nor holding the stick back or forward had any effect. The shimmy was so severe that the nosewheel spat detached. The pilot checked the nosewheel area but did not find any other problems and later flew back to base.

The maintenance organisation which normally deals with the aircraft made a careful check and found that the front bulkhead was cracked right across just above its bottom edge. The crack was only visible when the carpet was lifted and fore and aft pressure applied to the nosewheel after pushing down on the tail to remove the weight on the nosewheel. The bulkhead consists of a 3mm plywood faced balsa sandwich. The whole area had been inspected about two months previously after nosewheel shimmy occurred while taxying across a runway edge drain channel. The maintenance organisation had experienced one previous case of identical bulkhead cracking and are aware of two other cases on Robin DR400 aircraft, possibly associated with heavy landings.



CAA Comment:
The Manufacturer states that optional modification No 30 dated 13.4.77 provides an anti-shimmy damper (not fitted to the aircraft in this occurrence). Excessive play in the connection or a faulty damper will result in shimmy. If modification No 30 is not fitted the friction on the nut on the spring washer on the landing gear pivot can be increased by increasing the torque on the nut as per the Maintenance Manual. Shimmy can also be caused by poor positioning of the locating bolt in the adjustable pin in the bottom section of the landing gear strut and by cracks in the weld securing the nosewheel steering bottom bracket to the nose leg.

While the CAA is investigating the cracked bulkhead aspects it would be prudent for all operators of DR253, DR300 series and DR400 aircraft to check for cracks in the front bulkhead, particularly if there has been a heavy landing or the aircraft is prone to nosewheel shimmy.

SCHEMPP-HIRTH SOUTHERN SAILPLANES, MEMBURY AIRFIELD, LAMBOURN, BERKS

CIRRUS	Control ball joints	Replace at 500 hrs. AD/79-51 T/note 278-23	TNS/8/79
	Control ball joints (air brakes)	Failure	TNS/10/75
	Aileron rod in centre section	May jam if disconnected AD/76/8. T/Note 278-17	TNS/2/76
	Seat pan	May foul tow release AD/76/7.T/Note 278-18	TNS/2/76
	Rudder cables	May escape from pulleys	TNS/10/73
	Tailplane flutter (VTC)	Excessive backlash in system	TNS/12/76
	Undercarriage malfunction	OP: cable escapes from pulley fit guard.	TNS/7/77 TNS/12/80
	Tailplane rod and	Bearing failure excess backlash	TNS/5/78
	Elevator drive	Outer race bearing may be broken	T/Note 278-25 TNS/12/8
	Elevator 'T' fitting	Cracks at welded joint of pins	T/Note 278-26 TNS/12/8
	Flutter prevention	Tech/Note 265-6	TNS/8/82
JANUS	Elevator drive fork in front cockpit	May be damaged by persons standing on same	TNS/9/81

B.G.A. TNS 5/6/84 NOTICE BOARD

MOGAS OPERATION (C.A.A. NOTICE No. 98)

"HOT" OPERATION PRECAUTIONS

There is increasing evidence that recent deliveries of Mogas contain more volatile elements of propane etc., which may create rich mixture situations on start-up and pre-take-off, after "hot soaking".

C.A.A. Notice No.98 (Issue 4 April 1984), gives the following guidance, which should be brought to the attention of all operators of tugs and motor gliders.

"After any prolonged period of "heat soak" at low fuel flow (e.g. hot-day ground idling) establish the availability of full power before commencing take-off."

B.G.A. Note

This precaution applies particularly (but not exclusively) to aircraft fitted with engine driven fuel pumps. (Lycoming engines are more susceptible because of the rear mounted fuel pumps, and because the carb is bolted to the engine sump).

The pre-take-off power check should be prolonged enough to clear "hot" fuel out of the entire powerplant system.

JUNE 1984