

BRITISH GLIDING ASSOCIATION

BGA TECHNICAL COMMITTEE

TECHNICAL NEWSHEET TNS 3/4/91

PART 1 Airworthiness "AGGRO" - Please refer to the BGA 1991 Blue Pages.

- 1.1. KA8 Lower Rudder Brackets. Cracks at the weld as illustrated. (Reported by Cambridge G.C.).
- 1.2. G.9 Security Parachutes (USA). If any of these are in the UK, please refer to FAA A/D 91-02-05 herewith.
- 1.3. JANTAR STD II. Elevator Bell Crank corroded. Found only by removal of the Rudder. Water fails to drain from the top well of the Rudder. (Reported by Colin Jacques - E. Sussex).
- 1.4. Lightning Strike Protection - Bonding of essential metal components e.g. controls, cable releases etc. Continuity should be checked annually. (Reported by Martin Carolan).
- 1.5. Weak Links - Issue 3 of the BGA list is included herewith, amended as indicated. Thanks to our readers for the information.

T.53/YS53 were certificated with a weak link rating of 1400 lbs.

Some Clubs are using 5mm winch cable, which is obviously heavier than 4.5mm. They then use less than the maximum weak link for the "heavier" Gliders!

- 1.6. S.L.M.G.'s & Tugs - Compliance with the Air Navigation Order. A circular letter from the CAA is circulated herewith, as a reminder.
- 1.7. Oil Filter Failures (Tugs & S.L.M.G.'s). Extract from G.A.S.I.L. 3/91, identifies defective champion elements.
- 1.8. Wheel Hub Failures. Extract from G.A.S.I.L. 3/91 illustrates massive corrosion related failure. (Cleveland type hub).

Tost wheel hubs fail on both gliders and S.L.M.G.'s, due to shearing of the through studs.

So once in a while, deflate your tyres, and inspect the hubs. Failures can damage propellers!

- 1.9. SF 25C Carb-Icing Engine Failure? AAIB Bulletin 3/91, suggests that this may have been the cause of engine failure to G-BODU at Rufforth.
- 1.10. Piper Lift Struts - internal corrosion checks. Corrosion has been detected in a Pawnee strut in the UK. However the Mandatory replacement by FAA Airworthiness Directive, is being constructively opposed. (Ref AOPA (USA) report herewith).
- 1.11. SZD-51-1 "JUNIOR". Aileron Mass Balance Screw corroded. Replaced with stainless steel. (P. Arthur. Perranperth).
- 2.0. General Matters
- 2.1. New Types Certificated:
 - (a) SZD 55-1
 - (b) DG 600 when fitted with electronic Stall Warning system.
 - (c) T.61(F) ex ATC "Venture "S.L.M.G.'s The first two of these have now been issued with CAA Certificates of Airworthiness. Please consult the BGA before entering this Mine-field!
- 2.2. T.61 Series - CAA Approval Propellers. CAA Minor Mod 9/214/1464 approves Hoffmann HO-11-150-B-140-70 for installation on 1600cc "DANUM" engines conversions. (Copy herewith).
- 2.3. Ceconite Covering Procedures Chiltern Sailplanes offer a leaflet on this process. (0494 - 445854).
- 2.4. CAA C.of.A. Applications. A new type CAA FORM 3 is required for initial C.of.A. applications.
CAA C.of.A. Renewals. A new type of CAA FORM 202L is now required.

BOTH AVAILABLE FROM BGA

R.B. STRATTON
Chief Technical Officer

B.G.A. WINCH/AUTO TOW WEAK LINKS

Revised April 1991 From TOST DATA SHEET 2/4/90
With Amendment As Authorised By B.G.A.*

NOT EXCEEDING KP

NOT EXCEEDING KP

ASTIR (s) Single	500	No.5	Eagle	600	No.4
TWIN ASTIR	845	No.3	EON. PRIMARY	500	No.3
ASH 25	900	No.2.	EON. BABY	600	No.4
ASK 14	830	No.3	ELF.S.2.	540	No.5
ASK 15	500	No.5	Falcon	500	No.5*
ASK 17	600	No.4	Fauvel	500*	No.5
ASK 19	600	No.4	Fauvette 905	500*	No.5
ASK 20	600	No.4	FOKA 3/4/5	720	No.4
ASK 21	1000	No.1	Geier II	765	No.3
ASK 22	900	No.2	Glasflugel 604	850	No.2
ASK 23	680	No.4	Goevier III	1030	No.1
ASK 24	600	No.4	Grunau /5	540	No.4
AV.36	600	No.4	Gull 1/3/4	500	No.5
Austria Std.	670	No.4	Harbinger	500	No.5*
BergFalke 2	970	No.2	Hornet	500	No.5
BergFalke 3	1070	No.1	Hutter 17	500	No.5
BergFalke 4	750	No.3*	Iris (D77)	500*	No.5
Bijave (WA30)	600*	No.4	IS.28B2	600	No.4
Blanik	630	No.4	IS.29/30/32	500	No.5
Bocians	1000	No.1	Jantor Std	530	No.5
Breguet 905	600	No.4	Jantar 2	600	No.4
BG. 135	600	No.4	Jantar 3	600	No.4
Cadet Mk1 & 2	500	No.5	Janus B	600	No.4
Cadet Mk3 (T31)	500	No.5	Janus C	750	No.3
Caproni A21	600	No.4	Jaskolka	500*	No.5
Capstan	600*	No.4	Javelot	500*	No.5
Carman JP15	600	No.5	Junior	500	No.5
Centrair 101	500	No.5	JP 36A	500*	No.5
Cirrus	860	No.2	KA 1 & 3	450	No.6
Cirrus (Std)	500	No.5	KA 2	600	No.4
Cumulus	540	No.5	KA 4	900	No.2
Cobra	600	No.4	KA 6	650	No.4
Condor	1000	No.1	KA 7	1080	No.1
			KA 8	668	No.4
Dart 15/17/	500	No.5	KA 13	1080	No.1
Delphin	700	No.4	Kestrel 17/19	630	No.4
Diamant 16.5/18	935	No.2	Kite 1.2B	500*	No.5
Discus	650	No.4	Kranich II/III	960	No.2
DG 100/200/	500	No.5	Kranjanek	500*	No.5
DG 400	500	No.5	LAK 12	600*	No.4
DG 300/600	680	No.4	Libelle (201)	500	No.5
Doppleraab	800	No.3	Libelle H.301	670	No.4

NOT EXCEEDING KP

LS 1	500	No.5
LS 3	600	No.4
LS 4	600	No.4
LS 6	600	No.4
LS 7	600	No.4
LO-100	650	No.4
M 100	500*	No.5
M 200	600*	No.4
Meise	670	No.4
MG 19A	950	No.2
Mosquito	650	No.4
Moswey	650	No.4
Minimoa	500	No.5
Mucha Std.	820	No.3
MU 13	535	No.5
Nimbus 2	600	No.4
Nimbus 3	750	No.3
Nimbus 3.24 &3D	1040	No.1
Nimbus - Mini	600	No.4
Olympia 1&2	500*	No.5
Olympia 460/463	500*	No.5
Olympia 419	600*	No.4
Peak 100	600*	No.4
Petrel	500*	No.5
Phoebus (all)	1000	No.1
PIK 20E	600	No.4
PIK 16/20	530	No.5
Pilatus B4	500	No.5
Pirat	600*	No.4
Prefect	500*	No.5
Puchatz	600	No.4
Rheinland	500*	No.5
Rhonlander 2	500*	No.5
Rhonlerche 2	900	No.2
Rhonsperber	500*	No.5
Sagitta	600*	No.4
SB.5	600*	No.4
SF.26	650	No.4
SF.27A	750	No.3
SF.34	600	No.4
S.G.38	300	No.7
SHK	700	No.4
SIE 3	700	No.4
Silene (E.78)	600*	No.4
Sky	500	No.3
Skylark 1.2.3.4.	500	No.3
Spatz	520	No.5
Sperber	1030	No.1
Suid III	500	No.5
Swallow	500	No.3
Swift	500	No.3

NOT EXCEEDING KP

T.21	500*	No.5
T.31	500*	No.5
T.53/YS53	750*	No.3
Torva	500*	No.5
Tutor	500*	No.5
Vega	600	No.4
Ventus	650	No.4
Viking (V.G.C.)	500*	No.5
Wassamer WA26	500*	No.5
Weihe	670	No.4
Zugvogel 1.2.	720	No.4
Zugvogel 3.	742	No.4
Zugvogel 4	690	No.4

TOST COLOUR CODING

Black No.1	1000 daN =	2200 lbs
Brown No.2	850	= 1870 lbs
Red No.3	750	= 1650 lbs
Blue No.4	600	= 1320 lbs
White No.5	500	= 1100 lbs

N.B. If in doubt:

Tost apply a factor of 1.3 x Max all up weight of glider to determine Weak Link Strength for winch/autotow.

DATA FROM TOST Kindly Supplied to BGA By Chiltern Sailplanes Ltd, Booker Airfield, Marlow, Bucks. SL7 3DR. 0494-445854

TNS 3/4/91

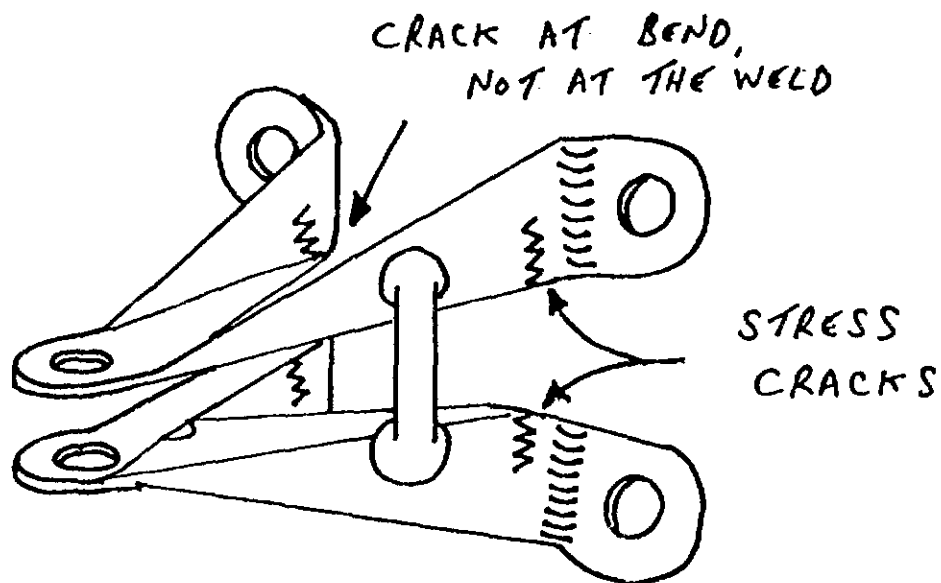
Issue 3

Amendments as indicated in BOLD.

April 1991

TNS/3/4/91

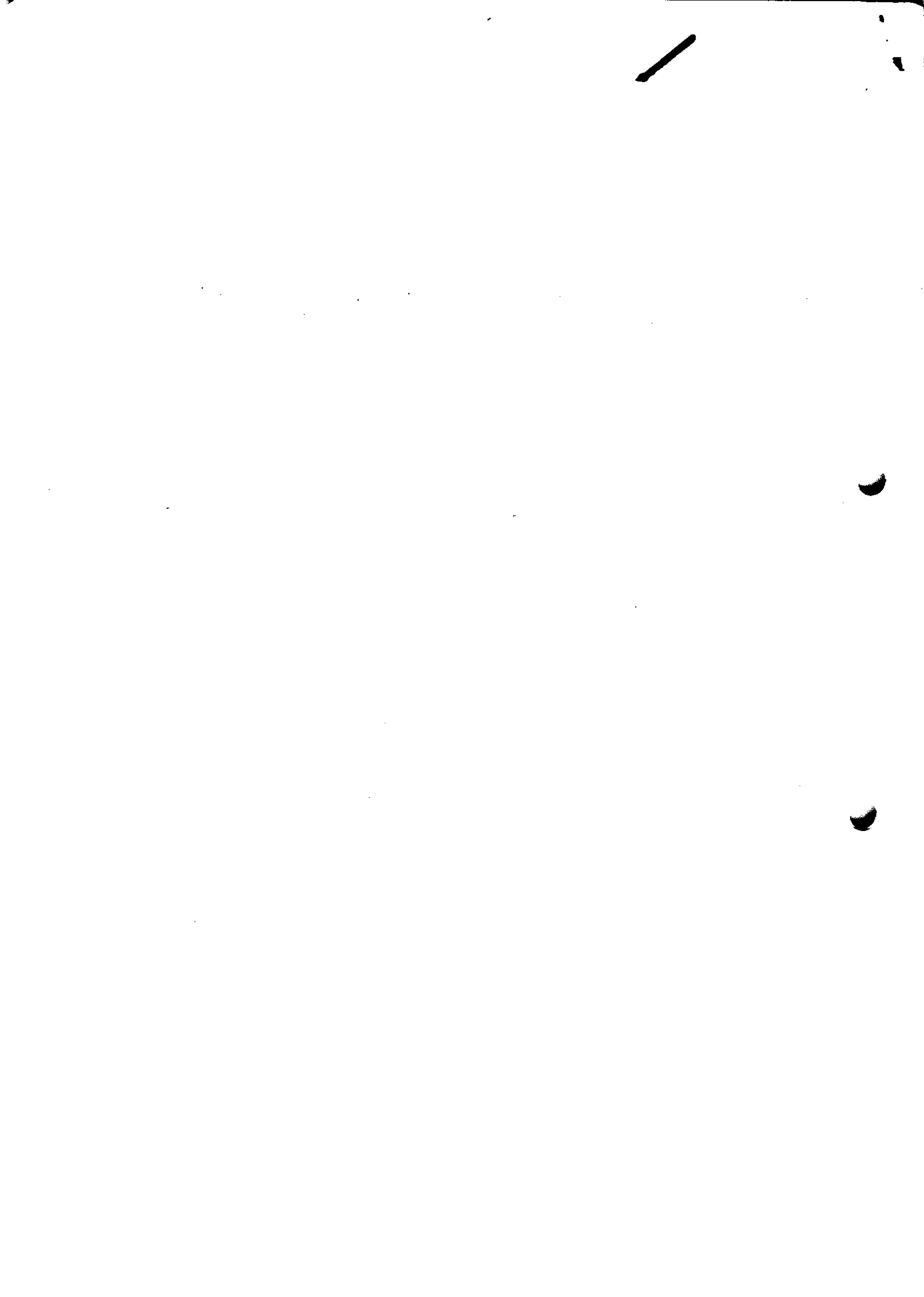
K8 LOWER RUDDER BRACKET.



From CAMBRIDGE R.C

Reported by Sandy TORRANCE.

DAMAGE caused by Rudder BLAMING
in strong winds?



Civil Aviation Authority

PROP APPROVAL

Safety Regulation Group

*To: Applicant
 Avionics/Electrical Section (Survey)
 Surveyor
 Aircraft Projects Department
 Flight Manuals Section
 Applications & Certification Section

MINOR MODIFICATION

Serial No. 9/214/1464.....

Aircraft Type Scheiber Falke Regn Marks G-AYBG (1600cc)	Name and Address of Applicant British Gliding Association Kimberley House Vaughan Way Leicester LE1 4SE	Applicant's Modification No BGA/AYBG/1/90 Issue No 1
Original Drawings affected/Issue Nos	New Drawings to be raised by	New Drawings introduced/Issue Nos

Details of Modification

Fitment of Hoffman fixed pitch propeller Pt No HO-11-150-B-70L to SF25B SIMG.
 Previous fitment covered by MAN 15912 was for DSS Prop DS. 6334-B-140-70.
 The STINGSBY T61 (F) SIMG's have the fitment of this Hoffman propeller Pt No HO-11-150-B-70L covered by MAN's 13928, 16605 and 16606.

(Details to be continued overleaf if necessary)

Suitable for installation in this aircraft *only/* and any other <u>SF 25B/T61 Series</u> aircraft									
Limitations, Conditions, or Exemptions M8 Bolts to be torqued to 140" lbs in accordance with manufacturers recommendations									
Amendments in accordance with BCAR, Section A, Chapter A5-1, A6-1, A6-2, A6-4 or A6-7, as appropriate, are required to the following: <table data-bbox="119 1809 1109 1937"> <tr> <td>Weight and C of G Schedule</td> <td>Repair Manual</td> </tr> <tr> <td>Flight Manual or equivalent</td> <td>Maintenance Schedule</td> </tr> <tr> <td>Maintenance Manual</td> <td>Crew Manual</td> </tr> <tr> <td>Overhaul Manual</td> <td>Electrical Load Analysis</td> </tr> </table>		Weight and C of G Schedule	Repair Manual	Flight Manual or equivalent	Maintenance Schedule	Maintenance Manual	Crew Manual	Overhaul Manual	Electrical Load Analysis
Weight and C of G Schedule	Repair Manual								
Flight Manual or equivalent	Maintenance Schedule								
Maintenance Manual	Crew Manual								
Overhaul Manual	Electrical Load Analysis								

The above modification is approved and may be embodied subject to compliance with British Civil Airworthiness Requirements, Chapter A4-1.

Date 12 March 1991

P. J. Noad : MR. P. J. NOAD
 For the Civil Aviation Authority

No: 3/91

Ref: EW/G91/01/04

Category: 1c

Aircraft Type and Registration: Scheibe SF25C, G-BODU

No & Type of Engines: 1 Limbach L 2000 EA piston engine

Year of Manufacture: 1988

Date and Time (UTC): 12 January 1991 at 1035 hrs

Location: Rufforth Aerodrome, Yorkshire

Type of flight: Private (training)

Persons on Board: Crew - 2 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Damage to propeller, left landing gear leg and wing tip

Commander's Licence: Private Pilot's Licence with Instructor rating

Commander's Age: 54 years

Commander's Total Flying Experience: 2,961 hours (of which 365 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot and telephone enquiries by AAIB

After a normal first circuit, carburettor heat was applied during the down wind leg and de-selected on base leg before the airbrakes were used. Full throttle was applied on the go-around and the engine reacted normally achieving 2600 rpm and the aircraft normal airspeed for take-off. Climb out was at 50 kts.

At 150 feet the engine surged then cut completely. As insufficient runway length remained ahead and there was limited area to the left, the nose was immediately lowered and a turn of 10° to the right was made followed by a turn to the left. The ignition was turned off before the left wing struck the ground followed by the left wheel and the propeller, which was still rotating. The aircraft came to rest on its landing gear.

The temperature was +3°C, cloud 2/8 above 3000 feet and visibility 20 km. The pilot does not suspect carburettor icing as carburettor heat had been used, but considers that an as yet unidentified carburettor malfunction caused the engine to stop.

The engine was examined by a maintenance organisation who did not find any signs of water or dirt in the fuel or carburettor. As the aircraft is used to carry disabled passengers it was decided that the engine should be exchanged for a factory reconditioned item. Further examination of the failed engine was therefore not carried out.

EXTRACTS FROM AOPA (USA) "PILOT"

FAA URGED TO WITHDRAW NPRM ON PIPER WING STRUT REPLACEMENT

A notice of proposed rulemaking issued by the FAA that includes an airworthiness directive to replace the wing lift struts on all high-wing Piper aircraft is unjustified and should be withdrawn, according to AOPA, which recently submitted comments on the NPRM to the FAA. AOPA believes that wholesale replacement of the wing lift struts on more than 20,000 aircraft is completely unwarranted; that justification for the sweeping measures proposed by this AD does not appear to be substantiated by a factual evaluation of the accident report data presented in the NPRM; and that the FAA's cost analysis is faulty. The FAA's cost estimates are \$240 for an inspection and \$760 for wing strut replacement per airplane, for a total fleet cost of \$20 million. AOPA research shows that the actual fleet inspection and replacement cost is closer to \$50 million. Finally, AOPA maintains that an alternative means of compliance, including inspection and permanent drainage of the lift struts, has not been satisfactorily explored.

A strut replacement alternative?

I was pleased to read that, in the September issue of *Pilot*, a 60-day extension period is being requested ("AOPA Direct: Extension of Comment Period on Piper Wing Lift Struts Sought by AOPA").

In the United Kingdom, we have about 360 strutted Piper aircraft, of which some PA-18s and -25s are used for glider towing.

We have experience of x-ray and endoscope techniques, and in addition, we believe that ultrasonic thickness gauges will be effective in detecting corrosion in these struts.

On behalf of our members, we have alerted the U.K. Civil Aeronautics Authority to these NDT techniques in opposition to any FAA airworthiness directive that might make replacement mandatory.

R. B. Stratton
Chief Technical Officer
British Gliding Association
Leicester, United Kingdom

PIPER LIFT STRUTS.

GQ SECURITY PARACHUTES
AIRWORTHINESS DIRECTIVE
APPLIANCE
SMALL AIRCRAFT

91-02-05 GO SECURITY PARACHUTES, INC.: Amendment 39-6854.
Docket No. 90-NM-246-AD.

Applicability: Model No. 79A1684-() parachute canopies approved under TSO C23b.

Compliance: Required as indicated, unless previously accomplished.

To prevent the failure of parachute canopy due to deteriorating canopy material, accomplish the following:

A. Prior to further use after June 17, 1988 (the effective date of Amendment 39-5942, AD 88-05-08), remove or obliterate the TSO C23b marking from the parachute canopy and remove the canopy from service.

B. For canopies previously granted an alternate means of compliance with AD 88-05-08 and subsequently returned to service: At the next repack after the effective date of this amendment, remove the canopy from service until the requirements of paragraph B.1. and B.2. of this AD are accomplished.

1. Determine that canopy fabric tensile strength is acceptable in accordance with Parachute Industry Association Publication PIA - Technical Standard 108, Parachute Canopy Fabric Tensile Test, Non-Destructive Method, dated January 25, 1989.

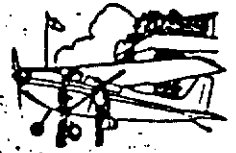
2. Test the mesh (netting) material, using Bromocresol Green Solution, to determine if it is acidic. If it is acidic, the canopy cannot be returned to service unless the acidic condition is neutralized.

NOTE: Washing the canopy in detergent has been found to be effective in acid neutralization.

C. Acidity tests and fabric tensile tests conducted as an approved alternate means of compliance with AD 88-05-08 meet the requirements of paragraphs B.1. and B.2. of this AD.

D. An alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate.

A copy of all documents applicable to this AD may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, 1601 Lind Avenue S.W., Renton, Washington; or at the Los Angeles Aircraft Certification Office, 3229 East Spring Street, Long Beach, California.



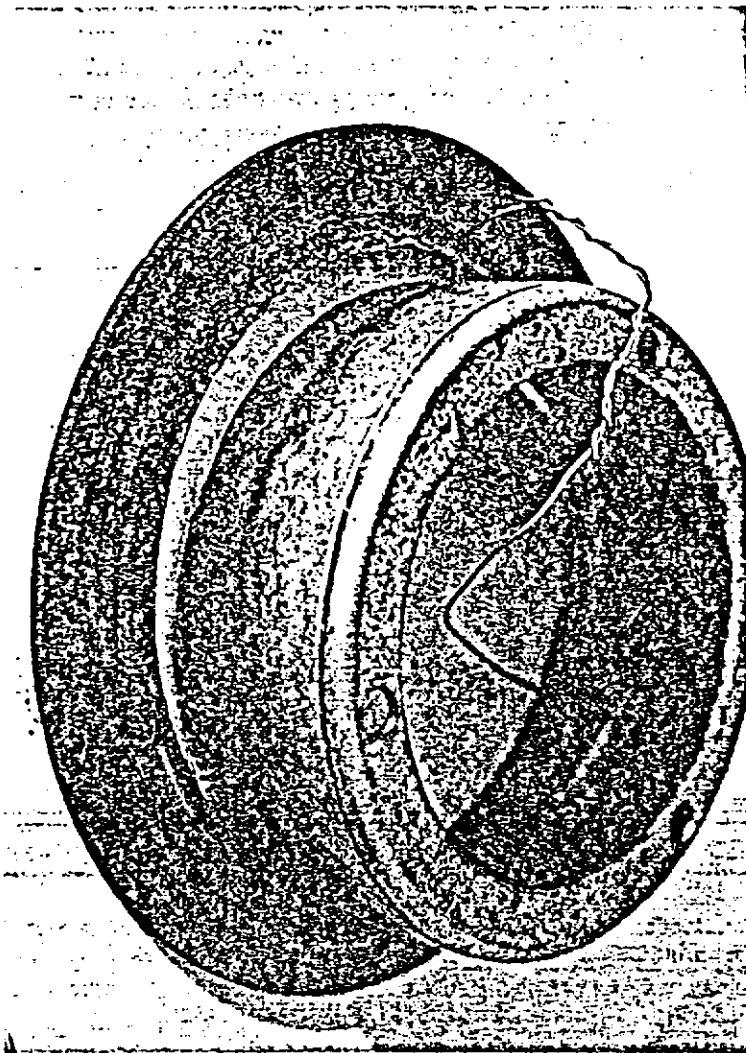
Mar 1991

3/91

1. FRACTURED BRAKE DISC

P/E

Aircraft Type : Piper PA28 Cherokee 180
Date : December 1990



After an uneventful flight and landing, the pilot turned off the runway to taxi back to the hangar. When the pilot applied the brake, there was no braking effect at all so he shut down the engine.

It soon became apparent that the weld between the brake disc casting and the pressed steel back plate had sheared. After removal it was noted that the area was extensively corroded.

CAA Comment

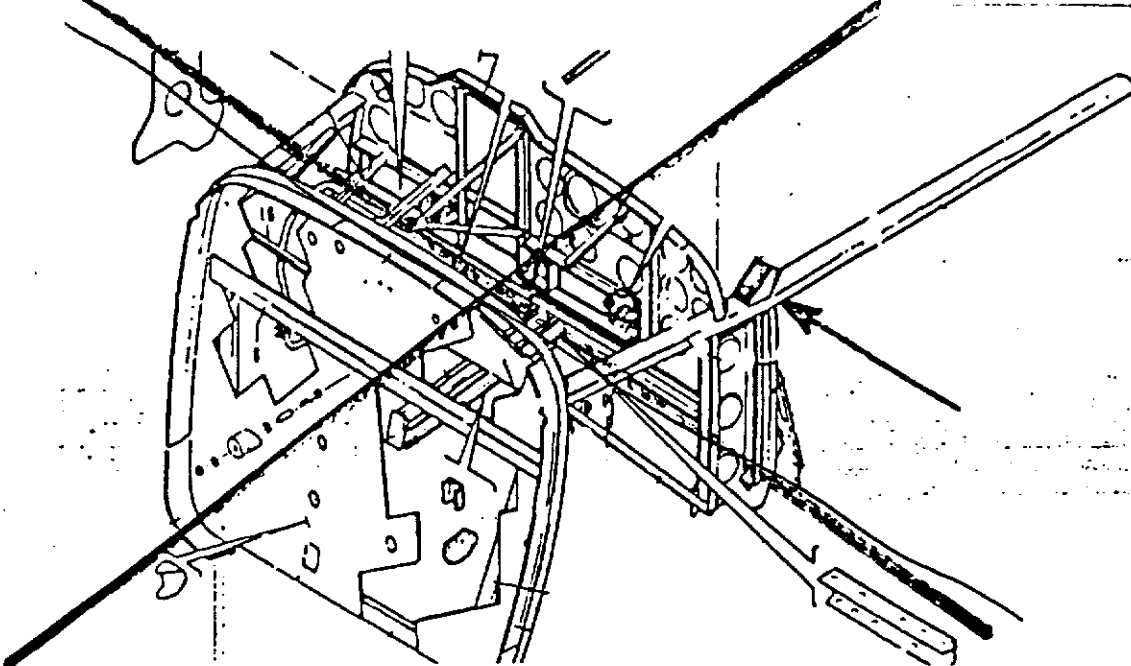
On some assemblies the joint is brazed and not welded.

Corrosion of these discs is a well known problem although the Authority has not had many reports of the brake disc shearing. The problem does seem to be worse on low utilisation private category aeroplanes, particularly those with wheel fairings. Regular inspection and perhaps replacement with stainless steel or chromium discs is the best prevention, but change the pads at the same time.

Inside:

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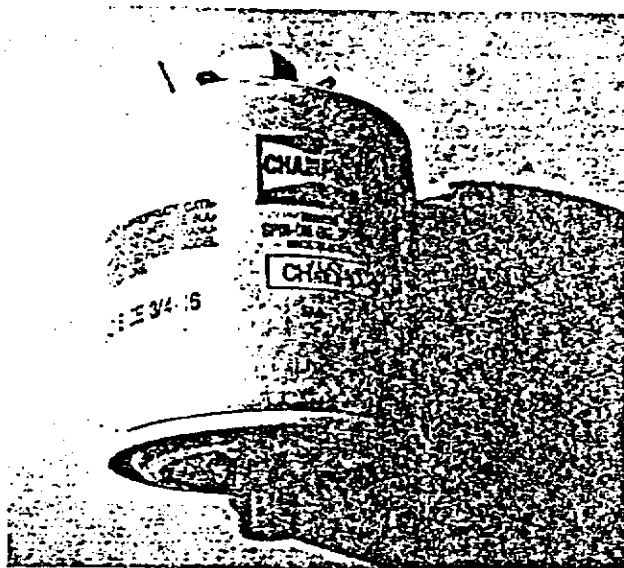




E7. OIL FILTER FAILURES

The CAA has had the following two failures of oil filters reported to them.

An oil leak was traced to a faulty Champion CH48113 oil filter. The engineer, advised that this is the third filter which he has had a leak in exactly the same place. All three filters were from the same batch number supplied by Air Parts Supply of Booker.



Champ Oil Filter, Element Part Number ES100.

On inspecting one of the above oil filter elements following initial run of a recently overhauled engine, the engineer found that the longitudinal seam of the corrugations had not been

sealed, considerably reducing the effectiveness of the filter element.

Inspection of the remainder of the batch of 24 revealed two

others with the same fault. All had the batch number 0202901 inc stamped upon them. The manufacturer, ElectroSystems Inc. has been advised.

E8. AIRWORTHINESS PROMULGATIONS

CAA Airworthiness Directives

023-02-91

BN-2T Islander

Nose landing gear-improved support structure.

CAA Letters of Transmittal

13 Feb 91
(DGAC AD 91-031)

Socata TB-9, TB-10 and TB-20

Inspection of Horizontal Stabilizer balance weight.

FAA Airworthiness Directives (FAA Bi-weekly Lists 91-02, 91-03 and 91-04)

91-02-06

Piper PA-24-260 Series

91-02-07

Cessna 411 and 411A

91-03-15

Mooney M20M

Prevent discharge of exhaust gases into cabin.

Civil Aviation Authority
Safety Regulation Group
Aviation House
South Area
Gatwick Airport
Gatwick
West Sussex RH6 0YR
Tel: Switchboard 0293 567171
Telex: 878753 Fax: 0293 573999



22 February 1991

ATTENTION AIRCRAFT OWNERS, OPERATORS AND MAINTENANCE ORGANISATIONS

Articles 8(7) and 11 of the Air Navigation Order 1989 state as follows:

'Article 8(7)

- (7) A certificate of airworthiness or a certificate of validation issued in respect of an aircraft shall cease to be in force:
- (a) if the aircraft, or such of its equipment as is necessary for the airworthiness of the aircraft, is overhauled, repaired or modified, or if any part of the aircraft or of such equipment is removed or is replaced, otherwise than in a manner and with material of a type approved by the Authority either generally or in relation to a class of aircraft or to the particular aircraft;
 - (b) until the completion of any inspection of the aircraft or of any such equipment as aforesaid, being an inspection made for the purpose of ascertaining whether the aircraft remains airworthy and:
 - (i) classified as mandatory by the Authority;
 - (ii) required by a maintenance schedule approved by the Authority in relation to that aircraft; or
 - (c) until the completion to the satisfaction of the Authority of any modification of the aircraft or of any such equipment as aforesaid, being a modification required by the Authority for the purpose of ensuring that the aircraft remains airworthy.

Article 11

- (1) Except as provided in paragraph (2) of this article an aircraft registered in the United Kingdom, being an aircraft in respect of which a certificate of airworthiness issued or rendered valid under this Order is in force, shall not fly unless there is in force a certificate of release to service issued in accordance with this article if the aircraft or any part of the aircraft or such of its equipment as is necessary for the airworthiness of the aircraft has been overhauled, repaired, replaced, modified, maintained, or has been inspected as provided in article 8(7)(b) of this Order, as the case may be.'

Continued

To ensure that there is no contravention of these Articles aircraft owners and operators are advised to contact their maintenance organisations and/or review their aircraft log books to determine whether any certifications have been made in respect of Radio maintenance, modifications, and/or mandatory airworthiness requirements by Mr U L Boyce, whose licence number was 17816, after the 18 September 1986, the date of expiry of the licence. Any certifications made subsequent to that date are invalid.

In certain circumstances Certificates of Release to Service issued by Mr Boyce after the expiry date of his licence may render Certificates of Airworthiness invalid.

Where such a certification is found to have been made, aircraft owners and operators should contact their maintenance contractors who will be in liaison with the CAA.