BRITISH GLIDING ASSOCIATION

BGA TECHNICAL COMMITTEE

TECHNICAL NEWSHEET TNS 1/2/91

PART 1 Airworthiness "AGGRO" (Blue Pages for 1991) - have been updated to include all relevant 1990 TNS.

1.1 KA 13 (JUBI Built) - Oversize holes in spar root causing "creaking" in flight. Bolts refitted with epoxy filler. (report by Dave Reilly, Devon & Somerset. "Fix" recommended by Southdown Aero).

1.2 STD CIRRUS - Bent Elevator Push Rod fouls in frame at base of fin. (Reported by Peter Wells with diagram).

1.3 Bocian - Indications of "sloppy" airbrake operation on the ground, subsequently led to failure in flight, caused by a fracture of the handgrip below the side of the front seat. (Reported by Coventry G.C.).

1.4 KA 6, 7, 8 Airbrake Push Rods (Bending) - Sketch from I.D. Smith, is self explanatory.

1.5 L'Hotellier Control Connectors - R.D. AViation have a supply of "Sticky" transfers as illustrated herewith, to remind you how to connect your controls correctly (Call 0865-841441 for details).

1.6 JANNUS (C, CM, CT) - T/Note 255-21 and LBA Airworthiness Directive 90-335 requires Vne restriction to 108 knots pending rectification of tailplane flutter on certain JANUS as listed in T/Note. (It applies to JANUS with adjustable rear rudder pedals only).

1.7 GROB ASTIRS - LBA AD/91-5

ASTIR's (as listed in TM 306-39 herewith) - Precautionary Inspection of SPAR SPIGOT Assemblies. This TM was mailed to owners registered with the BGA on 17/1/91. To put the problem into perspective, it should be remembered that the only spigot failure in the whole world occurred on the M.O.D. Sponsored fatigue test of the G-103 (Accro), to an operating load measurement spectrum, not usually encountered, including random applications of more than 5.0 g!

Out of a very large sample of Astir's inspected (80 registered) in the UK, only two sets of spigots (RAE & Imperial College G.C's) have been reported for signs of crack propagation outside the limits of TM 306-39. These will be reported to the Manufacturer. In the meanwhile, take a periodic close look and please report all out-of-limits cases to the BGA, with a record of Serial No, flying time & number of launches.

1.8 ASK 21/ASK 23 with automatic elevator connecting facility.

LBA A/D 9 - 350 requires inspection of the parallel rocker for damage due to mis-rigging. (Schleicher T/Note 8, herewith refers).

1.9 ASK 21 Canopy Locks (Pre Tech Note 15) - Ex Air Cadet Sailplanes will not have been modified by M.O.D. to the standard which gives positive indication of the "unlocked" status of either canopy, by interfering with the pilot's activities! The cost of the Mod Kit is of the order of £245 whereas the cost of lost canopies is about £760 both + VAT. Before modification, several expensive canopy departures occurred in the UK! (Call R&D Aviation 0865/841441 for details).

1.10 Control Cables - failure of Bocian Rudder cable. A replacement cable pulled through the swage. Great care is required in matching the swagging system to the cable size. Details are given in CAIP Leaflet BL/6-24 and AC 43.13.1.A page 99. If proof loading is not possible, careful inspection of the swage is required to establish the integrity of the joint.

1.11 "Major" Repairs to S.L.M.G's and to Gliders. - The CAA relate reported accidents to the file of the aircraft concerned, and the BGA do the same. The objective is to monitor the capability and the quality of subsequent repairs. Particularly in the case of Insurance "Wire-offs", you should notify the BGA in writing of your intentions and plans for such "Major" repairs. Detailed Repair Reports will be required, and inspection of the completed repair by CAA, or BGA, as appropriate, may be necessary.

1.12 Schleicher Tech Notes. - The following are available from R&D Aviation.

a) ASH 25E (T/Note 2). Max allowable RPM 7200 RPM for 1 min. Instrument Markings and Flight Manual to be amended.

b) ASW 24 (T/Note 2). Increases weight of the non-lifting parts by 15 kg, (for larger capacity oxygen systems). Flight Manual Changes required.

c) ASW 20B/20BL (T/Note 35). Increase weight of the non-lifting parts by 10 kg, to accommodate more oxygen.

d) Schleicher T/Notes. Authorises the change to revised pattern Tost Hooks type E.85, (Nose) and G-88 (Safety Tow Hook).

KA2, KA2B - Tech Note 12
KA7 - Tech Note 20
KA10A - Tech note 3

1.13 Twin Astir's (Accro's etc) Wing-to-fuselage tubular retaining assembly - in the centre section. A report has been received of this critical component being found in poor condition. Please inspect for signs of damaged threads in the locking assemblies, after any ground loop incident. (Reported by Southdown/Lasham).

1.14 ASK 13 Serious Failures.

a) Canopy Jettison inoperative and hinge fractured, caused by lack of lubrication.

b) Rear Skid attachment overtightened and failure of rear fuselage primary structure. (Sketches herewith from P. Manley Essex G.C.).

All such tubular structures may deteriorate significantly with both age (corrosion) and usage (damage and fatigue). Fabric should be removed for a detailed inspection.

1.15 TWIN ASTIR's/ACCROS - Cracking of the brackets securing the Tost (aft) Hook. Cracks have been detected due to improper radius. (M.O.D.).

PART 2 S.L.M.G'S AND TUGS

2.1 Latest issues of CAA Additional Directives Vol III are enclosed for the following :-

a) H.36 "DIMONA", includes A/D 60, concerning contamination of fuel tanks.

b) PIK 20E , which includes inspection of propeller hub assembly.

c) GROB 109, requires inspection of Studs in the root rib for corrosion.

d) ICA BRASOV - (IS 28M2) No new disasters reported.

e) DG 400.

Please check each aircraft against the latest issues of these Airworthiness Directives, which have "Mandatory" Status.

2.2 Piper PA25-235 (Pawnee). The CAA A/D on tailplanes is repeated to remind operators of their obligations to seek compliance. The failure occurred in flight on the PA25-150, which has only 2 tailplane bracing wires. All others have 4 braces which should be checked on the Daily Inspection, for correct tension. Damage due to Ground Handling may be a factor?

2.3 Extracts from AATB Bulletins.

a) Scheibe SF25B - Mismanaged approach & landing.

b) Slingsby T61A - Prop and undercairrage damage after failure of main wheel hub bolts!

PART 3 GENERAL

3.1 Auto-Tow (Round-a-Pulley) Solid Drawn Wire.

Ted Lloyd, Cotswold G.C. recommends 90/100 tons, 3.5mm Bright Hard Drawn Spring Steel Wire with bend radius 17" from Somerset Wire, P.O. Box 56, Pengam Works, Cardiff, CF1 1RW.

3.2 Weak Link Ratings - After further research and the correction of errors, Issue 2, herewith, should be displayed on Club Notice Boards, by Technical Officers please!

3.3 The Women Pilots Working Group - Have published a request for information on ballast systems. Their request is published herein. Please respond to Mrs Diana King, 3 Hazel Grove, Hockley Heath, Solihull, West Midlands, BQ4 6QW.

BGA advice is that "personal ballast" should be made up into robust canvas bags, with equally robust webbing straps through which to pass the lower harness straps. Then add some energy absorbing foam!!

3.4 Ex Air Cadet (Twin Drum) Winches - It has been reported that a batch of these passed through British Car Auctions, at Blackbushe Airport, Camberley, Surrey, without prior notification by MOD to BGA, as requested. Sale price of the order of £1000? Eligible for re-engineering with "big" automatic Petrol/LPG powerplants. Try calling 0252-878555 (BR. Car Auctions).

3.5 S.L.M.G;s (and Tugs processed through the BGA (M3) Approval System C.of.A. renewals.

To avoid loss of use of several weeks after the expiry of the C.of.A., please make every effort to take advantage of the facility in the CAA Light Aircraft Maintenance Schedule (LAMS) to submit the renewal upto 62 days before expiry.

3.6 Revised Charges :-

a) Glider C.of.A. Renewals are now £30.00
b) SLMG (above 500kgs) now £252.00 (for 3 years) but increasing to £276.00 on 1st April 1991.

3.7 Fabric Application Processes (Ceconite etc).

You are advised to follow the correct procedures and to use the specified materials if the job is to be econmic and successful.
(Advice from Ron King, Southdown G.C.)

HAPPY NEW YEAR TO ALL OUR READERS!

DICK STRATTON
CHIEF TECHNICAL OFFICER

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

Revised Oct 1990 From TOST DATA SHEET 2/4/90 With Ammendment 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	600	No.4
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	500	No.5	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	500	No.5	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	500	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
Consort (YS53)	1000	No.4	KA 8	668	No.4
Dart 15/17/	600	No.4	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 (L10)	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*	Mo.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	500	No.5
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	600	No.4
Skylark 1.2.3.4.	600	No.4
Spatz	520	No.5
Sperber	1030	No.1
Suid III	500	No.5
Swallow	600	NO.4
Swift	600	No.4

	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 1/2/91 Issue 2 (Amended)

February 1991

TN3/1/2/91

LBA AD. 90-350

ASK 21. ALSO.

SHEET: 1 of 2	ASK 23 /ASK 23B Technical Note No. 8	Alexander Schleicher GmbH & Co. Segelflugzeugbau D-6416 Poppenhausen

Subject: Checking the parallel rocker (at the elevator actuator rod) in the fin. Exchange of this part and amendment to the Flight Manual.

Serial number applicability: All ASK 23 ad ASK 23B serial no.s 23001 thru 23121.
This TN no.8 is factory-standard as of serial no.23122.
ASK 21. Serial No's 21206 thru 21473 + any retrofitted.

Compliance: Checking and - in case of damages found - exchanging the part prior to the next take-off. Otherwise the exchange has to be done until the next annual re-inspection, but not later than April 31, 1991.

Reason: Two cases ASK 21 are reported where the parallel rocker at the automatic elevator connection broke. The same component is installed in the ASK 23 B.
Owing to improper action during rigging and/or de-rigging of the horizontal tailplane, sideways deformation or even breaking of the parallel rocker have been observed.
Another possible reason for such failure may be a foam cushion or other fixture in the glider trailer which fixes the fin from the top. If the necessary free moving of the elevator actuator rod which protrudes out of the fin, is not provided, the vibrations involved during the road transport can lead to sideways loads on the elevator actuator rod.

Action:

1. Derig the horizontal tailplane and carefully check the parallel rocker for deformation and/or cracks (see Maintenance Manual page 14, Item no.16).
   If the parallel rocker is o.k., the glider may continue in service until the next annual reinspection comes up, but no longer than April 31, 1991, at the latest. This does not mean that the "Daily Inspections" according to chapter IV.3.1 point 5 of the Flight Manual is no more effective!

2. If any damages are found on the parallel rocker, it has to be replaced by the new and stronger part prior to the next take-off.

2.1. For the exchange of the parallel rocker a hole 11 mm in diameter has to be drilled into the fin at the side of the bolthead in order to remove the M6 bolt. The hole needs not to be closed; only the edge of the drilled hole must be preserved afterwards.

SHEET: 2 of 2	ASK 23 /ASK 23B Technical Note No. 8	Alexander Schleicher GmbH & Co. Segelflugzeugbau D-6416 Poppenhausen

3. In the Flight Manual the pages 2a, 33, 34 and 35 must be exchanged for new pages with same page no. and date "Nov.26, 1990" and the revision entry "TN no.8".

3.1. The exchange of the pages has to be entered in the "Index of Corrections" (Page 1+2).

3.2. The instructions given in the new manual pages for rigging and derigging as well as for the trailer have to be carefully regarded.

Material & drawings: Parallel rocker 99.000.4940 with modification status 1, dated 20.11.90.

Weight & Balance: Negligible.

Notes:

1. The Action can be done by a competent person. The exchange of the manual pages can be done by the owner of the glider himself.
   The accomplishment of this mod must be certified by a licensed aviation inspector in the glider's inspection documents, the log-book, and in the Flight Manual.

2. The new parallel rocker according to drawing 99.000.4940 as well as the new manual pages are available from the manufacturer or his representative in the respective country.

Poppenhausen, November 26, 1990

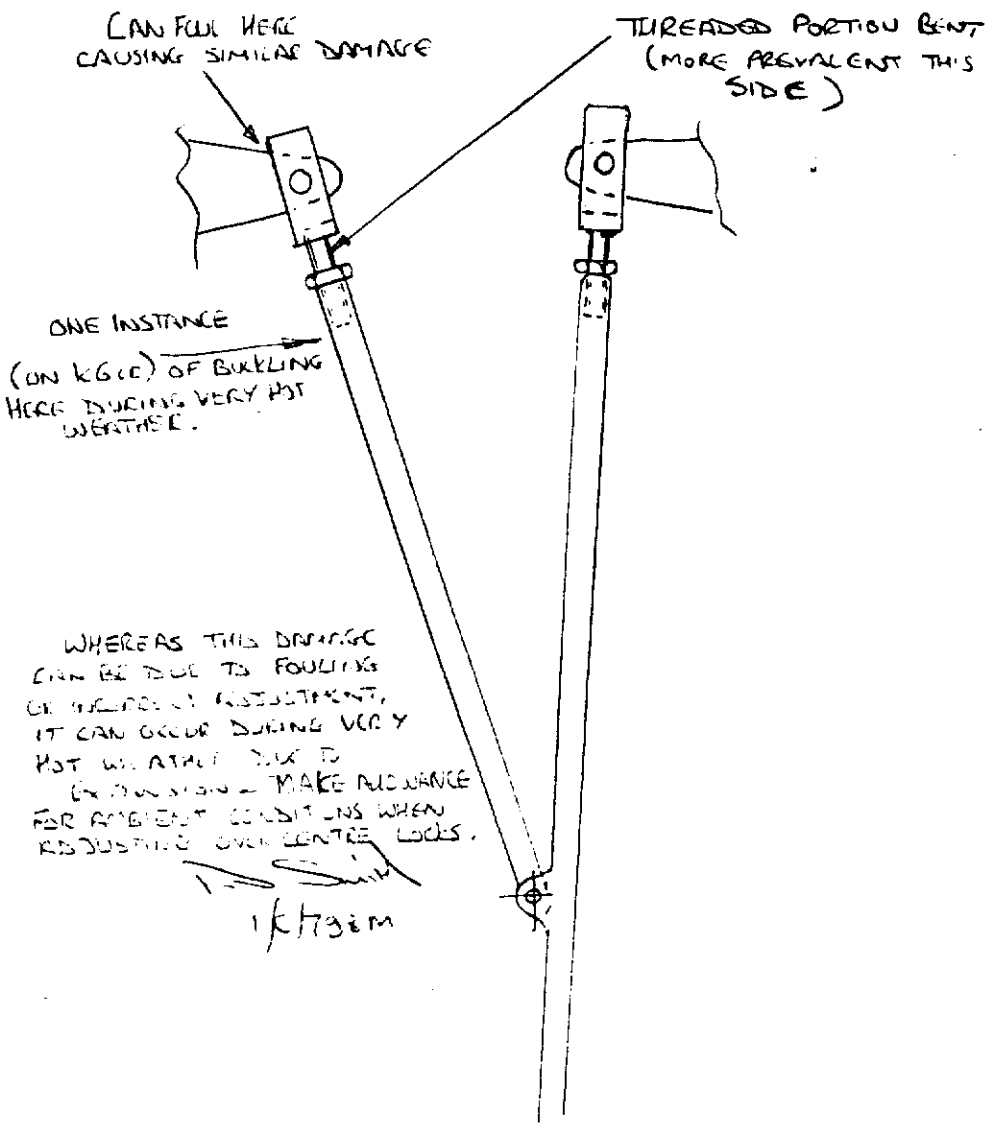
ALEXANDER SCHLEICHER
GmbH & Co.

i.A. Lutz-W. Jurtov

(Lutz-W.Jurtov)

The German original of this Technical Note has been approved by the LBA under the date of Dec.4, 1990 (signature: Skov). The translation into Englisch has been done by best knowledge and judgement; in any case of doubt the German original is controlling.

BENDING OF AIRBRAKE PUSHRODS K6, K8, K7

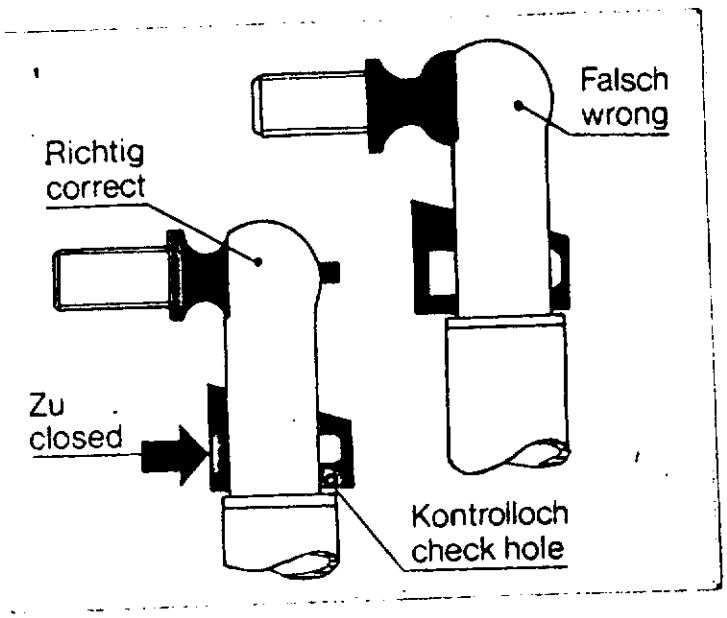


I. D. Smith I/C/T98M

BRISTOL & West R-C

L' Atelier Connectors

Why not plaster these "Stickers" wherever you have a Connector?



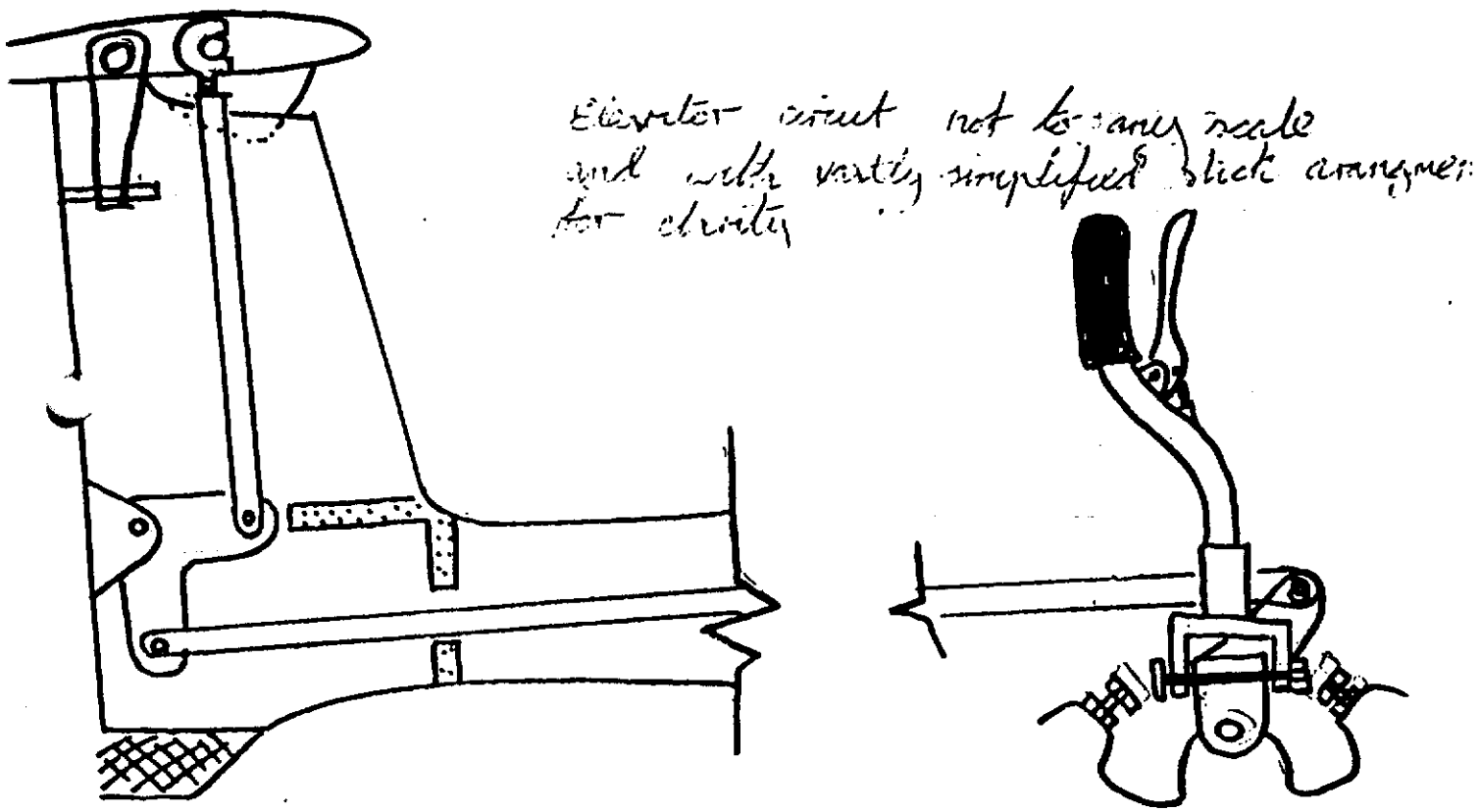
Stocks Available from

R-D Aviation

0865 841441

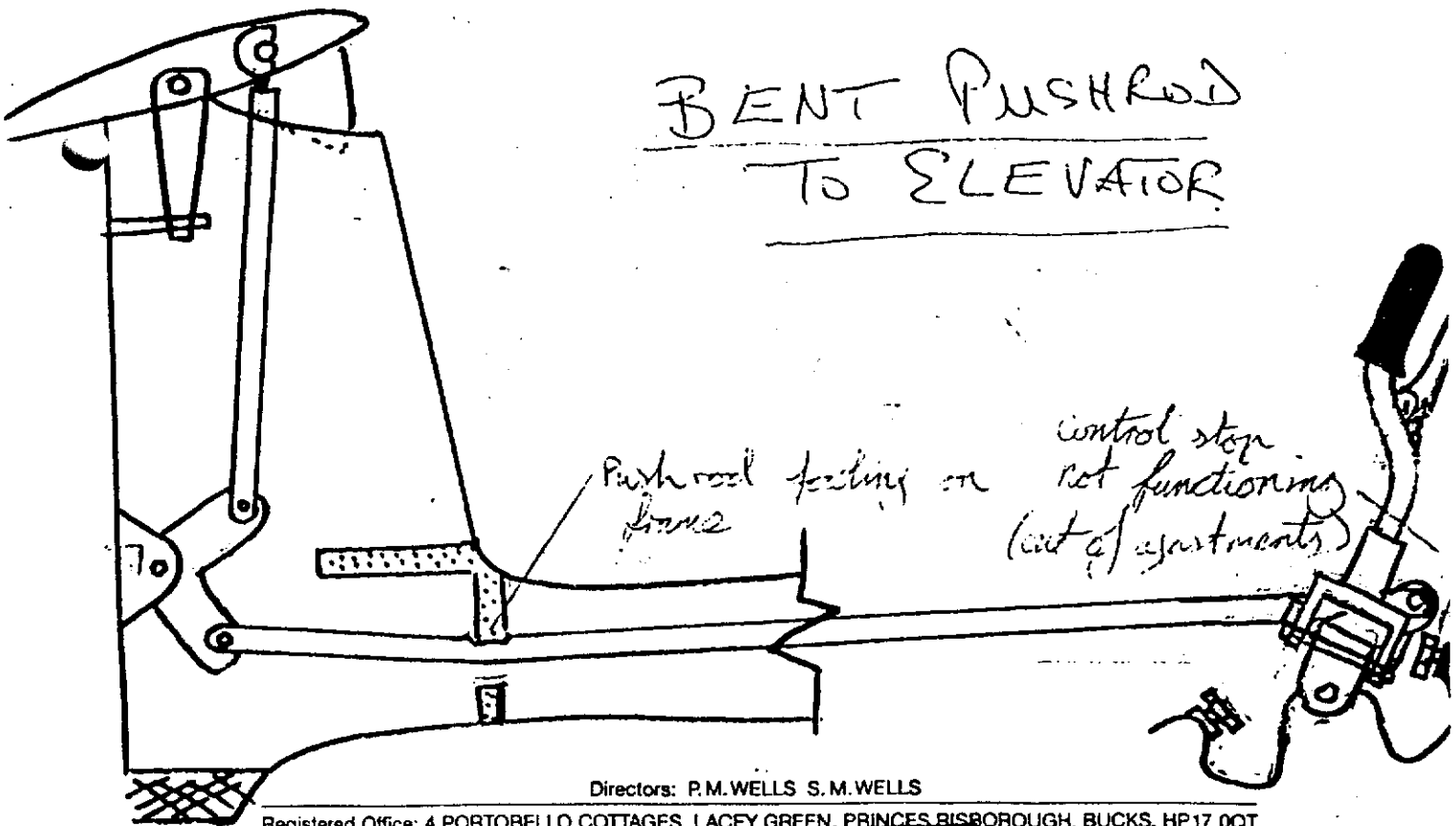
ZULU GLASSTEK LTD

STND CIRRUS BGA 1621



Elevator circuit not to any scale and with vastly simplified stick arrangement for clarity

BENT PUSHROD TO ELEVATOR



Directors: P.M.WELLS S.M.WELLS
Registered Office: 4 PORTOBELLO COTTAGES, LACEY GREEN, PRINCES RISBOROUGH, BUCKS. HP17 0QT
Tel. Office: 08444 3036 Workshop: 0844 4345
Company Registration No: 2332409 VAT No: 490 9612 23

Request for assistance - Glider ballast

Members of the BGA Womens Working Group are investigating safety and technical problems of particular relevance to women, such as ballast, cushions etc. As part of their work they believe it would be helpful to build up a base of information, in one document, about appropriate ways of making and securing ballast in different types of gliders. This could then be made available (with suitable caveats) to all clubs and inspectors and also to individuals on request, to assist them in finding solutions to their ballasting problems.

The group has asked any inspector who has particular information or experience about the ballasting of specific aircraft to let us have details which would be helpful to other people. Obviously some aircraft are manufactured with ready-made ballast points, but many others require modification and it is the details of such mods that would be useful. If you can help us, please send any details to Jo Murray, 11 Burnthouse Lane, Exeter, Devon, EX2 6BG.

No publication of these details will be made without prior advice from the Technical Committee. Publication will be accompanied by appropriate warnings to take advice from suitably qualified personnel on site and to carry out work only under competent supervision. We hope you will be able to help.

Schempp-Hirth Flugzeugbau GmbH Krebsnetraße 25 - Postfach 1443 D-7312 Kirchheim unter Teck LBA-Nr. IB 5	TECHNICAL NOTE NO. 295 - 21 809 - 8 LTA-Nr. 90-335	Page No. No. of pages

JANUS C

Subject : Elevator control system

Affected :

1. Sailplane model "Janus C" (F.R.G. ATC No. 295)
   - Ser.No. 240, 243, 248, 249, 251, 253 through 257, 260 through 263 and 266

   all complying with Modification Bulletin No. 295-25 (adjustable rudder pedals for rear seat)

2. a) Powered sailplane model "Janus CM" (F.R.G. ATC No. 809)
   - Ser.No. 29 and 33

   both complying with Modification Bulletin No. 809-8 (adjustable rudder pedals for rear seat)

   b) Powered sailplane model "Janus CT"
   - Ser.No. 7, 8 and 9

   all having adjustable rudder pedals for rear seat

Urgency :

Action I : Before conducting the next flight

Action II - IV : Not later than March 31st, 1991

Reason :

While flying at high speed, tailplane flutter occured on a "Janus cT", causing severe damage to its horizontal stabilizer.

The reason discovered was an increased stiffness in the elevator control system resulting from modifications associated with the installation of adjustable rudder pedals for the rear seat.

Actions :

I. Prior to conducting the next flight, a placard must be attached to each airspeed indicator, limiting the maximum permitted speed to 200 km/h (or 108 kt, or 124 mph).

Example:

V_{max} = 200 km/h

Schempp-Hirth
Flugzeugbau GmbH
Krebenstraße 25 - Postfach 1443
D-7312 Kirchheim unter Teck
LBA-Nr. I B 5

TECHNICAL NOTE NO. 295 - 21
809 - 8

Actions (ctd.) :

II. Replace existing vertical elevator actuating rod (inside the fin) against a modified rod complying with:

Drawing No.	Nomenclature
HS6-31.005	Elevator actuating rod (vert.)

Working instructions on how to replace this rod are found in the appendix to this Technical Note.

III. Adjust ball bearing rod end such that elevator deflections comply with specified values.

VI. Remove speed limitation placard from ASI (see action I).

Weight/
C.G. position : No change

Material :

1 off Elevator actuating rod (as per drawing No. HS6-31.005)

1 off Rubber bellows (No. V6-631)

Supplier: Schempp-Hirth Flugzeugbau GmbH

Note : Actions may be carried out by a skilled person. Their accomplishment is to be entered in the aircraft log book by a licensed inspector.

Kirchheim/Teck, November 5, 1990

issued: . . . H. Treiber . . .

(H. Treiber)

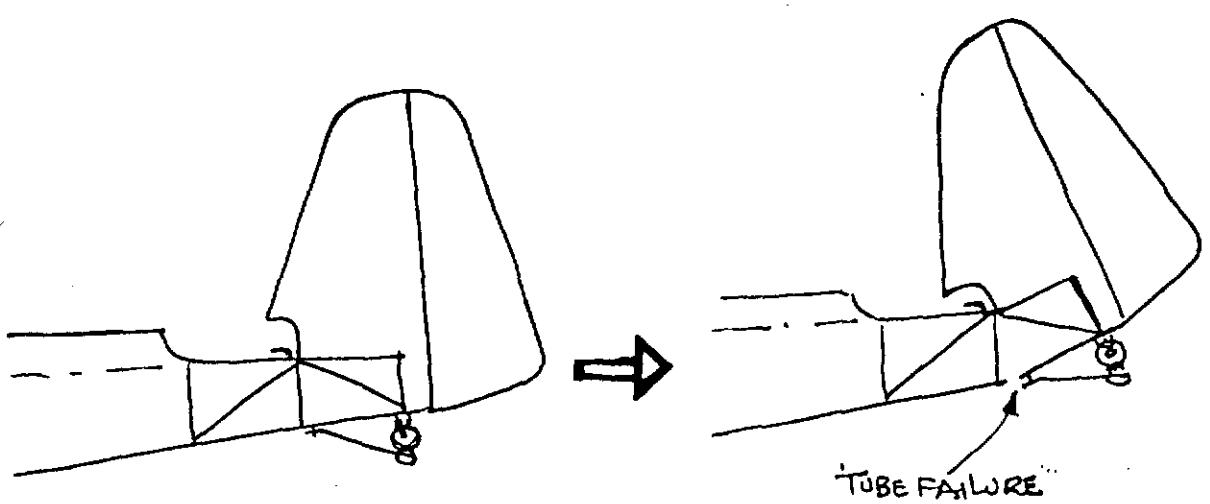
LBA-approved:

The German original of this Technical Note has been approved by the LBA under the date of Nov. 19, 1990 . . . . , and is signed by Mr. . Skov . . . . . .
The translation into English has been done by best knowledge and judgement. In any case of doubt the German original is authoritative.

TAILSKID FIXING K13.

A. K13 "DMX"

WHILST ON LOAN TO ESSEX & SUFFOLK CLUB THIS GLIDER SUFFERED A FAILURE OF THE TUBES AT THE TAILSKID FRONT BOLT ON LANDING : AS PER SKETCH.



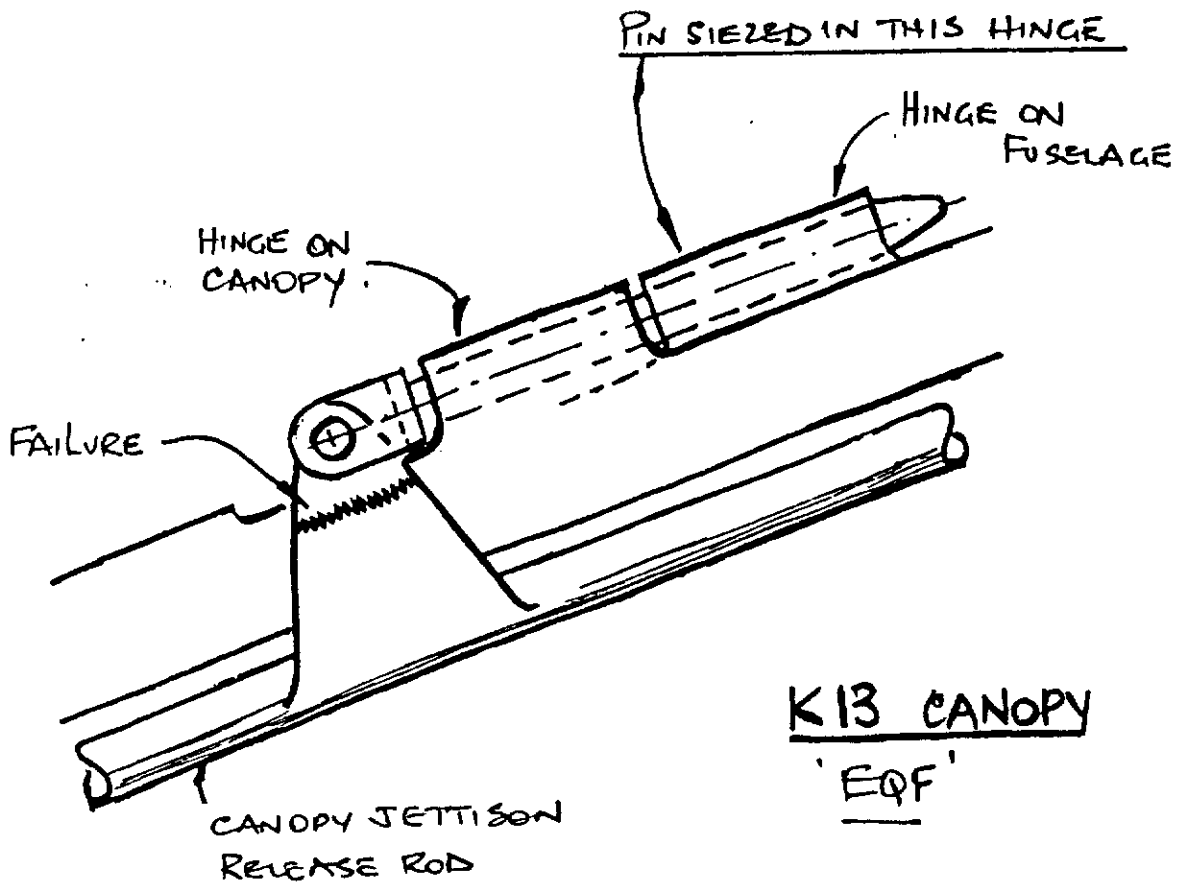
INSPECTION OF FAILURE SHOWED THIS TO BE FATIGUE PROBABLY INITIATED BY A HEAVY IMPACT OF THE TAIL SKID SOMETIME PREVIOUSLY — WHICH HAD NOT BEEN REPORTED. IT WAS NOTICED, ON STRIP DOWN, THAT THE TAILSKID FRONT BOLT HAD BEEN TIGHTENED SUCH THAT IT WOULD NOT ARTICULATE AS RUBBER DEFLECTED. THIS WOULD INDUCE EXCESSIVE BENDING LOADS IN BOLT & ACCELERATE FAILURE.

B. K13. "EQF"

SINCE THE ABOVE FAILURE PARTICULAR ATTENTION HAS BEEN PAID TO THIS AREA BUT 2ND "FAILURE" WAS ONLY NOTICED WITH GLIDER ON LAUNCH LINE IDENTIFIED BY BUCKLING OF FUSELAGE FABRIC. THIS GLIDER HAD HAD A BROKEN BOLT SOME TIME PREVIOUSLY. THERE WAS NO EVIDENCE OF TUBE DISTORTION AT THE TIME TH. BOLT WAS DRILLED OUT.

CANOPY JETTISON. K13

K13. FAILURE OF FORWARD OPERATING BRACKET ON CANOPY JETTISON ROD; CAUSED BY SEIZURE OF THE HINGE PIN IN FUSELAGE PORTION OF CANOPY HINGE. DISCOVERED ON DE-RIG OF GLIDER: FAILURE HAD BEEN OVERLOOKED ON DI. ALTHOUGH HINGE WAS STILL OK THE CANOPY JETTISON WAS INOPERATIVE IN THIS CONDITION.



K13 CANOPY
'EQF'

BGA NOTE. LUBRICATION IS REQUIRED.!!

~~two part not accumulated in service~~

PIPER 004-06-90 REV 2 PAWNEE.

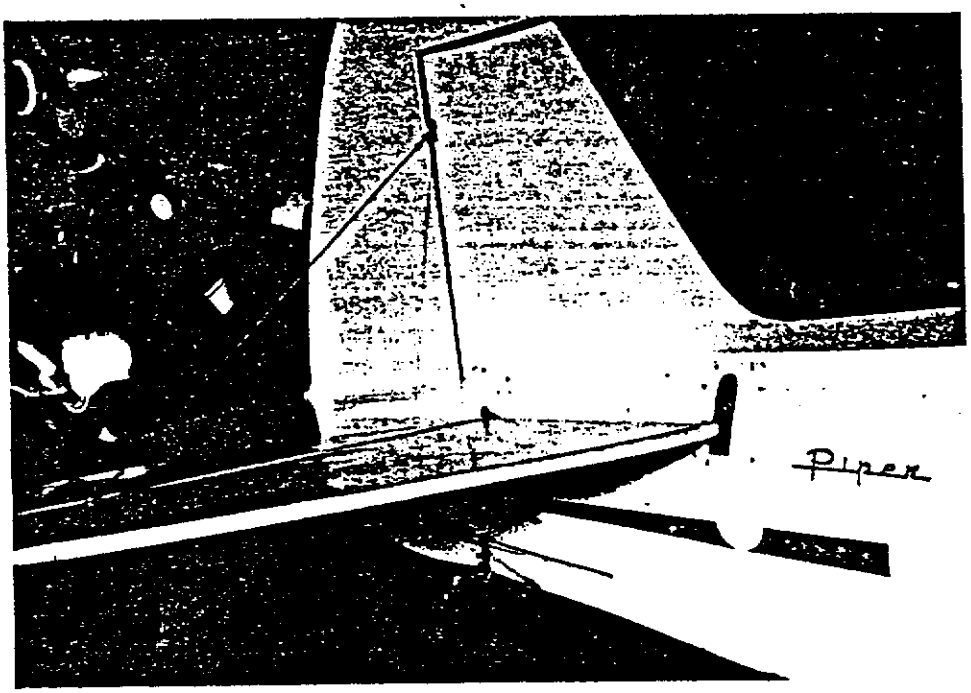
Applicable to PA-25, PA-25-235 and PA-25-260 aircraft.
Compliance is required not later than 10 flight hours or 4 weeks whichever is the sooner from the effective date of this Directive which is 4 July 1990.
Inspect the upper and lower bracing wires for correct rigging. Remove both halves of the tailplane noting any undue movement of the tailplane attachment tubes in the process. Peel back the fabric patches to expose the welded areas of the tubes. Inspect the forward attachment tube for cracks using a dye penetrant or equivalent NDT inspection technique acceptable to the CAA. Pay particular attention to the region adjacent to the welds. Inspect the rear attachment tube by removing the sealant fillets where the tube passes through the attachment plates then thoroughly clean these areas. Appropriately seal the tube and apply an airpressure of not less than 15 psi. Using a solution of soapy water, coat the tube in the regions of the two attachment brackets and look for bubbles that would reveal the presence of a crack. Gently flexing the tube will aid this process. Replace any tubes that show evidence of cracking. While the fabric is peeled back, carefully inspect the local tubular structure of the fuselage for corrosion paying particular attention to the two horizontal tubes in the vicinity of the vertical rudder support post. REPEAT INSPECTIONS at each annual check.

CAA AD

1. GROUND HANDLING

P/E

Aircraft Type : Piper PA18 Super Cub & Piper PA25 Pawnee 150
Date: : June 1990



A Piper Pawnee 150 suffered an inflight tailplane attachment failure. Fortunately, the pilot managed to land the aircraft safely, although the landing was somewhat heavy.

The failure was caused by the fracture of the attachment tube to which the front spar of the right h[illegible] tailplane was attached. An Alert Airworthiness Directive was subsequently sent to all Piper Pawnee operators and the responses indicated that, although there had been no other incidents of front spar attachment failure, there had been a number of cracked rear spar attachments. The Airworthiness Directive was revised to include both spar attachments and to include repetitive inspection.

However, discussions with operators revealed that Piper Pawnee aircraft are often moved by lifting the tailplane prior to wheeling the aircraft and, because the 150 h.p. variant is only wire braced at the rear spar, (unlike the 235 and 265 versions which are wire braced at both spars), very high stresses can be induced in the attachment tubes. Stress calculations have been carried out for maximum weight at maximum aft centre of gravity and, assuming two people are lifting by grasping the tailplane leading edge at points well away from the fuselage side the result is very high bending stresses which are thought to be the main contributory factor to the original failure.

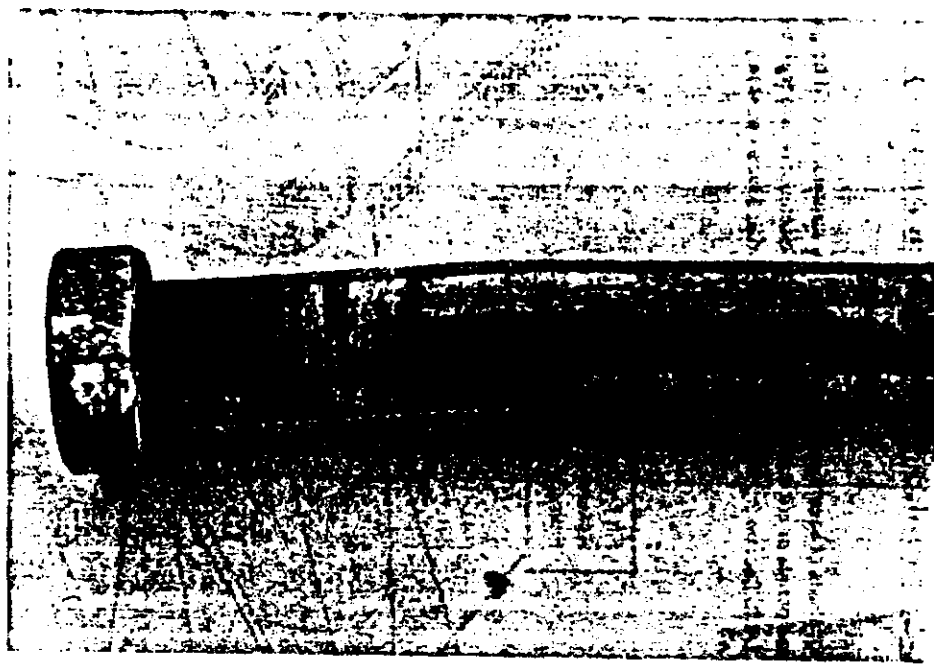
It is recommended that, if Piper Pawnee aircraft are moved by lifting the rear end, the tailplane is grasped at points immediately adjacent to the fuselage. The same advice also applies to Piper PA18 and PA22 aircraft which also have wire bracing only on the rear spar

G.A.S.I.L 1/91.

E4. BENT AND CRACKED LANDING GEAR SUPPORT BOLTS

Aircraft Type : Piper PA18 Super Cub 150
Date : November 1990

Whilst undergoing routine maintenance, the engineer decided to remove the main landing gear bolts to inspect them. Both bolts were found to be bent and, as the photograph shows, one of them was also cracked. Both bolts were subsequently changed.



The aircraft concerned is used as a glider tug and consequently undergoes a considerable number of landings, often on rough grass surfaces.

CAA Comment

The above occurrence highlights the importance of diligent inspection of parts known to take an above average loading.

No: 12/90 **Ref: EW/G90/09/16** **Category: 1c**

Aircraft Type and Registration:	Scheibe SF25B, G-BRRC
No & Type of Engines:	1 Stark-Stamo MS 1500/2 piston engine
Year of Manufacture:	1970
Date and Time (UTC):	25 September 1990 at 1450 hrs
Location:	Marchington Airfield, Staffordshire
Type of flight:	Private
Persons on Board:	Crew - 2 Passengers - None
Injuries:	Crew - None Passengers -N/A
Nature of Damage:	Aircraft extensively damaged
Commander's Licence:	Private Pilot's Licence
Commander's Age:	53 years
Commander's Total Flying Experience:	552 hours (of which 7 were on type)
Information Source:	Aircraft Accident Report Form submitted by the pilot

The flight from Netherthorpe to Marchington was conducted with the handling pilot in the left seat and the aircraft owner, who was considerably more experienced on type, in the right seat. The pilot had been flying with his right hand and crossing over his left hand during the final approach in order to operate the spoilers. However, during the flight, the owner suggested that, when landing the aircraft from the left seat, it would be better to hold the control column with the left hand and keep the right hand on the centrally mounted spoiler lever. Considering the owner's greater experience, the pilot decided to ignore the slightly 'unnatural' feeling and to practice this technique for a few circuits and landings at Marchington.

Two landings were accomplished successfully but, 10 seconds before touchdown on the third, some turbulence was encountered which the pilot judged to require a reduction of the amount of spoiler deployed.

The pilot states that from this point the situation rapidly deteriorated as he instinctively reverted to his original (left hand on the spoiler lever) handling method. Instead of moving the spoiler lever forward, he moved the control column forward, lowering the aircraft nose, which he then attempted to correct by pulling back the spoiler lever, further increasing the rate of descent. The aircraft pitched down sharply towards the undershoot and struck the ground hard, in a steep nose-down attitude. It then bounced and slewed violently through 180°, still in a severe nose-down attitude, striking the ground again and falling back onto the tail.

The full safety harnesses of both occupants withstood the impact and there was no fire.

No: 12/90 **Ref: EW/G90/07/41** **Category: 1c**

Aircraft Type and Registration:	Slingsby T61A, G-AYYK
No & Type of Engines:	1 Stark-Stamo MS 1500/1 piston engine
Year of Manufacture:	1971
Date and Time (UTC):	31 July 1990 at 1430 hrs
Location:	Perranporth Airport, Cornwall
Type of Flight:	Private (training)
Persons on Board:	Crew - 2 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to the propeller, main landing gear and wheel housing
Commander's Licence:	Private Pilot's Licence with Gliding Instructor ratings
Commander's Age:	63 years
Commander's Total Flying Experience:	1,240 hours (of which 140 were on type)
Information Source:	Aircraft Accident Report Form submitted by the pilot and subsequent AAIB enquiries

As the aircraft back-tracked runway 23, after landing, a scraping noise was heard which appeared to come from the main landing gear. The pilot was about to bring the aircraft to a halt, when it stopped abruptly of its own accord and tipped forward onto the nose.

Post accident examination by the crew revealed that the two halves of the wheel hub had separated. The expansion of the hub and tyre had caused it to jam in the wheel housing. The hub separation was later found to have resulted from the failure or incorrect fitting of the retaining circlip.

Issue 5
October/November/December 1986

ICA BRASOV MOTOR GLIDERS

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
	PART 1 - ICA BRASOV SERVICE BULLETINS CLASSIFIED AS MANDATORY BY ROMANIAN DCA		
	IS-28M2/CO-2	Product improvement.	Applicable to all IS-28M2 motor gliders. Modifications 145, 147, 149, 153, 154, 155, 156, 165 and 167 should have been embodied prior to 1983.
	IS-28M2/EO-3	Placard - landing gear lock.	Applicable to all IS-28M2 motor gliders. Modification 198 should have been embodied by 15 March 1979.
	IS-28M2/CO-4	Landing gear - Down and locked indicator.	Applicable to all IS-28M2 motor gliders. Compliance with Service Bulletin by 30 August 1979.
	IS-28M2/EO-5	Maintenance practices and Flight and Maintenance Manual amendments.	Applicable to all IS-28M2 motor gliders up to Serial No 33 except Serial Nos 04, 07, 09 and 23. Should have been complied with prior to 1983.
	IS-28M2/EO-8	Overhaul life.	Applicable to all IS-28M2 motor gliders.
	IS-28M2/EO-10	Flight Controls.	Applicable to all IS-28M2 motor gliders. Compliance required by 1 March 1983.

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
	IS-28M2/EO-11	Replacement of speed limitation placard and amending of the Flight and Maintenance Manuals.	Applicable to all IS-28M2 motor gliders. Compliance required as detailed in Service Bulletin.
	IS-28M2/EO-12	Safe and service life increase.	Applicable to all IS-28M2 motor gliders. Compliance required as detailed in Service Bulletin.
	IS-28M2/EO-13	Replacement of rudder bar axle fixing rivet.	Applicable to IS-28M2 and IS-28M2A Serial Nos as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No.	Associated Material	Description	Applicability - Compliance - Requirement
PART 2 — ADDITIONAL ITEMS CLASSIFIED AS MANDATORY BY THE CAA			
014-11-82	-	Flight Controls - Inspection of aileron control rods and control cables turnbuckle locking wire.	Applicable to all IS 28M2 aircraft. Compliance required as detailed: (a) INSPECT the control rod in the wing connected to the aileron for bowing not later than 31 January 1983. Replace if found bowed. (b) INSPECT the control rod before flight if aileron has been forced through mis-handling during ground handling. Replace before flight if found bowed. (c) INSPECT the control rod before further flight if aircraft has been subjected to an uncontrolled tail slide during aerobatic manoeuvres. Replace before flight if found bowed. (d) INSPECT cable turnbuckles on control cables not later than 31 January 1983; if locking wire is made from brass replace with steel locking wire.

Issue 2
November 1990

PIK-20E MOTOR GLIDERS

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
		NATIONAL BOARD OF AVIATION FINLAND AIRWORTHINESS DIRECTIVES	
	M1200/83	Inspection of fuel hose clips.	Applicable to all PIK-20E sailplanes. Compliance required as detailed in AD.
	M1737/90 Revision 1	Inspection of propeller hub mounting.	Applicable to all PIK-20E sailplanes. Compliance required as detailed in AD.

HOFFMANN H36 DIMONA MOTOR GLIDER

CAA AD No.	Associated Material	Description	Applicability - Compliance - Requirement
		PART 1 - LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES	
	82-236	Aileron, elevator and wings - Possibility of water accumulating.	Applicable to aircraft serial numbers up to and including 3619. Compliance required as detailed in AD. Hoffmann Technical Notice 2 also refers.
	82-237/2	Inspection of composite skin on the wings.	Applicable to aircraft serial numbers as detailed in AD. Compliance required as detailed in AD. Hoffmann Technical Notice 3 issue 2 also refers.
	83-156	Fuel tank - Ascertain cubic capacity.	Applicable to aircraft serial numbers as detailed in AD. Compliance required as detailed in AD. Hoffmann Technical Notice 6 also refers.
	83-157/2	Inspection and modification of engine brackets.	Applicable to aircraft serial numbers as detailed in AD. Compliance required as detailed in AD. Hoffmann Technical Notice 7 issue 2 also refers.
	84-205	Fuel system - Engine failure due to formation of vapour bubbles in the fuel pump, filter and lines at an ambient temperature of 25°C.	Applicable to aircraft serial numbers up to and including 36143 and 3539. Compliance required as detailed in AD. Hoffmann Technical Notice 11 also refers.

CAA AD No.	Associated Material	Description	Applicability - Compliance - Requirement
	85-34	Prohibition of aerobatics including spins.	Applicable to all aircraft serial numbers. Compliance required as detailed in AD. Hoffmann Technical Notice 12 also refers.
	85-128/2	Fuel tank - Restriction of fuel feed to engine by deposits in the fuel tank.	Applicable to all aircraft serial numbers up to and including construction year 1984. Compliance required as detailed in AD. Hoffmann Technical Notice 13 also refers.
	86-177/3	Wings - Fuselage joint additional bracing.	Applicable to aircraft serial numbers as detailed in AD. Compliance required as detailed in AD. Hoffmann Technical Notice 19 also refers.
	87-93	Inspection of front fixing of the horizontal tail/elevator unit.	Applicable to all aircraft serial numbers. Compliance required as detailed in AD. Hoffmann Technical Notice 15 also refers.
	87-94	Inspection of shoulder harness fastenings.	Applicable to aircraft serial numbers 3501 to 3539 and 3601 to 36143. Compliance required as detailed in AD. Hoffmann Technical Notice 17 also refers.
	88-108	Wings - Measurement differences in the main bolt area.	Applicable to all aircraft serial numbers up to 36268. Compliance required as detailed in AD. Hoffmann Technical Notice 24 also refers.

CAA AD No.	Associated Material	Description	Applicability - Compliance - Requirement
		PART 2 - ADDITIONAL ITEMS CLASSIFIED AS MANDATORY BY THE CAA	
002-08-85	CAA Letter ref. 9/97/CtAw/119 dated 31 July 1985	Stabilisers - Inspection of the forward tailplane attachment rod end.	Applicable to all aircraft. Before further flight then at intervals not exceeding 50 flight hours. INSPECT in accordance with procedure detailed in AD.
010-08-85	CAA Letter ref. 9/97/CtAw/119 dated 23 August 1985	Flight controls - Check of the elevator control system for correct connection.	Applicable to all aircraft. Before further flight and at each rigging of the tailplane.
008-09-86	CAA Letter ref. 9/97/CtAw/119 dated 26 September 1986	Flight limitations - Variation of the requirements of LBA AD 86-177/2.	Cancelled and superseded by LBA AD 86-177/3.

Civil Aviation Authority
Safety Regulation Group
Aviation House
South Area
Gatwick Airport
Gatwick
West Sussex RH6 0YR
Tel: Switchboard 0293 567171
Direct Dial 0293 573149
Telex: 878753 Fax: 0293 573999

Aircraft Maintenance
Standards Department

Mr R B Stratton
British Gliding Association
Chief Technical Officer
Kimberley House
Vaughan Way
Leicester LE1 4SG

9/97/CtAw/119

23 November 1990

**AUSTRIAN FEDERAL OFFICE OF CIVIL AVIATION (BAZ) AIRWORTHINESS DIRECTIVE NO. 60
HOFFMANN H36 DIMONA MOTORGLIDERS
FUEL TANK-POSSIBILITY OF OBSTRUCTION OF FUEL SUPPLY DUE TO DEPOSITS
IN THE FUEL TANK**

This letter transmits a copy of BAZ Airworthiness Directive No. 60 in respect of Hoffmann H36 Dimona motorgliders.

In accordance with Airworthiness Notice No 36 this Airworthiness Directive is mandatory for applicable aircraft on the UK Register.

R J TEW
Aircraft Maintenance Approvals Section

Airworthiness Directive No. 60

Affected motorglider:

H 36 "Dimona"
All serial numbers built before 1985, supplied with fuel tank made of FRP.

Subject: Fuel tank

Reason: Possibility of obstruction to fuel supply due to deposits in the fuel tank.

Action: In accordance with Service Bulletin No. 13/1 from the manufacturer.

Compliance:

measure 1: Before the next flight
measure 2: At the next 50 hour inspection.
If no defects as described in measure 2 are found: upon every following 100 hour inspection, as least once per year.
measure 3: If faults described in measure 2 should be found: during the next 50 flight hours.

Technical publication of the manufacturer:

Hoffmann Aircraft Service Bulletin No. 13/1 which becomes herewith part of this AD and may be obtained from Hoffmann Aircraft, N.A. Otto-Straße 5, A-2700 Wr. Neustadt, Austria.

Accomplishment and log book entry:

The required action to be accomplished by a licensed person and to be entered in the motorglider's log.

Remark:

After execution of measure 3, the measures of service bulletin no. 6 will be canceled.

Issue 7
October 1990

HOFFMANN H36 DIMONA MOTOR GLIDER

CAA AD No.	Associated Material	Description	Applicability - Compliance - Requirement
		PART 1 - LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES	
	82-236	Aileron, elevator and wings - Possibility of water accumulating.	Applicable to aircraft serial numbers up to and including 3619. Compliance required as detailed in AD. Hoffmann Technical Notice 2 also refers.
	82-237/2	Inspection of composite skin on the wings.	Applicable to aircraft serial numbers as detailed in AD. Compliance required as detailed in AD. Hoffmann Technical Notice 3 issue 2 also refers.
	83-156	Fuel tank - Ascertain cubic capacity.	Applicable to aircraft serial numbers as detailed in AD. Compliance required as detailed in AD. Hoffmann Technical Notice 6 also refers.
	83-157/2	Inspection and modification of engine brackets.	Applicable to aircraft serial numbers as detailed in AD. Compliance required as detailed in AD. Hoffmann Technical Notice 7 issue 2 also refers.
	84-205	Fuel system - Engine failure due to formation of vapour bubbles in the fuel pump, filter and lines at an ambient temperature of 25°C.	Applicable to aircraft serial numbers up to and including 36143 and 3539. Compliance required as detailed in AD. Hoffmann Technical Notice 11 also refers.

CAA AD No.	Associated Material	Description	Applicability - Compliance - Requirement
	85-34	Prohibition of aerobatics including spins.	Applicable to all aircraft serial numbers. Compliance required as detailed in AD. Hoffmann Technical Notice 12 also refers.
	85-128/2	Fuel tank -- Restriction of fuel feed to engine by deposits in the fuel tank.	Applicable to all aircraft serial numbers up to and including construction year 1984. Compliance required as detailed in AD. Hoffmann Technical Notice 13 also refers.
	86-177/3	Wings - Fuselage joint additional bracing.	Applicable to aircraft serial numbers as detailed in AD. Compliance required as detailed in AD. Hoffmann Technical Notice 19 also refers.
	87-93	Inspection of front fixing of the horizontal tail/elevator unit.	Applicable to all aircraft serial numbers. Compliance required as detailed in AD. Hoffmann Technical Notice 15 also refers.
	87-94	Inspection of shoulder harness fastenings.	Applicable to aircraft serial numbers 3501 to 3539 and 3601 to 36143. Compliance required as detailed in AD. Hoffmann Technical Notice 17 also refers.
	88-108	Wings - Measurement differences in the main bolt area.	Applicable to all aircraft serial numbers up to 36268. Compliance required as detailed in AD. Hoffmann Technical Notice 24 also refers.

CAA AD No.	Associated Material	Description	Applicability - Compliance - Requirement
		PART 2 - ADDITIONAL ITEMS CLASSIFIED AS MANDATORY BY THE CAA	
002-08-85	CAA Letter ref. 9/97/CtAw/119 dated 31 July 1985	Stabilisers - Inspection of the forward tailplane attachment rod end.	Applicable to all aircraft. Before further flight then at intervals not exceeding 50 flight hours. INSPECT in accordance with procedure detailed in AD.
010-08-85	CAA Letter ref. 9/97/CtAw/119 dated 23 August 1985	Flight controls - Check of the elevator control system for correct connection.	Applicable to all aircraft. Before further flight and at each rigging of the tailplane.
008-09-86	CAA Letter ref. 9/97/CtAw/119 dated 26 September 1986	Flight limitations - Variation of the requirements of LBA AD 86-177/2.	Cancelled and superseded by LBA AD 86-177/3.

Civil Aviation Authority
Safety Regulation Group
Aviation House
South Area
Gatwick Airport
Gatwick
West Sussex RH6 0YR
Tel: Switchboard 0293 567171
Direct Dial 0293 573149
Telex: 878753 Fax: 0293 573999

Aircraft Maintenance
Standards Department

Mr R B Stratton
British Gliding Association
Chief Technical Officer
Kimberley House
Vaughan Way
Leicester LE1 4SG

9/97/CtAw/119

23 November 1990

AUSTRIAN FEDERAL OFFICE OF CIVIL AVIATION (BAZ) AIRWORTHINESS DIRECTIVE NO. 60
HOFFMANN H36 DIMONA MOTORGLIDERS
FUEL TANK-POSSIBILITY OF OBSTRUCTION OF FUEL SUPPLY DUE TO DEPOSITS IN THE FUEL TANK

This letter transmits a copy of BAZ Airworthiness Directive No. 60 in respect of Hoffmann H36 Dimona motorgliders.

In accordance with Airworthiness Notice No 36 this Airworthiness Directive is mandatory for applicable aircraft on the UK Register.

R J TEW
Aircraft Maintenance Approvals Section

Airworthiness Directive No. 60

Affected motorglider:

H 36 "Dimona"
All serial numbers built before 1985, supplied with fuel tank made of FRP.

Subject: Fuel tank

Reason: Possibility of obstruction to fuel supply due to deposits in the fuel tank.

Action: In accordance with Service Bulletin No. 13/1 from the manufacturer.

Compliance:

measure 1: Before the next flight
measure 2: At the next 50 hour inspection.
If no defects as described in measure 2 are found: upon every following 100 hour inspection, as least once per year.
measure 3: If faults described in measure 2 should be found: during the next 50 flight hours.

Technical publication of the manufacturer:

Hoffmann Aircraft Service Bulletin No. 13/1 which becomes herewith part of this AD and may be obtained from Hoffmann Aircraft, N.A. Otto-Straße 5, A-2700 Wr. Neustadt, Austria.

Accomplishment and log book entry:

The required action to be accomplished by a licensed person and to be entered in the motorglider's log.

Remark:

After execution of measure 3, the measures of service bulletin no. 6 will be canceled.

Issue 6
April 1990

GLASER-DIRKS DG-400 SERIES MOTOR GLIDER

CAA AD No.	Associated Material	Description	Applicability - Compliance - Requirement
		PART 1 - LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES	
	83-171	Flexible wing fuel tanks.	Applicable to DG-400 Serial Nos as detailed in Airworthiness Directive. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/3 also refers.
	84-155	Rotax 505 engine, canopy jettison device, DEI, towing cable release mechanism.	Applicable to DG-400 Serial Nos 4-1 to 4-87. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/6 also refers.
	84-157	Power plant, vibration cracks.	Applicable to DG-400 all Serial Nos. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/11 also refers.
	85-219	Replacement of fuel shut off valve gaskets.	Applicable to DG-400 Serial Nos 4-1 to 4-140. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/14 also refers.
	85-223	Powerplant - cable guides - inspection to prevent possible fouling of engine extension.	Applicable to DG-400 Serial Nos 4-1 to 4-140. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/15 also refers.

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
	86-138	Improved marking of canopy emergency release and re-location of ventilation placard.	Applicable to DG-400 Serial Nos 4-1 to 4-176. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/16 also refers.
	87-108	Inspection/Modification of engine extension/retraction drive.	Applicable to DG-400 Serial Nos 4-1 to 4-188. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/18 also refers.
	87-109	Inspection/Modification of engine wiring.	Applicable to DG-400 Serial Nos 4-1 to 4-178. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/19 also refers.
	88-99	Empty weight CG range, plugged piece of hose at the pneumatic fuel pump, manual revisions and locking pins on wing tips.	Applicable to DG-400 Serial Nos 4-1 to 4-228. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/20 also refers.
	90-43	Modification of powerplant.	Applicable to DG-400 all Serial Nos through 4-249. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/22 also refers.

Issue 7
December 1990

GROB G109 SERIES MOTOR GLIDERS

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
		PART 1 - LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES	
	83-6	Flight Manual - Correction of pages.	Applicable to all Serial Nos. Exchange pages 4, 11, 31, 37, 41 and 43 of the Flight Manual dated 14-12-1982 on or before 31 March 1983 for new ones. Grob Technical Note No. 817-8 refers.
	83-104	Gravity Range - Correction of Flight Manual and procedure for spin recovery.	Applicable to all Serial Nos. Action to be accomplished in accordance with Grob Technical Note No. 817-10 not later than 15 July 1983.
	85-132	Main Landing Gear - Fractures of the undercarriage legs.	Applicable to G109 and G109B Serial Nos. as detailed in AD. Compliance required as detailed in AD. Grob Technical Information TM 817-19 also refers.
	85-218/2	Flight Controls - Aileron flutter at speeds above 190 km/h.	Applicable to G109B Serial Nos as detailed in AD. Compliance required as detailed in AD. Grob Technical Note No 817-20 also refers.

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
	86-219	Flight and Maintenance Manuals - Replacement of pages.	Applicable to all G109 motor gliders. Compliance required as detailed in AD. Grob Technical Information TM 817-22 also refers.
	87-142	Fuel - Inspection and replacement of the lower sealing ring in the fuel shut-off valve.	Applicable to G109 and G109B Serial Nos as detailed in AD. Compliance required as detailed in AD. Grob Technical Note No 817-23 also refers.
	88-50	Inspection and replacement of the two inner elevator hinges.	Applicable to Grob G109B Serial Nos 6200 to 6445 inclusive. Compliance required as detailed in AD. Grob Technical Note TM817-25 also refers.
	90-315	Fuselage - Inspection of studs in the root rib stud plate.	Applicable to G109B Serial Nos 6200 through 6362. Compliance required as detailed in AD. Grob Service Bulletin G109B, TM 817-29 also refers.

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
		PART 2 - ADDITIONAL ITEMS CLASSIFIED AS MANDATORY BY THE CAA	
012-11-86	TM 817-20	Flight Controls - Improvement of flutter behaviour - Variation of the requirements of LBA AD 85-218/2.	Applicable to G109B motor glider Serial Nos 6200 to 6434 inclusive except as indicated in Grob Technical Information TM 817-20. Notwithstanding the compliance requirements contained in Technical Information TM 817-20 MODIFY the aircraft in accordance with the TI not later than 31 December 1987. Until the modification is embodied the permitted Never Exceed Speed (Vne) is reduced to 100 kts/190 km/h. A placard to this effect must be displayed adjacent to the air speed indicator.
006-10-88		Spar stub end fittings - Cracks at or near the toe of the weld on the top and bottom surface of the spigot.	Applicable to all G109 and G109B Series motor gliders. Compliance is required not later than 50 flying hours from the receipt of this Directive. (i) Remove the wings in accordance with the Flight Manual instructions. (ii) Remove the glass reinforced plastic (grp) or the protective lacquer covering the spar stub extremity, avoiding any damage to the metal parts, sufficient to expose the top and bottom weld ends and the weld transition into the spigot body - see figure A.

(AD continued overleaf)

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
006-10-88 (continued)			(iii) Inspect the end of the weld and the spigot itself at the toe of the weld for cracks, using a x10 magnifying glass (four places) - see Figure A. There are two spigots per aircraft and cracks can occur on the top and on the bottom of the spigot. (iv) If a crack is suspected, and appears to be confined to the weld itself, ie does not extend circumferentially into the spigot, or where there is a lack of weld penetration, the wings may be replaced. The aircraft may be flown to a place where the existence of cracks can be confirmed or otherwise by NDT means, by an Organisation approved for that purpose by the CAA. The flight must be conducted with the pilot only on board. Abrupt manoeuvres and/or high speeds are prohibited. If a crack is confirmed either in the weld only or in the spigot itself, rectification must be carried out to the manufacturer's approved repair scheme before further flight. Report the results of the inspections to the manufacturer and to the SDAU of the CAA.

CAA AD No	Associated Material	Description	Applicability - Compliance - Requirement
006-10-88 (continued)			(v) Where the spitots are found to be not cracked either after the actions of (iii) or (iv) above, reprotect the area where the grp has been removed, either with a lacquer or a brushed coat of epoxy resin. Replace the wings to the instructions in the Flight Manual. Repeat the instructions commencing at (i) above except that only the reprotection has now to be removed, at intervals not exceeding 300 hours.

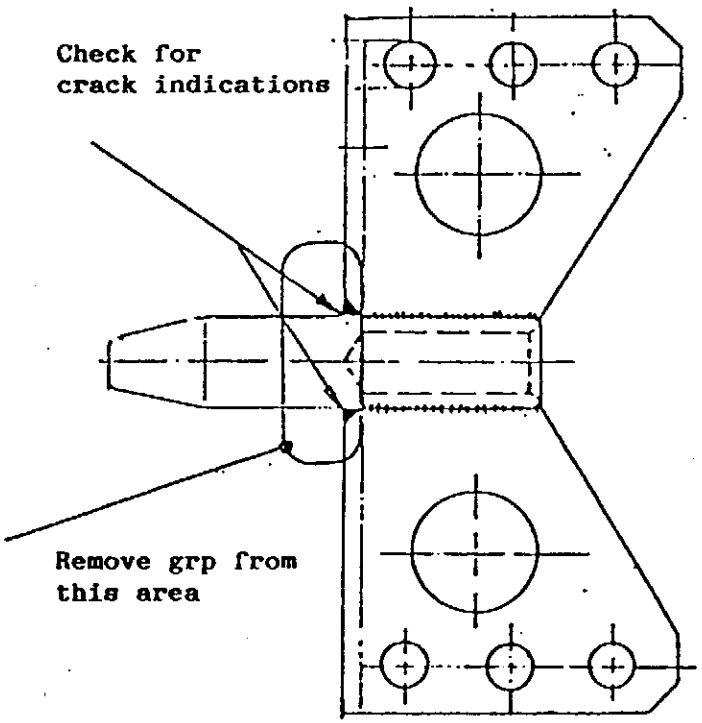
(AD continued overleaf)

CAA AD No

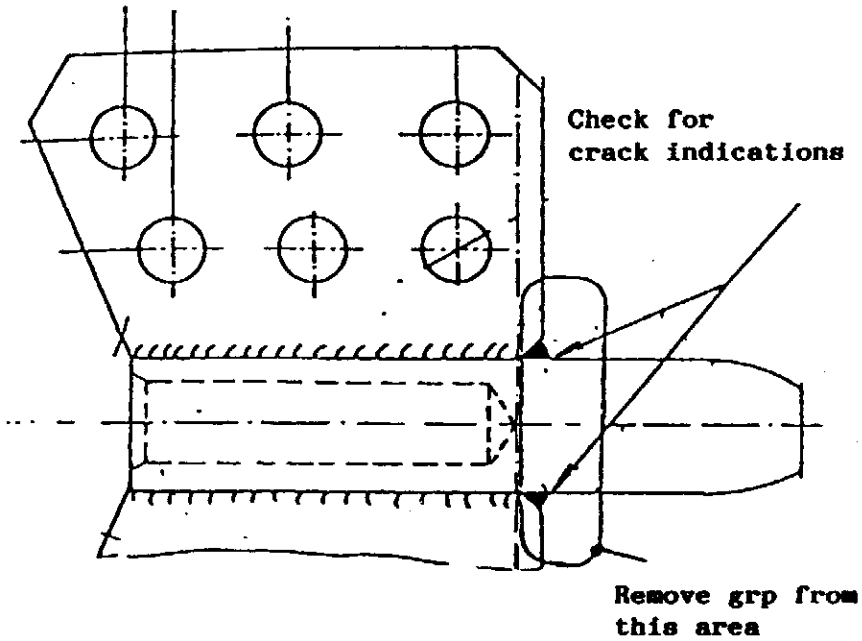
006-10-88 (continued)

FIGURE A

(Not to Scale)



G109 SPIGOT FITTING



G109B SPIGOT FITTING