BRITISH GLIDING ASSOCIATION

BGA TECHNICAL COMMITTEE

TECHNICAL NEWSHEET TNS 9/10/92

PART 1 Airworthiness "AGGRO" Please add to the BGA 1992 Red Pages.

1.1. Grob G.109B, as of Serial No. 6200, S.B. TM817-35 requires Inspection for effective Drain Holes in the Elevator and the Elevator Trim Tab. (Copy herewith)

1.2. Skylark 3F. Incorrect Rigging of Aileron Controls - Advice given in TNS/6/67 is repeated herewith, following an incident at Perranporth.

1.3. DG 500 - Failure of Airbrake and Wheel brake combined control system. An operating lever welded to a thin/wall tube failed. Minor damage to the glider when it exceeded runway length available at Marchington G.C. T/Note 348/2 herewith refers.

1.4. Centrair Type 101 all Variants. S.B. 101-16-Checking of the Airbrake Control System. (herewith).

1.5. DG 200-17 - Possible Elevator Jam By Microphone causes serious accident at Cotswold G.C. Sketch herewith explains the possibility.

1.6. Blanik L.23 (Super Blanik). Mandatory Bulletin L23/010a from UK Agent - Tailwheel landing gear is modified.

1.7. Blanik (L23) Mandatory S.B. L23/009a re-enforces tailwheel attachment assembly. (Details from Agents).

1.8. Cleveland (USA) Type BRAKE DISCS. Failure at flange due to corrosion. Extract from G.A.S.I.L. This failure has been seen on several glider tugs in the UK.

1.9. CAA Airworthiness Notice No. 88 - BUS-BAR LOW VOLTAGE WARNING SYSTEMS.

The attached letter to the BGA from CAA exempts aircraft "equipped to operate under VMC conditions only". The letter gives Exemption from AN 88.

1.10. Motor Gliders With Retracting Engines - Safety Training The letter from the Chairman of the BGA Instructors Committee (herewith) draws attention to the consequences that might arise from the MALFUNCTION of these devices. In other words, they do have significant airworthiness implications.

1.11. Slingsby Type 51 Dart (all Variants). The Gliding Federation of Australia report a case of "relative motion between the front fibreglass nose and the rest of the fuselage" - so take a good look.

1.12. Club Fleet Glider Maintenance. Because of the more demanding duty cycle imposed upon such gliders, more rigorous inspection and maintenance may be necessary. The attached Accident Statistic Analysis highlights a number of defects which could be identified with Club gliders. How Rigorous are your D.I.'s

1.13. ASW 15. Aero Tow Release "hang-up". Possibly caused by incompatibility between OTFUR type tow rings, and TOST type hook. (BGA have no evidence of specific problems of this kind, nor have any such malfunction been identified in recent BGA Accident/Incident analysis. (Reported by Mike Cuming - Gliding Center, Hinton-in-the-Hedges).

1.14. Grob G.109 Series. The latest list of FOREIGN AIRWORTHINESS DIRECTIVES (Vol III) are attached herewith. In addition :
UK CAA require NDT inspection of Root End Spigots at 300 HR intervals.

1.15. ASW 20FL - Centrair SBV-20/16 (herewith) forbids the use of WING TIP Extensions, pending investigation of strength.

1.16. JAMMED (Extended) Speed Brakes - Where Speed-Brake effectiveness has been improved by the increase in area of the "paddles", progressive tests must be made to the placarded limiting speeds, to ensure safe operation. (Nimbus 2 extended brakes jammed at Vne).

1.17. STANDARD CIRRUS - T/Note 278-26 (herewith), CRACKS in the Elevator attachment. Inspect & Modify.

1.18. Centrair 101 all Variants.

a) Undercarriage/Brake System Foul. Refer to SB 101-15 (herewith).

b) Airbrake Control System. Inspect as per SB101-16 (herewith).

1.19. SF27 Speed-Brake / Wheel Brake Maladjustment causes Locked out Speed Brake - Text and Sketch from Newark & Notts G.C.

1.20. PIK 20 - Control Systems. The threaded portion of a uniball joint in the Elevator system failed during re-assembly after repair. Probably cracked in manufacture. (Reported by Southern Sailplanes).

1.21. PZL Service Bulletins - as listed herein apply to SZD-55, Junior, Bocian, Puchacz, Pirat, Jantar Std-3.

Copies from UK Agents Anglo-Polish Sailplanes 0628 39690 or 0582 816 096.

1.22. Poor Cockpit ERGONOMICS, and the misuse of Soft Cushions.

Some gliders have been designed to less than satisfactory standards of cockpit layout, seat adjustability, and access to controls. It is the personal responsibility of pilot(s) to set themselves up in the cockpit in such a way that they achieve total controllability at all times.

1) Back Cushions - should not be used unless they achieve the same support criteria as the parachute itself.

2) Energy Absorbing Seat Cushions - should be secured against displacement in any direction.

3) Cable Release Controls - should if necessary be safely and reliably extended to achieve immediate access, without risk of fouling other controls.

4) Harnesses Should be so adjusted that the pilot cannot move under normal launching, or other, accelerations.

PART 2 General Information

2.1. The following Tech Notes have been issued by Schempp-Hirth (and from UK Agents).

a) TN. 825 - 12 Optional Nose Tow Hook "E85", and c.g tow release "Europa G.88" - applicable Ventus bT and cT. Serial No's 1 through 147.

b) TN. 825 - 14 - all Serial No's - optional lower fixed fuel tank - applicable Ventus bT (solo engine) and Ventus Ct all serial No's.

c) TN. 349-10 Ventus - optional Wing Tips.

2.2. Slingsby T61(F) Ventures (with R.S2 engines). Engine driven fuel pumps is a GUOIT type Y2, as used by Peugeot. Pt. No. GP 521A, with top cover rotated to suit the pipework. (Reported by Ian Hammond - Portsmouth Naval G.C.).

2.3. Radio Interference in Light Aircraft - The PFA's "Popular Flying" published the attached advice, for which we are grateful.

2.4. AAIB Bulletin 8/92. Tow Rope incident at the Midland G.C. - copy attached.

2.5. DE-REGISTRATION of Gliders (new or used) imported into the UK, with effect 1/1/93, BGA will want to see proof of Non-Registration / De-Registration.

2.6. "TOP" (SLMG) Powerplant Installation on ASW 20 - An installation has now been approved by CAA in the UK by Bill Andrews.

2.7. Aircraft Plywood - to specifications BS3V3 and 2V35, CAA Released is available from British Plywood Manufacturers. 081 204 2424

2.8. Tugs with No Fuel are INEXCUSABLE - (Extract from GASIL 9/92)

2.9. "Lost" CAA Registered Owners. GASIL 9/92 requests the owners of SF28A G-BARZ, SF25B G-BMXY and Grob G.109B G-ROBI, to contact the Aircraft Registration Section, CAA, at the address shown on the Certificates of Registration.

2.10. REGISTER OF SPARE PARTS - Please respond to Ken Ballingtons scheme, details herewith.

PLEASE RENEW YOUR BGA INSPECTORS PRIVILEGES AS SOON AS POSSIBLE (£17.50 INCLUDES INDEMNITY INSURANCE).

R.B. Stratton
Chief Technical Officer

TMS 19/10/92

Subject: **Inspection of drain holes in the elevator (including trim tab)**

Concerning: G 109B, as of S/N 6200

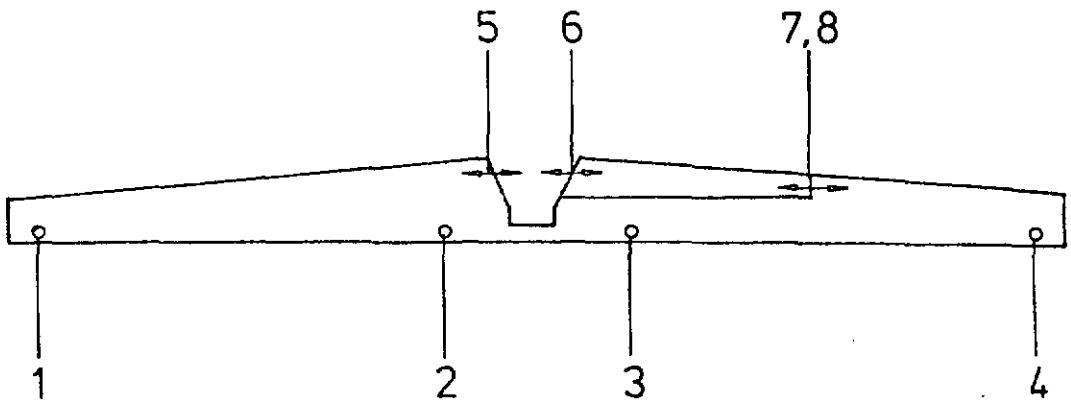
Urgency: next 100 hours inspection at the latest

Procedure: A sufficient number of drain holes must be provided in the elevator including trim tab. Otherwise the laminate can be damaged by the water penetration, or weight and C.G. problems of the elevator may occur, and cause at the worst flutter tendency.

Actions: The following inspections must be performed:

1. Check for provided and open drain holes at the following positions (quantity: 8):

Elevator bottom side



If drain holes are provided at these positions, check whether they are open.
If so, no further action is required.

2. If drain holes are not provided at these positions, drill drain holes of ϕ 6 mm or ϕ 4 mm according to the figures shown on pages 3 and 4.

Caution: Before drilling it is helpful to remove the horizontal tail according to the Flight Manual.
While drilling take care not to damage the upper elevator shell!

Material: no material required

Weight and Balance: Should a significant quantity of water be found (> 0.5 liter), after removal of the water check the elevator weight, the residual momentum and the airplane C.G. according to the Flight Manual.

Remarks:

1. The actions must be carried out by a competent person or at an authorized aviation workshop and have to be certified in the logbook by an authorized inspector.

2. If you have sold your aircraft in the meantime, we kindly ask you, to pass this information immediately to the new owner and forward his address and aircraft s/n to us.

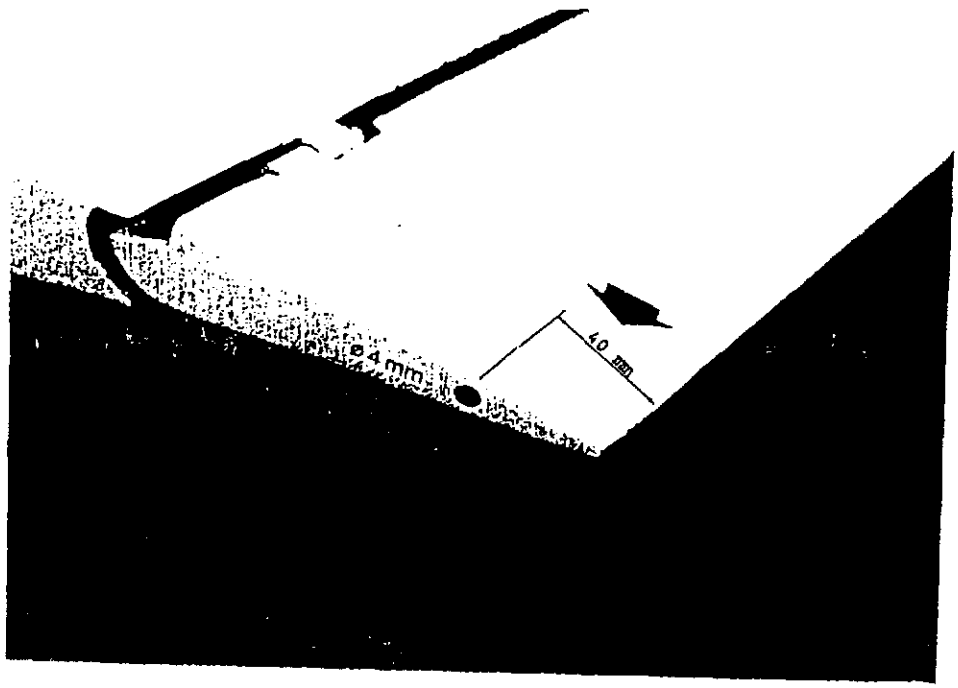
Mattsies, 20 July 1992

LBA approved

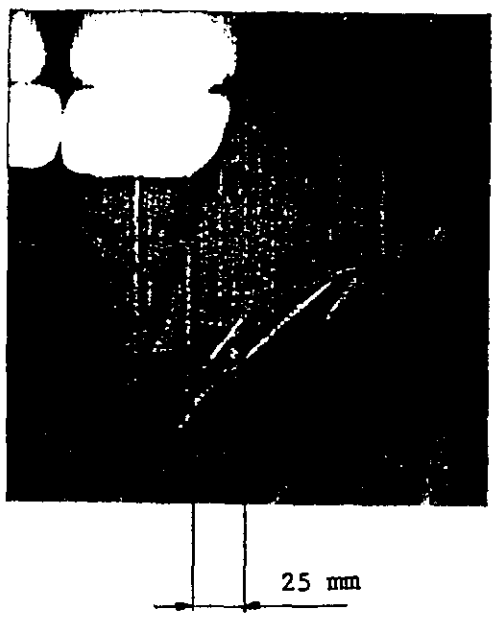
The German original of this Service Bulletin has been approved by the LBA on the ... August 1992 and is signed by Mr. ..... .
The translation has been accomplished to our best knowledge and judgement. In case of doubt, the German original is authoritative.

Dipl.Ing. J. Altmann
(Airworthiness engineer
Certification staff)

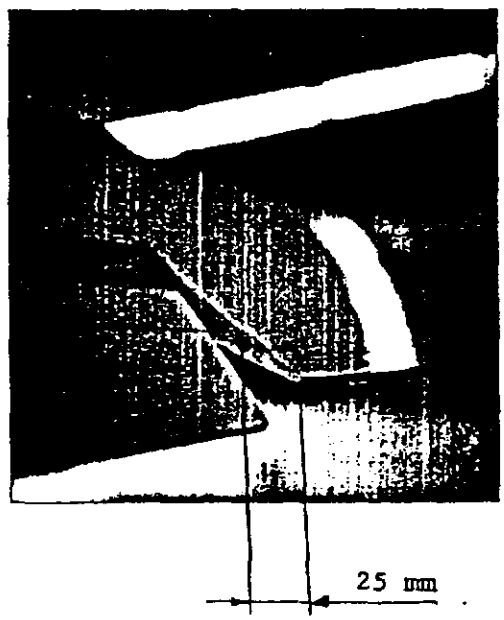
6 ϕ 4 mm



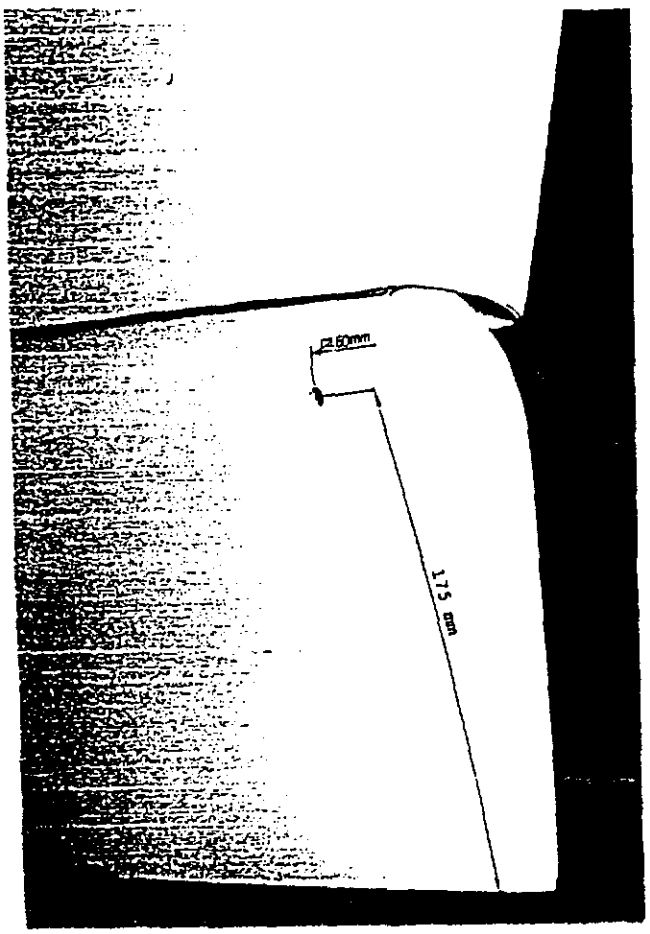
7 ϕ 4 mm



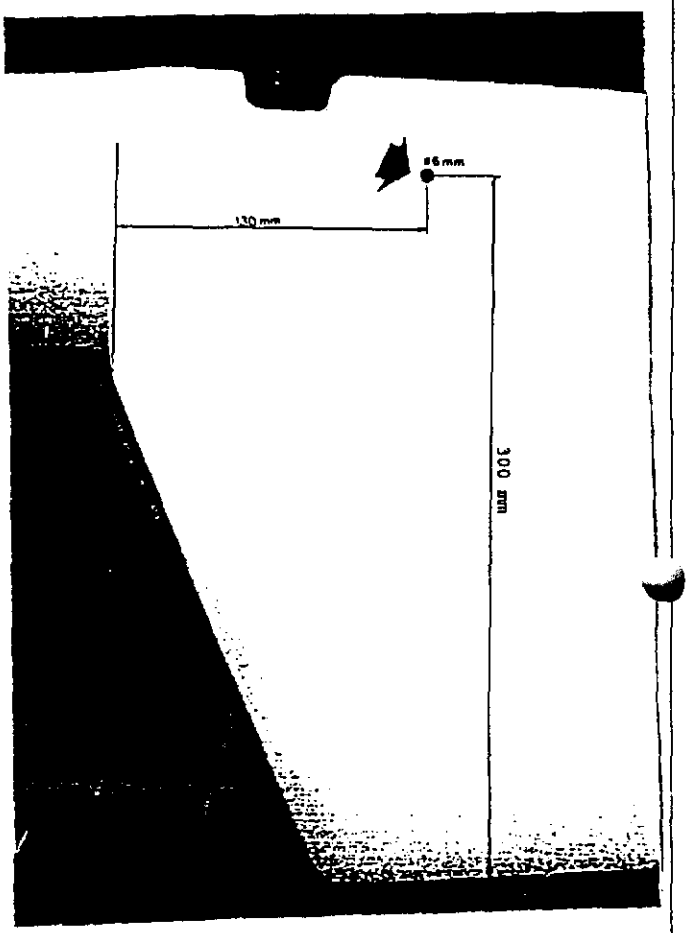
8 ϕ 4 mm



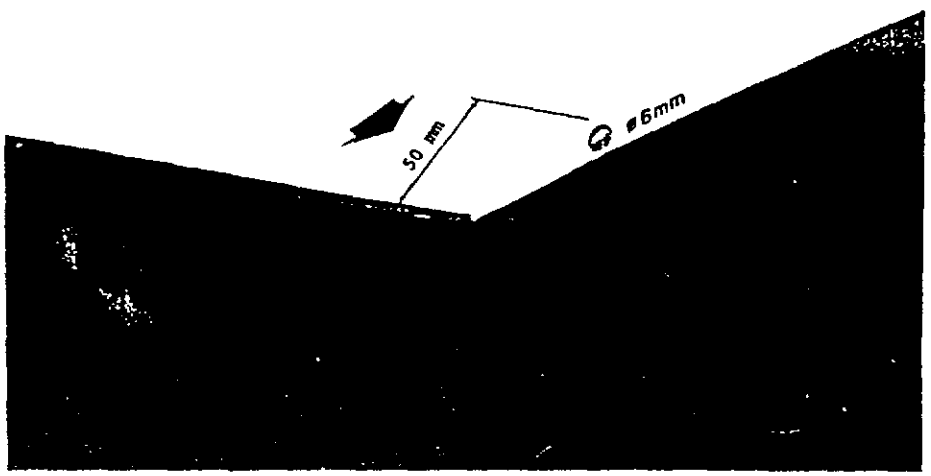
1,4 ϕ 6 mm



2,3 ϕ 6 mm



5 ϕ 6 mm



Issue 9
August 1992

GROB G109 SERIES MOTOR GLIDERS

PART 1 – LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
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.
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 TM 817–25 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.

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
92–189	Ignition – Inspection of the Bendix magnetos at the Grob 2500 engine.	Applicable to G109B Serial Nos. 6200 and subsequent. Compliance required as detailed in AD. Grob Service Bulletin TM 817–34/2 also refers.
92–198	Extension of service life.	Applicable to G109 and G109B all Serial Nos. Compliance required as detailed in AD. Grob Service Bulletin TM 817–28/1 also refers.

+

NDT & Root End Skylights at 300 hr Intervals (UK CAA)

Skylark Rigging TNS 6/67 / 9/10/92 !

Skylark 3 and 4

Some folk may not be aware that it is possible to rig a Skylark 3 or 4 with the ailerons incorrectly connected. What happens is this:

One tip is fitted and the aileron is deflected fully downwards.

Now if the other tip is offered up with the aileron fully deflected downwards also, the rockers of the aileron control, instead of mating together, can form an "X" with the pads back to back. The main pin can be inserted without difficulty.

To prevent possibilty of this mis-rigging carry out the following checks:-

1. Assemble both tips with the ailerons neutral.
2. When assembled check that the droop is normal.
3. Check by operating the control column that both ailerons are working normally.

It is worth noting that a cockpit check does not reveal this mis-rigging immediately. It is possible to move the control column with the ailerons incorrectly rigged and the only indication that the pilot gets is that the movement in one direction is limited.

Inspectors are asked to make sure that owners of these types in their charge do know about this possibility, and are aware of the checks to ensure correct rigging.

7. BRAKE DISCS (Seen also on PA28s - Pawnee's) P/E

Aircraft type : Cessna 172
Date : June 1992

Whilst taxying up to the holding point marker board and braking from about 10 mph, the pilot noticed a clonk from the right-hand side followed by a surprisingly sharp turn to the right. At the same time, the right-hand brake pedal collapsed to the floor with hydraulic failure. The propeller very nearly hit the marker board and the pilot's wife who was in the right-hand seat remarked that part of the right-hand brake had separated from the aircraft and was lying nearby on the ground. After recovery, an inspection of the right-hand wheel assembly showed that the brake disc had separated completely from its hub. A close inspection of the brake disc on the left-hand side showed that the metal had corroded to such an extent that, at the junction of the hub with the disc, a sharp object, a car key, could be pushed through to make a series of holes. The failed brake disc is shown in the attached photograph.

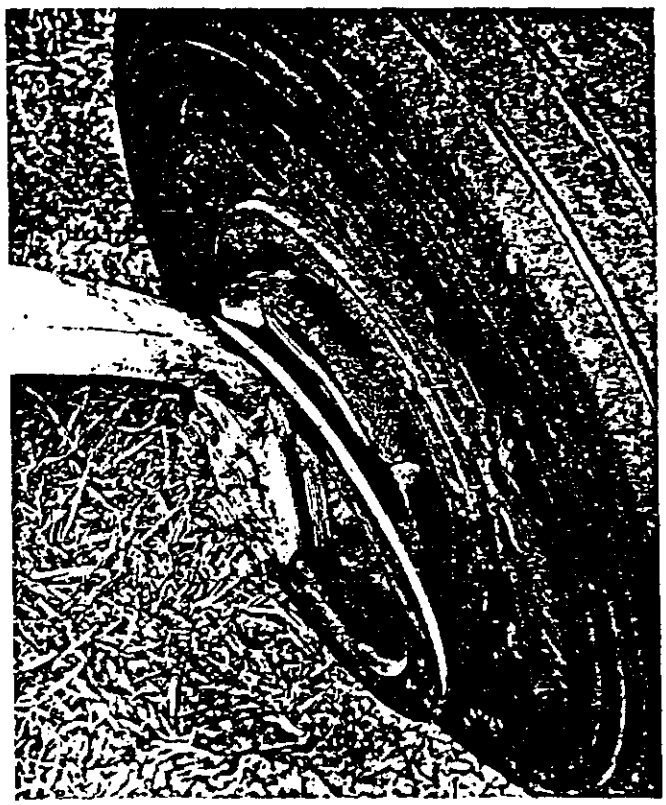
Aircraft type : Piper PA-28R Arrow
Date : June 1992

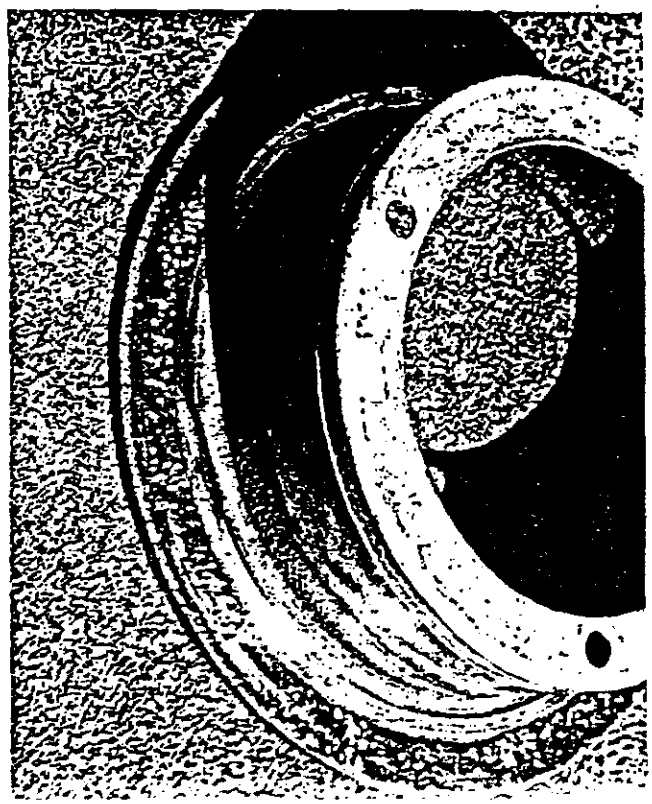
The aircraft had been taken to a maintenance organisation in the Northwest of England for its C of A inspection. The brake discs were removed and found to be extremely badly rusted and heavily pitted. In addition, the brake pads had worn through the lining material and the rivets were contacting the disc surface.

(Further inspection of this particular aircraft showed it to be in a poor state of repair, with numerous defects, including cracked wing panels under the wing walkway section, oil residue and sludge obstructing some of the oil-ways, to name but a few. Astonishingly, when the owner was advised of these items and the cost to rectify them, he instructed the engineers to put all the defective items back on to the aircraft so he could fly it somewhere else where they wouldn't insist on replacing them! Not surprisingly, the engineer refused.)

CAA COMMENT:

Corroded brake discs are clearly a continuing problem and requires vigilance by pilots on pre-flight inspections and engineers on scheduled maintenance checks.





Glaser-Dirks Flugzeugbau GmbH
Im Schollengarten 19-20, 7520 Bruchsal 4
Telefon 07257/89-0, Telex 7822410 GLDG
LBA anerkannter Herstellungsbetrieb 18 25
LBA anerkannter Luftfahrttechnischer Betrieb JA 975

DG500

SUBJECT : Airbrake control / control - hook up shaft 5 St 57

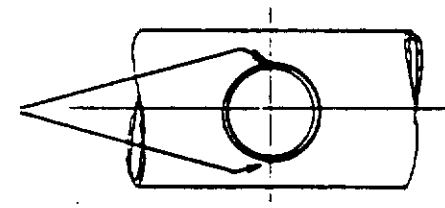
EFFECTIVITY : DG-500/22 ELAN and DG-500 ELAN Trainer ser.no. 5E34 up to 5E58 and 5E63 + DG-500M

ACCOMPLISHMENT : Instruction 1: At the beginning of each flying day
Instruction 2: Latest Dec. 31., 1992

REASON : During service cracks have been detected in the welding of the lever to the torsion tube, which may cause complete desintegration of the lever.

INSTRUCTIONS : 1. At the beginning of each flying day, check the shaft for cracks, see sketch, as long as instruction 2 has not been executed.

critical sections



2. Remove part 5 St 57 and ship it to: Firma Wolf Hirth GmbH, Flugplatz Nabern D-7312 Kirchheim-Teck 6 for modification according to drawing 5 St 57 change b issued 25.08.92.
When reinstalling secure the two bolts which secure the shaft against axial movement with Loctite 72b. Use a new selflocking nut M6 DIN 985-8 zn.

MATERIAL : /

WEIGHT AND BALANCE : negligible

REMARKS : The instructions may be executed by the owner and are to be entered in the aircraft logs.

Bruchsal 4, date 26.08.92

Author: Wilhelm Dirks

Axel Lange
Type certification inspector:

LBA - approved:
The German original of this TN has been approved by the LBA under the date of 31. Aug. 1992 and is signed by Mr. Fendt. The translation into English has been done by best knowledge and judgement. In any case of doubt the German original is authoritative

S.N.CentrAir

AERODROME 36300 LE BLANC

SERVICE BULLETIN

N° : 20-16

CENTRAIR SAILPLANES
ASW20FL

Translation of ' BULLETIN de SERVICE '.
In case of any difficulty, reference should be made to the French original issue.

SAILPLANES AFFECTED : ASW20FL GLIDERS ALL SERIAL NUMBERS

SUBJECT : FLIGHT WITH WING EXTENSIONS

TIME OF COMPLIANCE : BEFORE FLYING

A recent analysis has been carried out on the gliders ASW20FL with wing extensions. The result is that the safety range on the strength at the spar root is lower than required by the airworthiness rules.

It is therefore forbidden to fly with the wing extensions.

S.N. CENTRAIR is working on a modification to recover the possibility of using the wing extensions. We remain at your disposal for any further information.

STE NOUVELLE CENTRAIR

Tel : 54.37.07.96
Telefax : 54.37.48.64

Approbation of the French original issue :

Date : 08/03/92

recommended ☐
for information ☐

S.N.CentrAir

AERODROME 36300 LE BLANC

SERVICE BULLETIN

Nº : 101-16

CENTRAIR SAILPLANES
101 all types

Translation of ' BULLETIN de SERVICE '.
In case of any difficulty, reference should be made to the French original issue.

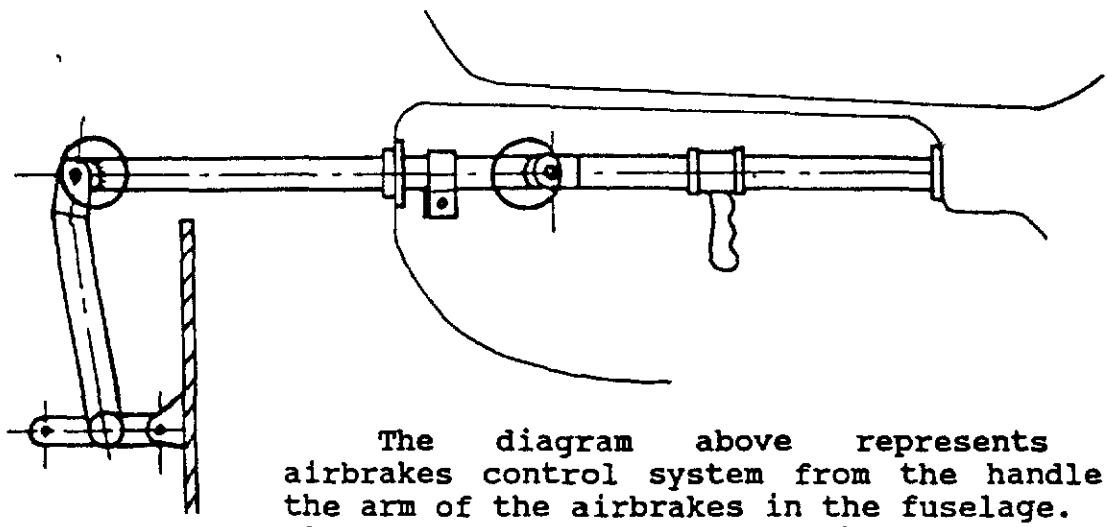
SAILPLANES AFFECTED : PEGASE ALL SERIAL NUMBERS

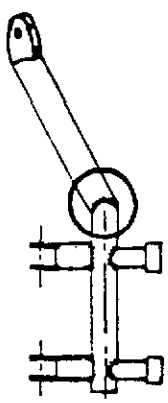
SUBJECT : AIRBRAKES CONTROL CHECKING IN THE FUSELAGE

TIME OF COMPLIANCE : AT NEXT SMALL MAINTENANCE INSPECTION

Inspection's procedures for flying controls steering are described paragraph II section 5 in the maintenance manual. Among other things, it is specified that during every annual maintenance inspection, all the controls should be checked.

The pilots attention is drawn to the importance of these inspections, especially to the airbrakes control sequence in the fuselage which is particularly sollicitated.





The diagram above represents the airbrakes control system from the handle to the arm of the airbrakes in the fuselage.
All weld parts and especially all above encercled parts should be very carefully eye-checked. If necessary and after cleaning, use a mirror or a lamp to check if there is any crack starts.

It appears that this kind of inspection hasn't been effected during each scheduled maintenance check, so we enjoin you :

- To inspect each glider as it is described above during the next small maintenance inspection.

- To contact SN CENTRAIR in case of cracks.

STE NOUVELLE CENTRAIR

Tel : 54.37.07.96
Telefax : 54.37.48.64
Telex : 750.272

Approbation of the French original issue :

Date : 06/19/92

recommended ☒
for information ☐
imperative ☐

S.N.CentrAir

AERODROME 36300 LE BLANC

SERVICE BULLETIN

N° : 101-15

CENTRAIR SAILPLANES
101 all types

Translation of ' BULLETIN de SERVICE '. In case of any difficulty, reference should be made to the French original issue.

SAILPLANES AFFECTED :
PEGASE GLIDERS WITH THE FOLLOWING SERIAL NUMBERS :
101A0263, 101A0343, 10100344, 101A0349, 101A0350, 101A0353 to 101A0367, 101A0369, 101A0370, 101A0372 to 101A0402, 101A0406 to 101A0419, 101A0421 to 101A0423.
(PEGASE with retractable wheel and brake control system for airbrake end running)

SUBJECT BRAKES : LENGTH MODIFICATION AND BRAKE SHEATH PASSAGE

In order to avoid a possible interference betwen the brake control sheath and the undercarriage mechanism, that could block the undercarriage exit, it is required to :

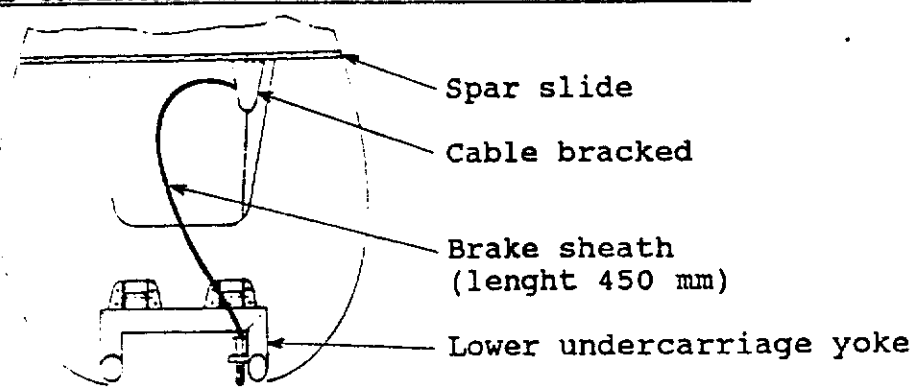
- Dismantle the brake sheath (after unscrewing the cable tip and removing the cable).

- Shorten the sheath to 450 mm length.

- Refit the brake sheath, taking it off the cable bracket (fixed under the spar slide), toward the inside of the glider.

- Refit the cable and the cable tip, adapt the cable length and make the necessary ajustments in order to obtain an efficient braking. Still, watch not to tight the cable too much. The airbrakes control rod thurst in the cockpit should not be further than 20 mm from the partition separating the cockpit and the undercarriage when applying and 20 kg effort on the airbrake control.

VUE FROM THE UNDERCARRIAGE DOOR AFTER MODIFICATION :



STE NOUVELLE CENTRAIR

Tel : 54.37.07.96
Telefax : 54.37.48.64
Telex : 750.272

Approbation of the French original issue :

Date : 04/15/92

recommended ☒
for information ☐
imperative ☐

Southview Cottage
Main Streeet
Norwell
Newark
Notts.

Re SF27A EUE - Speed Brake Locked out.

ear Dick,

I am writing to you about a recent incident to our SF27A where the irbrakes came open on the launch and the pilot was unable to close nem, which resulted in a very short circuit with a tremendous potential or a big accident.

It illustrates that solving individual problems can sometimes ompound up into an even bigger problem.

At our recent Annual Shutdown we stripped and cleaned all the ontrol linkage bearings and on replacing them found that the starboard irbrake paddle was not flush with the wing surface when closed so the rod as adjusted to achieve the desired condition. The aircraft functioned atisfactorily until the incident. Upon examination after the incident it as found that the brakes did not go overcentre and lock properly. This as at the end of the recent very hot weather and it is thought hat something must have expanded/contracted such that the starboard brake addle whilst being flush was preventing the overcentre mechanism from unctioning correctly (the mechanism is on the port wing). When re-adjusted he mechanism worked correctly.

It is thought that the pilot had mistaken the solid feel of the irbrake lever to signify that the brakes were closed. This would explain he airbrakes deploying unintentionally.

About a year ago, due to members either landing with full airbrake r attempting to shorten the landing run with fierce application of the rake and rubbing the nose of the aircraft on the runway causing ubstantial damage to the underside of the nose, we decided to disconnect he wheel brake, a band brake operated at the back end of the airbrake ever travel. That solved that problem!!

What wasnt realised was that adjustment of the wheelbrake affects he amount of deployment of the airbrake i.e. the wheelbrake is the stop or full airbrake.

When the airbrakes are deployed normally, the amount of movement s restricted by ones elbow catching on the side of the cockpit but when hey deployed on their own the lever went further than was formerly ossible and the linkage from the airbrake lever to the operating quadrant n the wing went nearly over centre which had the effect of not being able o close the airbrakes.

We are now fitting a stop on the airbrake control to prevent this appening again.

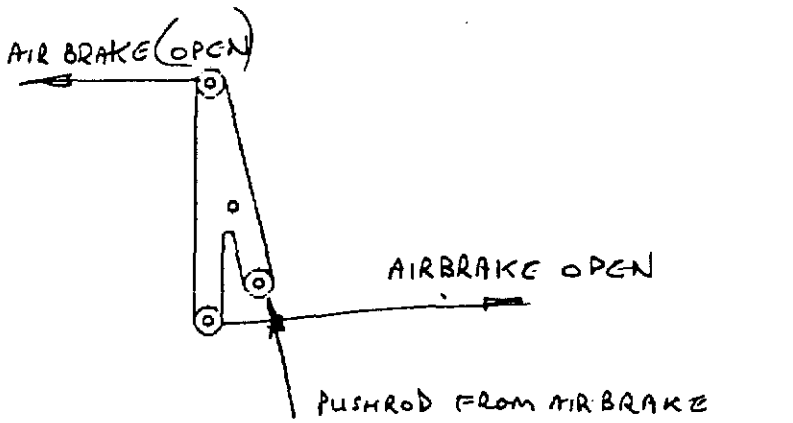
Regards.

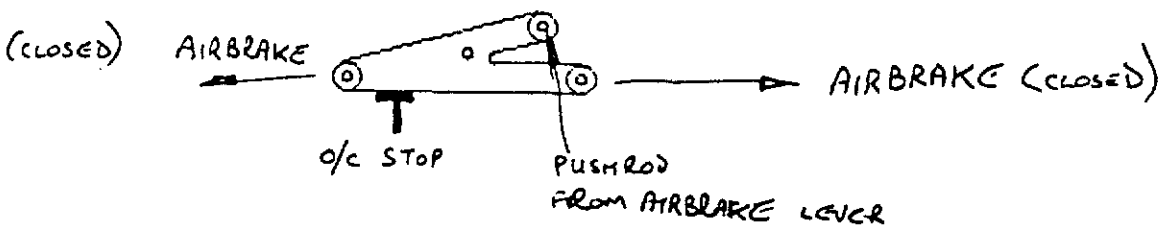
Mike Davies

IC 629E

P.T.O.

TNS 19/10/92





SF. 27. A. See text overleaf

PZL

BULLETIN No BI-6/55-1/92

SZD - 55

Ref: Revision of rudder deflection angle tolerance

PDPS "PZL-BIELSKO"	BULLETIN No BE-007/92 "JUNIOR"	Page: 1 of: 2

SZD - 55

TNS 19/10/92

BULLETIN No BE-007/92 "JUNIOR"

Ref: Extension of life-time from 3000 to 6000 flying hours.

PDPS "PZL-BIELSKO"	BULLETIN No BE-029/92 "BOCIAN"	Page: 1 of: 2

TNS 19/92

BOCIAN

BULLETIN No BE-029/92 "B O C I A N"

Ref: Terms of operation of "BOCIAN-1D" and "BOCIAN-1E" gliders having completed 3000 flying hours.

PDPS "PZL-BIELSKO"	BULLETIN No BE-42/50-3/92 "PUCHACZ"	Page: 1 of: 3

TNS 19/92

Puchacz

BULLETIN No BE-42/50-3/92 "PUCHACZ"

Ref: Elimination of the possibility that the closeing cable of rudder control system can jam onto the transceiver connector fixed on the frame set near the front seat.

PDPS "PZL-BIELSKO"	BULLETIN No BK-031/92 "P I R A T"	Page: 1 of: 3

TNS 19/92

PIRAT

BULLETIN No BK-031/92 "P I R A T"

Ref: Additional inspection hole in the fuselage rear floor under the wing.

Way of introducing: Acc. to user's decision (the change recommended by the producer).

Elaborated in PDPS-TKE.

PIRAT

BULLETIN No BE-032/92 "PIRAT"

Ref: Completation of liner dimensions of the deflections of "extended" rudder (78-00-00) in the actual Manuals.

Way of introducing: After this Bulletin is received.

PDPS "PZL-BIELSKO"	BULLETIN No BE-042/92 "JANTAR-Std.3"	Page: 1 of: 2

TNS 19/92

JANTAR STD 3

BULLETIN No BE-042/92 "JANTAR-Std.3"

Ref: Range of the allowable empty sailplane c.g. locations versus the empty sailplane mass.

Way of introducing: For information.

PDPS "PZL-BIELSKO"	BULLETIN No BE-043/92 "JANTAR"	Page: 1 of: 3

9/92

JANTAR

BULLETIN No BE-043/92 "JANTAR"

Ref: Appreciation of wear degree of the push-rod duraluminium tube surface in the location of contact with the ball bearing being used as the guiding rollers in the guides.

Way of introducing: as necessary.

Elaborated in: PDPS-TKE.

PDPS "PZL-BIELSKO"	BULLETIN No BR-43/50-3/92 "PUCHACZ"	Page: 1 of: 3

TNS 19/92

Puchacz

BULLETIN No BR-43/50-3/92 "PUCHACZ"

Ref: The case of "sinking" of the trimming-tab control system torque tube into the oval opening in the fin.

Way of introducing: When checked that the "sinking" is possible, introduce by the nearest occasion.

Elaborated in PDPS-TKE.

STANDARD CIRRUS

SUBJECT: Attachement of the elevator (T-fitting)

EFFECTIVITY: Sailplane Standard Cirrus, T.C.No. 278

Variant Standard Cirrus
Serial Nos.: 1 to 397, 399 to 572, 574 to 585, 587 to 592, 594, 596, 600.

Variant Standard Cirrus B
all Serial-Nos. equipped with an elevator attachement T-fitting.

ACCOMPLISHMENT:

Variant Standard Cirrus
At the next annual inspection or until december 31, 1980 at latest.

Variant Standard Cirrus B
At the next annual inspection or until december 31, 1992 at latest.

REASON: On some sailplanes fine cracks in the welded joint of the pins on the elevator attachement T-fitting were observed.

ACTIONS:

1. Inspect the welded joint of the pins on the T-fitting (see Service Manual page 20, part 1a) as follows:

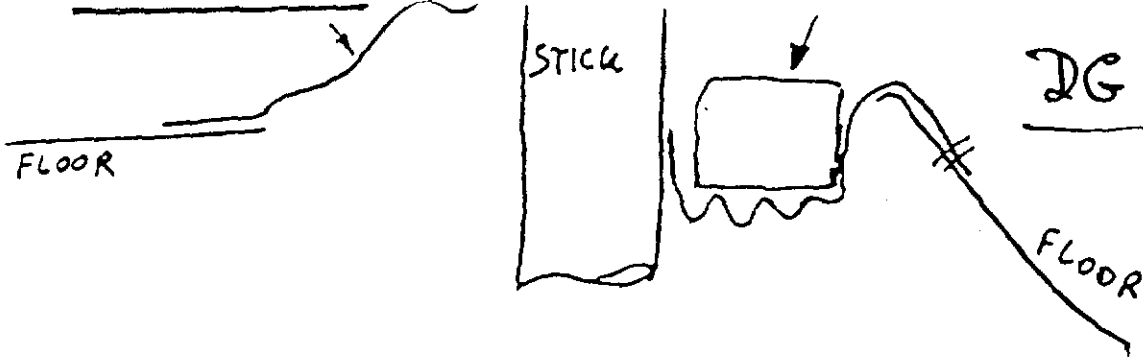
   Put a sleeve tube with 10 mm inner diameter onto the pins, apply force in span direction and at the same time inspect the welded joint of the pins for fine cracks using an at least five-fold magnifying lens.

2. If fine cracks in the welded joint should be observed, rework the welding utilizing electric arc welding.

3. Service Manual
   Supplementary to Section "Prescribed periodic maintenance" of page 30:

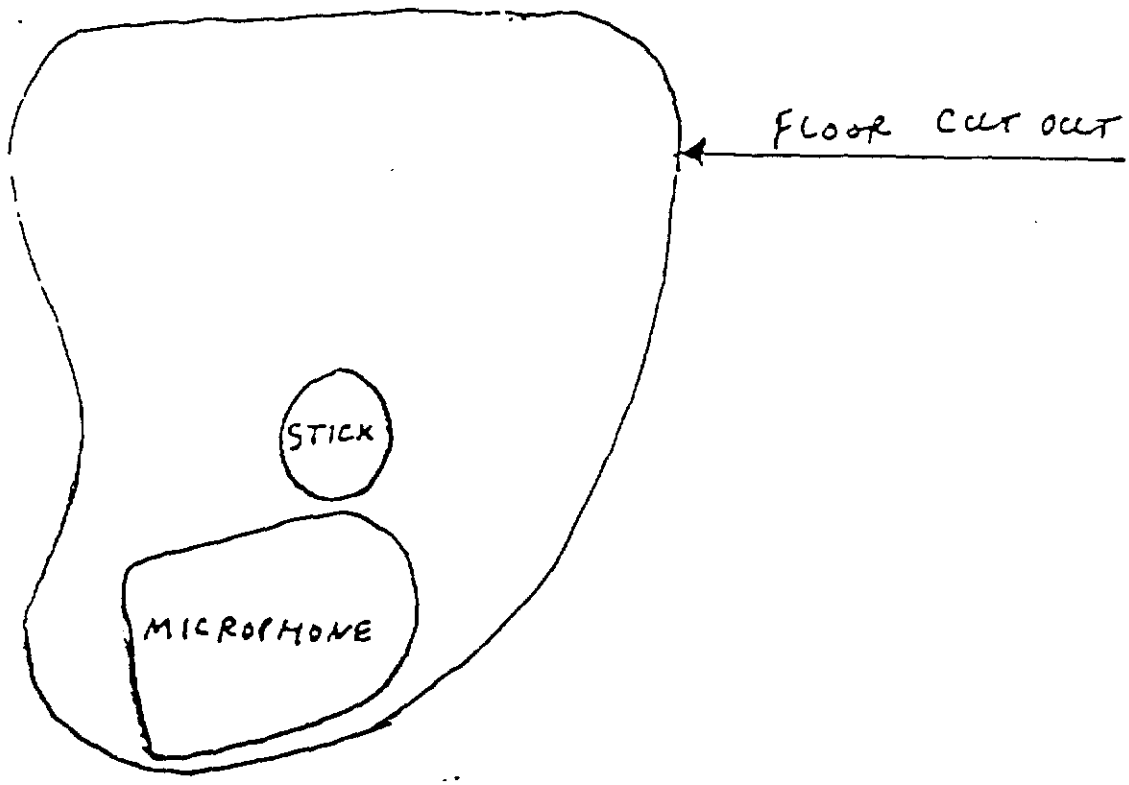
   Page 30a
   After every 300 flying hours the following actions of the Technical Note No. 278-26 must be carried out again:

   1. See above text
   2. See above text
   3. If it should occur again ask the manufacturer.



DG 202/17

CROSS SECTION OF STICK
LOOKING FROM LEFT HAND SIDE



VIEW LOOKING DOWN ON STICK

POSSIBLE ELEVATOR JAM BY MICROPHONE

DC 202/17.

Cotswold C.C

Our Ref: 9/40:MN-00-13
AMA/L

SAFETY REGULATION GROUP

Design and Manufacturing
Standards Division

Aviation House
South Area
Gatwick Airport
Gatwick
West Sussex RH6 0YR

Switchboard: (0293) 567171
Fax: (0293) 573999
Telex: 878753
Direct Dial: 0293 573123

10 August 1992

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

Bus-BAR Low Voltage WARNING SYSTEMS.

Dear Sir

AIRWORTHINESS NOTICE NO. 88 ISSUE 2
APPLICATION TO POWERED SAILPLANES

Your letter of 4th August 1992, addressed to our Mr Tutthill, has been passed to me as the Author of the above notice for comment in relation to its application to SLMG's and other gliding aeroplanes (now referred to as powered sailplanes).

As the notice now states under paragraph 2.1.1 "where an aircraft is equipped to operate under day VMC conditions only ..... the CAA upon application will waive the requirements of the notice".

Where powered sailplanes or any light single engine aircraft that fall into the category described in para 2.1.1 of the Notice, incorporate appropriate Flight Manual limitations for Day VMC operation only, then the requirements of Airworthiness Notice No. 88 by definition can be waived. In this respect, by copy of this letter, an exemption to AN No. 88 can be granted for powered sailplanes by virtue of the limitation as quoted above. Powered sailplanes approved in their Flight Manuals for flight in IMC consisting only of 'cloud flying' with engine off or retracted would not be required to comply with Notice 88. A separate application for exemption would be required for all other types of single engined aircraft, including glider towing aircraft, that fall into the category described in para. 2.1.1 of the Notice.

I hope this may satisfy your concerns over a general exemption and I would ask that you contact me if you have any further queries in relation to the above.

Yours sincerely

R M K Bewsey
Systems and Equipment Department

(signed by Mr C F Phelan in Mr Bewsey's absence)

The British Gliding Association Ltd.
Registered No. 422605 England
Registered Office as address

Administrator and Secretary: Barry Rolfe

Kimberley House, Vaughan Way,
Leicester LE1 4SE
Telephone 0533 531051
Facsimile 0533 515939

British Gliding Association

4th August 1992

FROM: Chairman BGA Instructors Committee

TO: All CFI's

Motor Gliders with Retracting Engines - Safety Training

1. It has come to my notice that some pilots of Motor Gliders which have retracting engines (MGRs) have never carried out a landing with the engine out but stopped. Instances continue to occur where the first such landing is "in anger" into a field! Unbelievable! One such pilot recently commented how high his heart rate was and I am not surprised.

2. This is despite recent articles in S & G by Terry Holloway and Ian Strachan and tragic accidents such as the one which resulted in the death of Paddy Hogg in a Ventus Turbo last year (spinning in on turning into a small field with the engine out but not running).

3. Bill Scull is drafting a series of article on Motor Glider safety, but meanwhile could I ask you to use your influence and authority as CFIs to make sure that all MGR pilots under your jurisdiction (including and perhaps especially private owners) carry out training landings with the engine out and stopped. It is suggested that the first time a pilot does this, it should be deliberately to land well down the field in case he misjudges the extra drag, and in some cases you may wish an instructor or experienced syndicate partner to witness the circuit and landing. Be aware that some speeds quoted in Flight Manuals are too low, and a sensibly high speed should be maintained to just short of round-out to give a margin for error due to the higher drag. And speed will reduce more rapidly in the round out...

4. Hopefully, if pilots have to use a field they will then at least be familiar with the extra height and steeper approach required and be less likely to raise heart rates to unacceptable levels or to have an accident.

Dick Dixon
Chairman BGA Instructors Committee

TNS 19/92

BGA 1991 ACCIDENT STATISTICS – TECHNICALLY RELATED ACCIDENTS

BGA REF	CATAGORY	GLIDER TYPE	BRIEF DESCRIPTION	A/C DAMAGE
LATENT STRUCTURAL DEFECTS				
7	22	Bocian	Airbrake lever failed	N
33	22	K13	Left airbrake rod failed	N
34	22	Vega	Cockpit lever failed initiating retraction	M
52	22	K7	Rudder cable broke at ferrule	N
53	19	K7	Canopy lifted during'too fast'– lugs 'moded'	M
64	19	K13	Fractured tube in fuselage (latent)	N
100	19	Bocian	Rudder ferrule pulled through	N
103	19	L23 Blanik	Nose hook/ front frame distorted	M
122	19	T21	Control cross tube fractured	M
145	22	Nimbus 2	Trim gate sheared	N
159	20	K8	Lower longeron found bent	M
FLIGHT LIMITATION EXCEEEDED				
163	22	SF34a	Poor recovery from 'lightweight' spin	N
		Vega 17	Break up in cloud	W/O
UNDERCARRIAGE FAILURES				
37	19	Astir	Die cast members failed on rough ground	M
134	19	ASW15	Brake seized after adjustment	M
CONTROL CONNECTION + DI FAULTS				
17	19	ASW20	Elevator not connected	M
55	22	SZD Junior	Elevator insecurely connected	N
66	22	ASW20	Tape restricted aileron movement	N
123	22	Astir	Tpae sucked off and reduced elev. authority	N
FORIEGN OBJECTS				
16	22	PIK20	Macready ring fouled stick	N
32	19	K8	Water in ASI pipes (+ inexperience)	N
CANOPY INCIDENTS		(Not seen as technical issues)		
12	19	YS53	Canopy broke in spin recovery	N
19	19	Jantar Std	Canopy lifted during 'too fast' signal	M
21	19	IS28	Canopy lifted during spin	M
63	19	SZD Junior	Canopy lifted during 'too fast' signal	M
76	19	SF27	Canopy lifted during sideslip	M
78	19	Libelle	Canopy lifted during opening vent	M
119	19	K8	Canopy lifted during 'too fast' signal	M
127	19	Libelle	Canopy lifted during winch launch	M
147	19	K13	Canopy lifted during 'too fast' signal	M

Analysis by JOHN SHIPLEY. August '92

* CLUB TRAINING GLIDER?

3. UK REGISTER OF CIVIL AIRCRAFT

P/E

One of the requirements of the Air Navigation Order is that the current registered owner of an aircraft must keep the Authority informed of any changes to their address or, ownership details, in order that the UK Register of Civil Aircraft can be kept up to date. Notification of an address change can be done by returning the original Certificate of Registration with a note of the change, to the Aircraft Registration Section, CAA House, 45-59 Kingsway, London, WC2B 6TE. There is no charge for the issue of an amended Certificate.

As well as being a legal requirement, it is also in the registered owner's interests to ensure that the information held on the UK Register is accurate, as the addresses held on the UK Register database are used for the distribution of Emergency Airworthiness Directives and other safety related material. Additionally, publications such as the CAA's GASIL and GASCo's Flight Safety Bulletin are also sent, free of charge, to the majority of registered owners on a regular basis.

Currently there are almost 15,000 aircraft registered in the UK. Of these, the CAA has no valid address details for approximately 1% of the total, usually where mail has been returned by the Post Office as "gone away" and further enquiries are unable to establish the correct address. If the owners of the aircraft listed below, or other persons who can help us, could notify the Aircraft Registration Section of their current address details they will ensure that the UK Register is updated and will automatically receive all appropriate safety information from that point onwards.

G-ARBS	Piper PA22 160 (modified)
G-ARYK	Cessna 172C
G-ASKS	Cessna 336
G-ASVN	Cessna 206
G-ATFK	Piper PA30
G-ATFV	Agusta Bell 47J-2A
G-ATTI	Piper PA28 140
G-AVUH	Cessna F150H
G-AYXT	Westland S55/2
G-AZKD	MS.880B Rallye
G-AZRZ	Cessna U206F
G-BARZ	Scheibe SF28A
G-BCTK	Cessna FR172J
G-BDCM	Cessna F177RG
G-BDEY	Piper J3C-65
G-BDFY	Grumman AA-5
G-BFBD	Partenavia P68B
G-BJWC	Skeeter 12
G-BJWY	Sikorsky S55 HRS2
G-BLLM	Piper PA23 250
G-BLMX	Cessna FR172H
G-BMFI	SZD-45A OGAR
G-BMKF	CEA DR221
G-BMMD	Rand KR-2
G-BMXY	Scheibe SF25B
G-BRVL	Pitts S-1C
G-BRXP	Stampe SV4C (Modified)
G-BSAY	Cessna 172M
G-BVMM	Robin HR200/100
G-CGHM	Piper PA28 140
G-CIII	Baby Lakes
G-DBMS	Cessna U206G
G-GDAM	Piper L21B
G-KSVB	Piper PA24 260
G-LSFI	Gulfstream AA-5A
G-NDGC	Grob G109
G-PITS	Pitts S-2AE
G-ROBI	Grob G109B

4. HAMILTON VERTICAL TYPE COMPASSES

P

A Hamilton Vertical Compass is a magnetic compass, which is fitted with a gearing allowing the compass rose to be displayed vertically in the same manner as a gyro direction indicator. GASIL was recently informed of the following and would be interested to hear whether any readers have experienced similar problems.

"We are all aware of the very well publicised acceleration and normal turning errors inherent in compass design. However the Hamilton Vertical Compass will completely lock on to a heading if a steep turn is initiated. Thus, if in an emergency situation, where a relatively inexperienced pilot is forced to execute a steep 180° turn, the pilot could, if deprived of full normal ground reference, end up turning a full 360° before being aware that the compass was not functioning at high angles of bank."

Please inform GASIL as soon as possible if you have experienced similar problems.

TUG TOW ROPES

No: 8/92 Ref: EW/G92/05/23 Category: 1c

Aircraft Type and Registration:	Piper PA-25-235 Pawnee, G-CGMC	
No & Type of Engines:	1 Lycoming O-540-B2C5 piston engine	
Year of Manufacture:	1977	
Date & Time (UTC):	25 May 1992 at 1545 hrs	
Location:	Long Mynd Airfield, Shropshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	None	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	58 years	
Commander's Flying Experience:	1,366 hours (of which 24 were on type) Last 90 days - 13 hours Last 28 days - 8 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The gliding club was holding an 'open' day and the spectators were mostly positioned in an area to the north of a footpath which defined the northern perimeter of the field used for the flying operation. The gliders were being launched by a tug aircraft which, having completed the launch, returned to land with the tow rope still attached.

There was a 10-15 kt wind from the south and, in order to keep the tow rope clear of the spectators and not to overfly them, the glider tug was making its final approaches to land on a curving flightpath from the east, at least 50 metres to the south of the footpath, before landing in a southerly direction. On this occasion, because it was an 'open' day involving more than the usual number of spectators, the pilot was particularly vigilant for anyone who may have moved south of the footpath into the area of the airstrip.

Whilst making his eleventh approach of the day, the pilot did not see anyone positioned or moving south of the footpath and made what he believed to be an uneventful landing. However, when he got out of the aircraft, he was told by the club's Chief Flying Instructor that the end of the tow rope had

passed near to a party of spectators and, consequently, approaches and landings would now be made in a straight line to the west. Thirty minutes later, a father went to the clubhouse and reported that his son's arm had been hit by the end of the tow rope.

The gliding club is presently in negotiation with the land owners to allow a fence to be erected round the aircraft operating area.

Aircraft type : Glider Tug NO FUEL.

We recently heard of a case at a gliding site where the lady tug pilot was persuaded by the Tugmaster (her husband) to do one more tow in spite of her doubts about a low fuel level. He may have unwittingly applied peer pressure. Just before the end of the tow the engine stopped and, thanks to good luck and her skill, she was able to make a perfect forced landing back on the airfield.

In the last 10 years two lady tug pilots have been killed as a result of running out of fuel. In both cases male peer pressure was believed to be a factor.

Lady pilots MUST be aware that years of 'male domination' make no difference to the fact that the pilot of an aircraft is the COMMANDER and is in charge.

The commander is responsible for the safe conduct of the flight. NO ONE else can usurp that responsibility/ authority and undue influence or orders from others, whatever their rank, position or experience should be ignored. By all means listen to the advice of such persons.

TAILPIECE

Radio Interference in light aircraft

From HT, LT and other sources

Some hints on beating Murphy

by Michael Rudd.

Nothing that follows is by any means authoritative nor has it any 'official' blessing..... it is rather a collection of various experiences gathered in the course of battling with Murphy over a number of years which may prove useful to anyone trying to eliminate interference which is ruining his/her listening pleasure.

1. The Installation or 'Non-Installation'.

Aircraft with 'fully installed' VHF transceiver equipment as defined by current legislation, should in theory be free of all gremlins, since the work will have been carried out and tested by qualified personnel. Would that it were so. If in such an installation extraneous noises have crept in, whether on received signals, or reported by ground stations as being present on transmissions, then approved engineers must be summoned to correct the problem. There are, however, growing numbers of aircraft using the very sophisticated and effective 'handheld' transceivers which may be seen as 'non-installed', and it is with these that these hints are mainly concerned.

2. Types of Interference.

Usually, a handheld transceiver will be connected to a suitable external "¼ Wave" aerial. If it is not the range will be much impaired, the likelihood of interference will be far greater, and the VOR function will be grossly inaccurate. Assuming an external aerial, interference falls into two main categories:

a. Radio Frequency Interference (RFI), which is unwanted noise or signals being transmitted by some other installation on board and being received on the tuned frequency. The most likely source will be the engine ignition system, or another radio set which may have 'un-clean' emissions, or possibly strobes.

b. Audio Frequency Interference (AFI) which is electrical 'noise' being generated at audible frequencies (i.e. in the human hearing range of about 100 to 15000 cycles per sec) which is managing to penetrate into some part of the transceiver's circuitry at a point downstream of the operating frequency (which is in the 108 to 137 million cycles per sec. range). Commonest sources here are generators, gyro motors, audio 'feedback' (which may also come via the RFI route), static discharges due to poorly 'bonded' airframes and even cable 'crosstalk' where audio lines have been packed in a loom with unsuitable bedfellows.

3. Setting up for Diagnosis.

This is by far the most important task. Generally the problem will be audible in receive and may take various forms.

Begin by ensuring that the aerial, its coax lead and BNC connecting plug are properly connected, have no 'crackly' connections and no coiled up surplus coax tucked away. If excess aerial coax is coiled up, it will have a disastrous effect on the 'matching' of the aerial to the set and will certainly cause problems in transmit on some frequencies. It should be cut to convenient length with no more than reasonable slack. It is assumed that the aerial has a tuned 'counterpoise' by way of 'ground-plane plate' or 'helical' downgoing wirewound equivalent. This ensures that the set is presented with what it will see as a 'matched load' and will not suffer reflected un-emitted energy pulses which will lead to signal distortion or at best a seriously degraded receive and transmit performance.

Ensure that any headset patch lead connections are sound and that any remote PTT line and button are free from chafed insulation, poor connections etc.

4. Diagnosis.

Start the aircraft engine, and switch on all the other instruments (gyros etc) that would be used in flight and of course switch on the transceiver. Back off the squelch control to allow background mush/white noise to be fully audible. Select a free frequency where no stations are transmitting.

The 'mush' should be a loud slightly gritty hiss, but should not contain any whine, nor any continuous 'burp' nor steady crackle. If any is heard, vary the engine RPM to see if the pitch (speed) of the noise alters in time with that change.

a. If you have a sharp crackle which varies with engine speed, it is RFI coming from the HT leads in all probability.

b. If you have a variable pitch whine, you are likely to have generator RFI or AFI or even both.

c. If you have a lesser whine that does not change with engine RPM, it's likely to be the gyro blower motor or even the in flight movie projector motor if you have one. The point is that the engine is blameless.

d. If you have an occasional burst of crackles, which is more likely once the aircraft is airborne, then it is probably a build-up of skin friction generated static on an un-bonded section of the airframe, which is arcing across a minute gap to the rest of the airframe whenever the charge is great enough to make mini-lightning..... and will sound very much like thunderstorms did, on long wave Home Service.

If you have none of these and the 'mush' is just mush, then check all the same items on a number of other free frequencies across the entire range of channels. e.g. 108Mhz, 115Mhz, 120Mhz, 125Mhz, 130Mhz and 135Mhz. If all is still good it remains only to check transmissions. A helper with a handheld some 500 yds away is invaluable. Using non-sensitive frequencies only, make transmissions on a range of such frequencies.

If helper reports squeaks, 'raspberries', or obtrusive overlay of whine or continuous sharp crackle on your transmission, they may evidence one of the following:

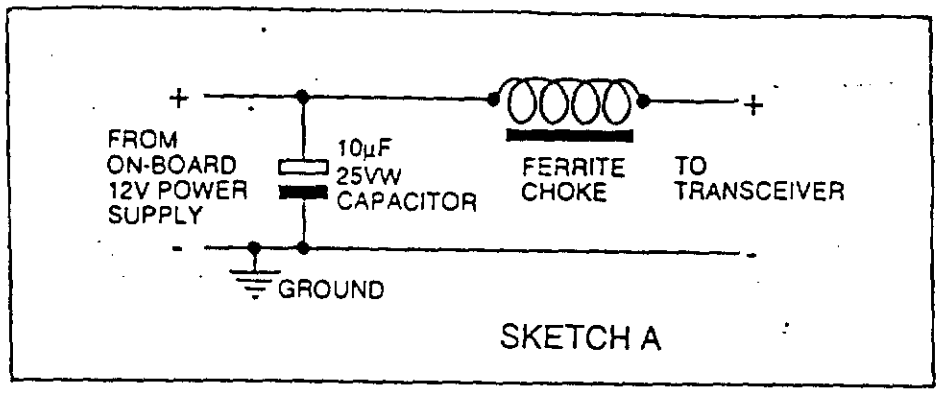
a. Squeaks and raspberries are likely to be 'feedback' caused either by the aerial being so close to the headset leads in the cockpit, that emitted signal is breaking into the lines and its audio content is

getting onto the microphone lead and doing what so often occurs at the village fete when the mic is too close to the public address speakers. The raspberry may also be due to a low transceiver battery which cannot deliver enough power for transmitting. Most types of tranceiver have a little illegible message which appears in the window to that effect.

b. Whine or continuous crackle will be generator or HT leads adding their efforts riding piggyback on your carrier wave. This is only likely when the same problem has been encountered in receive.

c. If helper reports a weak voice signal, but an apparently robust 'carrier' (i.e. when you press to transmit his mush is fully blanked out), then it is likely that the microphones in your chosen headsets are of the wrong type or ill-matched (impedance wise) to give sufficient 'audio drive' to put an adequate audio signal onto the carrier wave. In this event seek the maker's advice and get correct/suitable headsets.

Before dealing with suggested remedies, it is worth mentioning that certain types of interference are more likely to occur if the transceiver is being wholly or additionally powered from the aircraft's on board power supply. Such supplies are generally from the main battery, which is in turn kept charged from the generator or additional windings on a magneto. When the aircraft is first started, the main battery will be depleted and initially will absorb most of the 'roughness' coming from the generator on the DC charge line. Once it is full up, however, all the roughness will 'float' on the surface and will 'appear' on the line bringing power to the transceiver. It is not equipped to filter this 'noise' out and the characteristic whine will pervade both reception and transmission.



SKETCH A

Suggested Remedies. ***(At last..... but it helps to know the reasoning).***

1. Generator or Gyro motor whine is most likely when using on board power. The power line to the transceiver needs a filter. This is in the form of a wire wound 'choke' (obtainable from car radio installers) placed in series with the positive line, and an electrolytic capacitor in the range 10,000.uF (25V W) connected across pos. and neg. lines. (see sketch A)

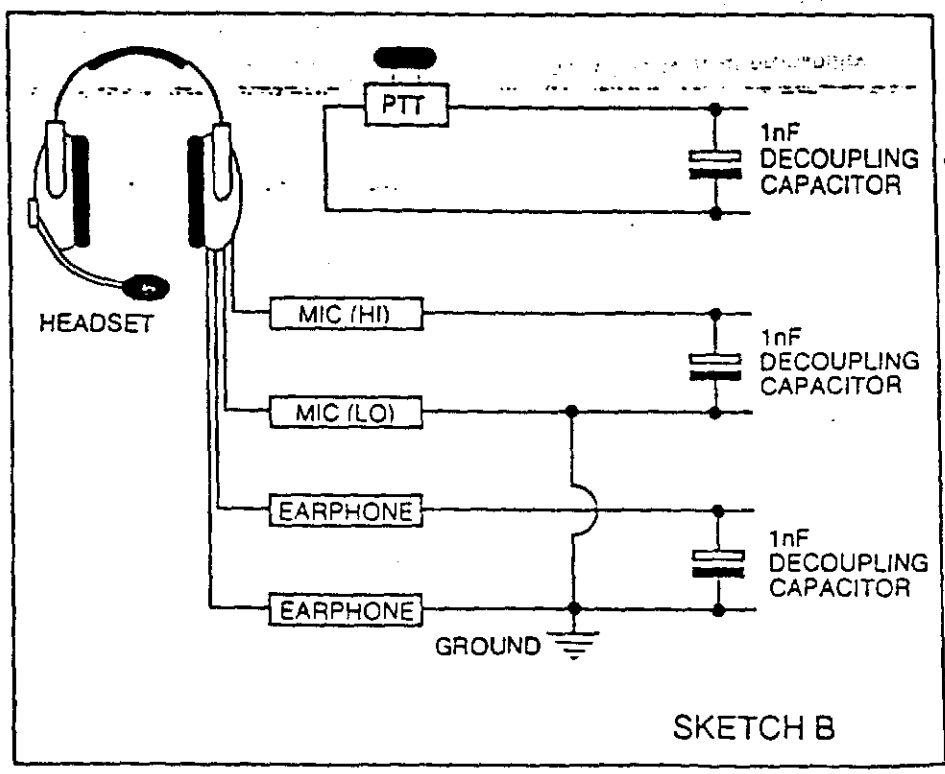
2. HT lead continuous rpm related crackle is usually easy to cure by fitting screened plug leads. These should be grounded to the engine block at the distributor end and via the plug cap metal outercases at the plug end. This should stop the plug leads from 'radiating' over their length, which is about equivalent to a 'quarter wavelength' at our VHF band frequency..... so they can act as transmitting aerials quite efficiently! The spark pulse is a crude form of radio frequency transmission.

3. Squeaks and raspberries have been dealt with. If the squeak varies in pitch (in transmit) when you wave the headset leads or the PTT line about, then either re-site the aerial further away, or look at replacing the headset leads with braided screened leads (many are not screened). Such screening must be grounded at the plug end. It may also prove necessary to have tiny 'de-coupling' capacitors fitted between the mic 'live' line and ground and between the earphone leads at the sockets in the patching junction box. These cost only pennies (spec. 1nF) and have the effect of grounding down stray radio frequency signals on the lines, whilst not affecting the audio at all. A similar 1nF capacitor may also be needed across the remote PTT line where it joins the patch junction box, since it too can pick up stray RFI and convey it into the transceiver. (See Sketch B).

4. Finally, Static. This is a hard one to locate. Somewhere in the airframe, is an area, exposed to airflow which has no good electrical contact with the remainder. When found, it will need a braid strap connecting it firmly to the rest of the airframe. Incidentally, the engine itself must of course have a stout braid connecting it to the rest of the airframe. If it does not, or if any other so-called grounded or negative items have no good connection one with another, then all attempts at curing interference may fail.

As a final reassurance try the following: Switch on receiver to a free channel, hear the mush, turn the squelch only just as far as absolutely necessary to kill the mush and note its position in O'clock terms, start the engine and rev as high as practical on the ground. Mush will break in again. Now turn the squelch again, only as far as needed to silence the mush once more. Now switch on any other ancillaries like the gyros etc. If mush reappears, turn again only just enough to kill the mush. Now shut everything down and look to see how much additional squelch had to be introduced to eliminate the added mush from your machine. Typically it should not have needed more than "5 minutes" or so of added rotation. It should be noted that the use of squelch should always be the MINIMUM needed to kill mush, since any more just 'deafens' the receiver and shortens receive range.

Good luck and may Murphy perish!



SKETCH B

VAT No 508039165

Ken Ballington Aircraft Services
23 Ashby Road East,
Bretby,
Burton on Trent,
Derbyshire,
England.
DE15 OPS
Tel. 0283 63054
Fax. 0283 550364

SPARES REGISTER.

Date: 11 September 1992

Dear Air Tech / Repairer,

As I go from club to club, and repairer to repairer, I cannot help but notice the number of aircraft bits and pieces that are tucked away in corners, or strung to the roof.
It would seem to me that many of the bits and pieces in your workshop or hanger might well help someone to rebuild or repair an aircraft that has been damaged.

With this in mind, I should like to compile a list of bits and pieces, part aircraft, useable salvage, etc, that might be useful to repairers and clubs.

We could also include equipment that a club, or organisation, may be willing to loan out to help another through a difficult time. Such things as a spare winch, spare two seater, or tug.

The list would not set out to challenge the adverts in S & G but contain the type of things that it might be felt were not worth advertising in a magazine. I feel also, that the price should not be included, as interested parties can negotiate a fair price between themselves.

If you could find the time to fill in the attached form and return it to me in the addressed envelope, I shall enter the details on my computer file. There is absolutely no charge for putting your bits and pieces on the list.

I shall, if this appeal is successful, offer the catalogued list to clubs or repairers at a charge of £10. I would hope that there could be two, up-dated lists per year.

If you can think of other things that might be added, or have other comments, please give me a call on the above telephone number.

Regards,

K. E. Ballington

Dick

Just to keep you informed.
I think this might be useful.

Ken

Please include the following onto your list of Aircraft Bits and Pieces.

From:-

Name:..... Date:.....

Address: .....

.....

Signed:.....

Club or Organisation:.....(For inclusion in list)

Contact Tel. No:.....(For inclusion in list)

Example: Section: Glider, Aeroplane, Misc, For Loan, Wanted.

Section	Description	Condition
Glider	K7 Starboard Wing	Spar broken 4' from tip.
Glider	K8 tailplane	Serviceable

Section	Description	Condition

Please return before 30 October 1992. List available Mid November 1992.