B.G.A. TECHNICAL COMMITTEE

TECHNICAL NEWSHEET

TNS/5/6/87

PART 1 AIRWORTHINESS "AGGRO" (Please add to the 1987 Green Pages)

1.1. H.36 DIMONA (Serial No's 3501-3539 and 3601-36143). Shoulder Harness fittings, bonding to the Main Bulkhead. Service Bulletin 17 (20.1.87) requires inspection.

1.2. H.36 DIMONA Horizontal Tail Surface Mounting (Front). Service Bulletin 15/2 (20.1.87) requires inspection for POSSIBLE CRACKING OF THE ROD END BEARING.

1.3. PILATUS B.4. Loose Rivets in the Air Brake lever in the centre-section. (Sketch attached).

1.4. MINI NIMBUS Release Hook Thin metal protective shroud partially compressed on to the hook by contact with the seat pan. (Reported by Ian Barnes). May cause hook malfunction.

1.5. KESTRAL Wing leading edge skin delaminated by water ingress from the ballast tanks. Pressure applied to the leading edge forward of the aileron flap caused the skin to flex. (Reported by Don Austin to Slingsby Aircraft).

1.6. SKYLARK 4 Fin Failure The attached sketch and report explains the problem. In addition, Rudder Stops must be so adjusted (on all aircraft) that loads are not transferred to the fin post in Maximum Pedal deflections. (Reported to Slingsby Aircraft and the C.A.A. Technical instruction awaited from Slingsby Aircraft).

1.7. IS30/32 GLIDERS Failure of the Air Brake Control Handle A fracture occurred at the handle lower securing bolt, in the thinnest part of the tube. Repaired by cutting back to thicker section and inserting a light alloy adaptor. (Reported by Black Mountains G.C. Talgarth).

1.8. PA 18-150 Cub Severe damage to elevator cable by a seized pulley aft of the rear stick - 50 HRS since new! (Reported by Bristol & Glos G.C. Nympsfield).

1.9. DG 100/200/300/400 GRP "Junk" in the wings left in by the manufacturer may endanger your health! Attempts should be made to extract the bigger bits! (Reported by Bath & Wilts G.C. - Keevil).

1.10 GROB G.109B Tech/Memo 817-22 amends Flight and Maintenance Manuals (Copies from Agents).

1.11. GROB 109B MANDATORY ANTI-FLUTTER MODIFICATIONS Owners/Operators are reminded that C.A.A. require compliance with Tech/M 817-20 (removal of speed restrictions) by 31st December 1987.

1.12. DG 400 The following information has been received:- T/Note 826/18 Modification to engine Retration drive. T/Note 826/19 engine wiring - vibration protection. Service Inst. 1/10/86 starter motor spindle drive. Service Inst. 1/9/86 Engine wiring T/Note 826/17 Manual Revisions (Details from U.K. Agents).

1.13 TOST (TYPE) Winch Roller box assemblies A recent fatal accident was attributed to winch cable failure, caused by the close proximity of the side rollers demolishing the Talurit cable repair ferrules. The gap should be widened to give generous clearance (A.I.B. report to B.G.A.)

1.14 CONTROL STOPS - Correct Setting Control deflections should be limited by internal stops, such that loads are not reacted by the surfaces contacting the local structure (refer to maintenance manuals).

1.15 T.65 "VEGA" - water in the rudder Drain holes should be inserted to evacuate the lower part of the rudder. Entry probably occurs at the top fairing and water may also accumulate on the top rib. (Reported by Roger Targett).

BGA TNS 1/5/6/87

C.A.A. GLIDER RADIO APPROVALS.

BGA NOTE: TRANSMITTER FREQUENCIES TNS/5/6/87
ARE TO BE CHECKED TO SPECIFICATION EVERY 48 MONTHS.

PART 4 Glider Approval
G28-G57

Civil Aviation Authority
Airworthiness Division

AIRCRAFT RADIO & ASSOCIATED EQUIPMENT

ISSUE 17 Date APR'87

G No.	MANUFACTURER	EQUIPMENT
28-b	HT Communications	VHF Comm Tx-Rx, TR-7302
29-b	Dittel, W, KG	VHF Comm Transceiver FSG-40S
30-a	A K Mitchell	VHF Comm Tx-Rx AM7B/KM
31-b	QM70 Electronics Ltd	VHR Receiver HRR-1
32-b	Sharp Electronics (UK) Ltd	VHF Airband Receiver FX-209AU
33-b	HT Communications	VHF Comm Tx-Rx TR-7603
34-b	Molton Communications Ltd	VHF Comm Equipment SABRE Air Band PM5/6A
35-b	T.A. McMullin	VHF Comm. Tx - Rx TM-61
36-b	Lowe Electronics Ltd	Air Band RX. AP-12, AP-12/8C
37-b	A. Riley	VHF Comm. Tx-Rx HI-RAD-GR1
38-c	Avionic Systems (Heathrow) Ltd	VHF Comm. Transmitter-Receiver ASH-720A, -720B
39-c	Terra Corpn	VHF Transceiver TPX-10
40-a	GXB Electronics	VHF Transceiver GXB/GR1
41-b	Dittel, W.	VHF Comm Transceiver FSG-18
42-b	Amco (Burton-on-Trent) Ltd	VHF Transceiver GS-100
43-b	Radio Systems Technology	VHF Transceiver RST-542
44-b	Dittel, W	VHF Comm Transceiver FSG50-G, FSG50
45-b	" "	" " " FSG60 Series
46-b	Avionic	VHF Comm. Transceiver FV272003
47-c	Terra Corpn.	" " " TPX-720
48-c	Avionic Dittell	" " " ATR-720 series
49-c	Becker Flugfunk	VHF Comm Transceiver AR2008/25A and B
50-c	BAF Engineering Ltd	VHF Comm. Transceiver BTR-720 series
51-c	Avionic Systems (Heathrow) Ltd	VHF Tx-Rx ASH-722-1
52-c	A.O.R. Ltd	VHF AM Comm. Transceiver TR-720
53-c	Marco Avionics	VHF Comm. Transceiver HT-800/HT-830
54-c	Becker Flugfunk	" " " AR-3201
55-b	AVcomm Developments	" " " GL72A and B
56-a	Keith Ellis	" " " ELLIS 84
57-b	Dittel, W	VHF AM Transceiver FSG-4/-8

PART 4 Glider Approval
G1-G27

Civil Aviation Authority
Airworthiness Division

AIRCRAFT RADIO & ASSOCIATED EQUIPMENT

ISSUE 13 Date APR'87

G No.	MANUFACTURER	EQUIPMENT
1-b	Becker, Max Egon.	VHF Comm. Transceiver, AR12S
2-b	Skycrafters Inc.	VHF Comm. Transceiver, TRV122
3-b	REE Telecommunications Ltd.	"TELECOMM" VHF AM Portable Radiotelephone, TRT/2
4-b	Imp.Coll of Science & Technology	VHF Comm.Transmitter-Receiver, G.T.R. Mark II
5-a	MacPherson, G.C.J.	VHF Comm. Tx-Rx., TJD-101
6-a	Barton K.	VHF Comm Tx-Rx, KB-1
7-a	Barrett R.Q.	VHF Comm. Tx-Rx, RQ/AM/1
8-b	Handley Page Gliding Club	VHF Comm. Tx-Rx, HP.18
9-a	James P.W.	VHF Comm. Tx-Rx, PJ-2
10-b	Storey G.E. & Co.	VHF Comm. Tx-Rx, TR-6701
11-b	Murphy Aircraft Communications Ltd.	"Rambler" Portable VHF Comm. Tx-Rx. MR965A
12-a	Pratelli P.	VHF Comm. Tx-Rx, CM/168
13-a	Sykes A.W.	VHF Comm. Radio Telephone AWS.1.
14-c	Pye Telecommunications Ltd.	VHF Personal Radio Telephone "Pocketfone 70" type PF2 AMB
15-c	" " "	"Bantam" VHF Comm. T-RX
16-c	GEC (Electronics) Ltd.	"Courier" VHF Comm Transceiver
17-b	Ultra Electronics Ltd.	VHF Comm. Transmitter-Receiver "Packset" Type 344-AG3
18-b	Dittel W, KG	VHF Communication Transceiver Type FSG-15 Series
19-c	Avionic Systems (Heathrow) Ltd.	VHF Communications Transceiver, Type ASH-360 & ASH-360P
20-c	McMullin, T.A.	VHF Communications Transceiver Type TM.360.
21-c	Becker Flugfunkwerk	VHF Communications Transceiver Type AR 10 S
22-a	James, P.W.	HF Communications Transceiver Type PJ.7.
23-b	Becker Flugfunkwerk	VHF Communications Trisponder Type AR.7.
24-b	Electechniques	VHF Communication Transceiver EKT-2000
25-b	Edo-Aire	VHF Communication Transceiver RT551G/RT551A
26-b	Dinosaur Electronics Ltd	VHF Comm Tx-Rx, ED-24
27-b	McMullin, T A	VHF Comm Tx-Rx, TM-6

PART 4 Glider Approval
G 58-

Civil Aviation Authority
Airworthiness Division

AIRCRAFT RADIO & ASSOCIATED EQUIPMENT

ISSUE 3 Date APR'87

G No.	MANUFACTURER	EQUIPMENT
58-b	WPO Communications	VHF Comm. Transceiver AIR-130 (Serial Nos P1001 to P1050)
59-c	Avionic Systems/ICOM	VHF Tx-Rx IC-A2-UK
60-c	Dittel, W	VHF Comm Tx-Rx FSG-70/-71M
61-c	S T S Inc.	VOR Transceiver AV-7600

1.16 KA 13 Elevator drive disconnected in "heavy" landing Subsequent investigation showed that the ball-race on the elevator did not engage fully with the slot in the drive rod. The position of the bracket on the forward fin post was adjusted to achieve full engagement. All Kal3s should be checked a.s.a.p. and particularly after repairs to the back end. (Reported by Wrekin G.C. RAFGSA).

PART 2 GENERAL MATTERS

2.1. Avgas supplies are now available from CYMA Petroleum 01-263-3141

2.2. LYCOMING CYLINDER FAILURES Two tugs have made forced landings in recent months due to cracking of the cylinders. Whereas the engines may have been "overhauled" or "zero-hour'd", the accumulated life of the cylinders cannot always be determined!

To extend the life of cylinders the following recommendations should be considered:

a) Limit the max cylinder Head Temperature (CCHT) by limiting the power, whenever it is safe to do so.

b) Descend with some power on not exceeding 1000 ft/min.

c) By descending at (say) 1700/1800 RPM (or less) heat is transferred from the sump to the carburrettor body, thereby enhancing the carb-ice protection. (Lycoming engines only).

ONLY NEW CYLINDERS, (as fitted to factory remanufactured engines) can have predictable lives, if operated in accordance with Lycomings recommendations.

2.3. Motor Gliders - C. of A. Renewals Please follow the guidelines in TNS/1/2/87 in good time, if you want to avoid delays.

2.4. Airworthiness Information enclosed herewith: GASIL 3/87 unlocked control turn buckle. GASIL 3/87 Fuel shortages. GASIL 5/87 Battery fires/Robin DR400 Rotted Firewall.

2.5. Radio Installations C.A.A. list (GI-G27 issue 13) updates the list of C.A.A. Approved Glider Radios (copy herewith). B.G.A. Proforma RAD/INST/86 is available for obtaining C.A.A. Form AD 917 (Radio Station Installation Approval) for simple communcation installations in Tugs and Motor Gliders (copy attached).

Transmitter frequencies must be calibrated at 48 monthly intervals to comply with I.C.A.O. requirements.

2.6. ROTAX ENGINES TYPE 50.5 Fuel grade/alcohol content. The attached Note from Glaser-Dirks gives guidance on alternative fuels.

2.7. Flying at Low Temperatures - deterioration of GEL Coat. The attached Note from Glaser-Dirks refers to POLYESTER GEL COAT

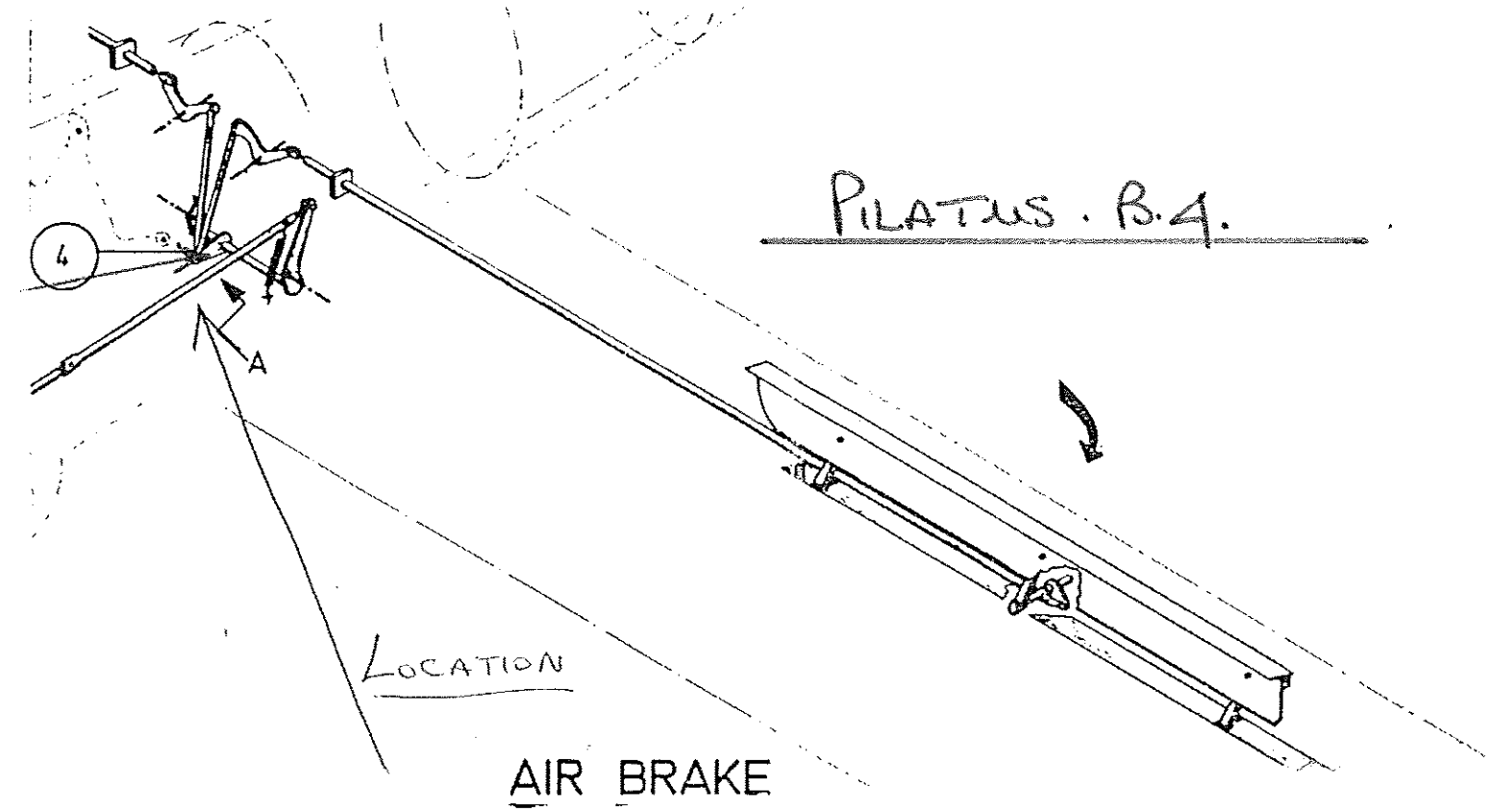
2.8. General Reminder - Standards of Airworthiness.

Whereas there can be genuine differences of opinion about the airworthiness implications of varying standards of what is acceptable and what is unnacceptable, B.G.A. inspectors are reminded of the possible implications of setting standards which can later be criticised by other B.G.A. inspectors. The B.G.A. will investigate written reports (often received after gliders have changed hands) to establish the airworthiness implications of such written report. The B.G.A. will not become involved in the commercial aspects or in valuations.

R.B. STRATTON
CHIEF TECHNICAL OFFICER
JUNE 1987

PREVENTION OF ACCIDENTS Club Technical Officers have an obligation on behalf of Club Committees and the B.G.A. to pass on the AIRWORTHINESS INFORMATION to Their CLUB MEMBERS.

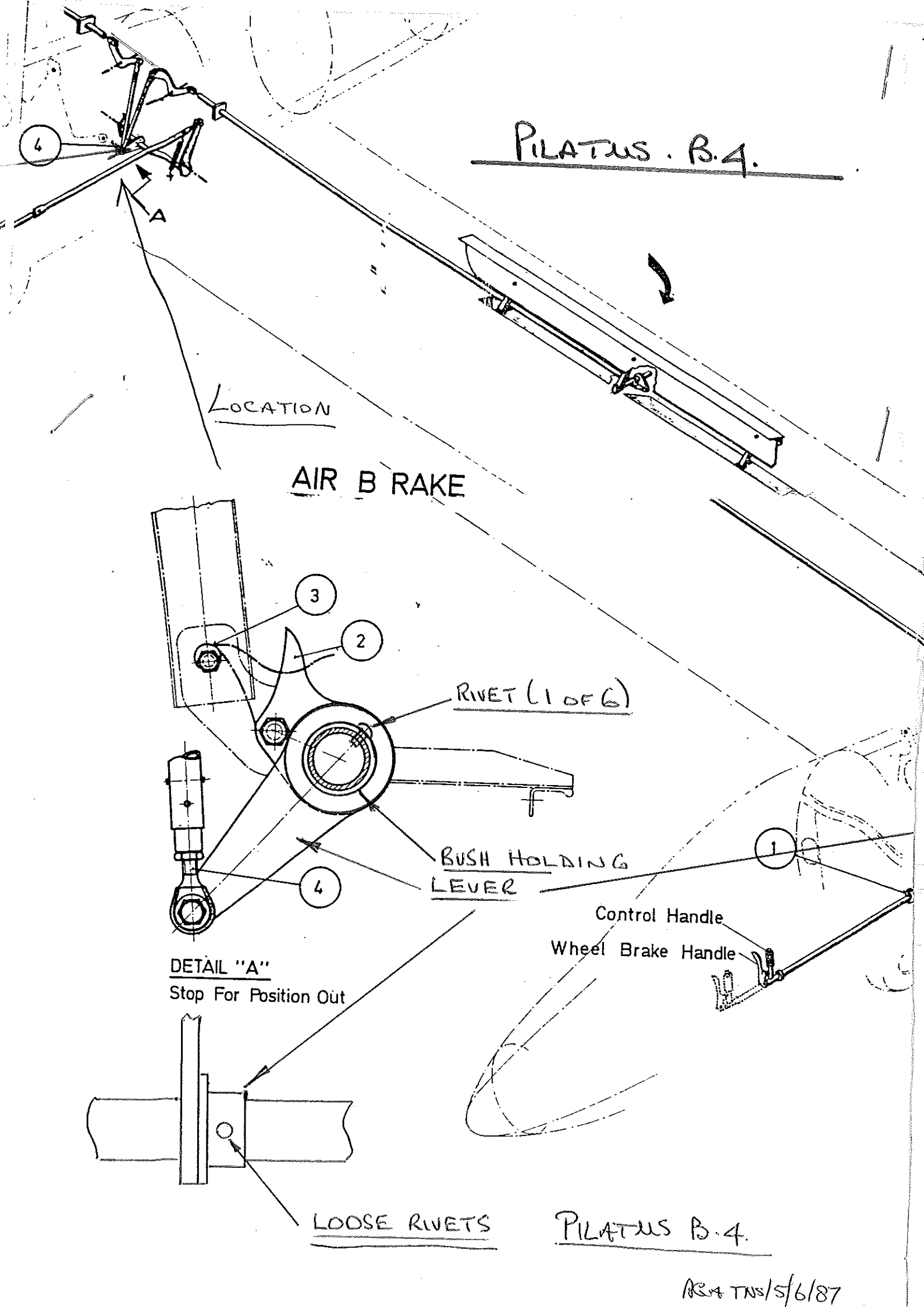
PILATUS . B.4.



LOCATION

AIR BRAKE

PILATUS . B.4.



PILATUS B.4.

AR4 TNS/5/6/87

B.G.A. TNS/5/6/87 (Item 1.6.)

ACCIDENT TO SKYLARK 4 B.G.A. 1137 (WORKS NO 1403) FIN SEPARATION IN FLIGHT 19.4.87

1. The Facts

Fin separation occurred during the application of large rudder deflections, during a winch launch, in turbulent conditions.

The glider had been damaged in a prior field landing accident, in which the rear fuselage had separated adjacent to the tail handle. This repair had not failed.

2. The Investigation

indicated that the aft fin spars had failed where cutaways are provided for the longerons. The Sternpost, carrying the rudder, failed, followed by separation of the fin.

A Slingsby modification (No 50/1/2T/2 dated 9/5/62) deleted a plywood block from the area of the lower rudder hinge, on the front face of the Sternpost, because it was redundant. It had previously supported a pulley assembly, which formed part of the elevator drive. Later modifications re-positioned the elevator drive (see diagram).

3. Conclusions

Since it can be shown that there was no design, modification or construction deficiency in this area, it can only be assumed that some dormant damage had occurred.

It is possible that accumulated damage may have occurred over a prolonged period of operation in which repeated strikes by the tailskid may have induced compression shakes in the Sternpost. It is also possible that some damage may have occurred in this glider's one and only major accident. (With the deletion of the elevator drive pulley, the inspection facilities were also removed). (The B.G.A. have on record the separation of the rear fuselage of an OLY 1 - B.G.A. 512 due to a tail skid strike at Dunstable in 1961).

4. Actions

Whereas Slingsby Aircraft (with the C.A.A.) will be issuing a Technical Instruction requiring inspections to be made to establish the continuing airworthiness of all effected sailplanes, the B.G.A. recommends the following interim checks.

a) Apply a transverse load to the top of the fin and check for movement or noises in the affected areas.

b) Inspect the Sternpost in the area of the lower rudder hinge, for signs of plywood separation, compression shakes, debonding, or damage inflicted by overtravel of the rudder.

c) Check that the Rudder Stops limit the travel at full pedal deflections, such that the rudder does not transfer loads to the fin post.

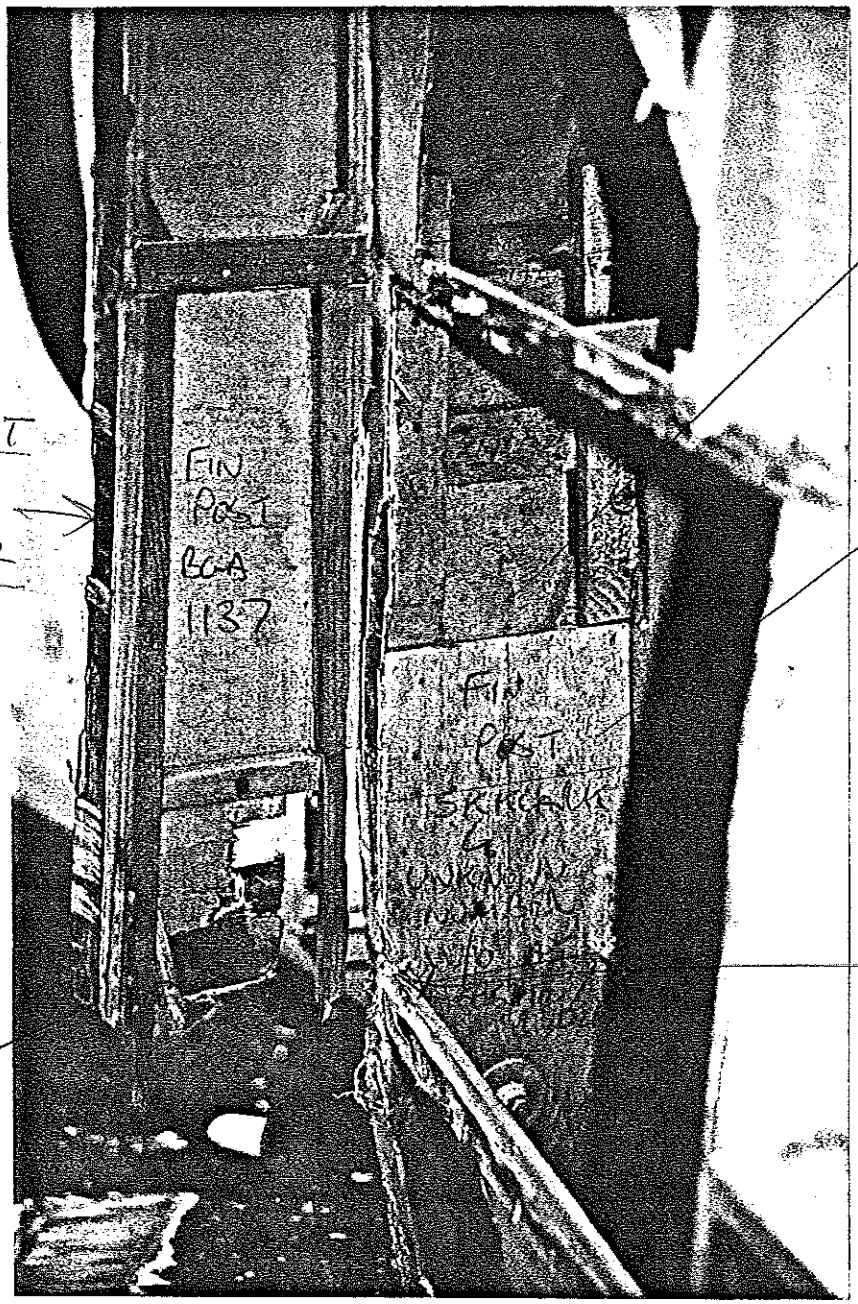
d) Inspect the forward fin structure in the area of the tailplane cut-away, for signs of plywood separation or compression shakes etc.

e) Gain access to the forward face of the base of the Sternpost, to inspect for damage generally, and specifically where the longerons pass through the fin spars. (see diagram.

f) Applicable also to Skylark 3s.

FIN FAILURE INSPECTION.

SKYLARK 1
BGA 1137



ALTERNATIVE FIN POST

FIN POST AFTER 9/5/1962

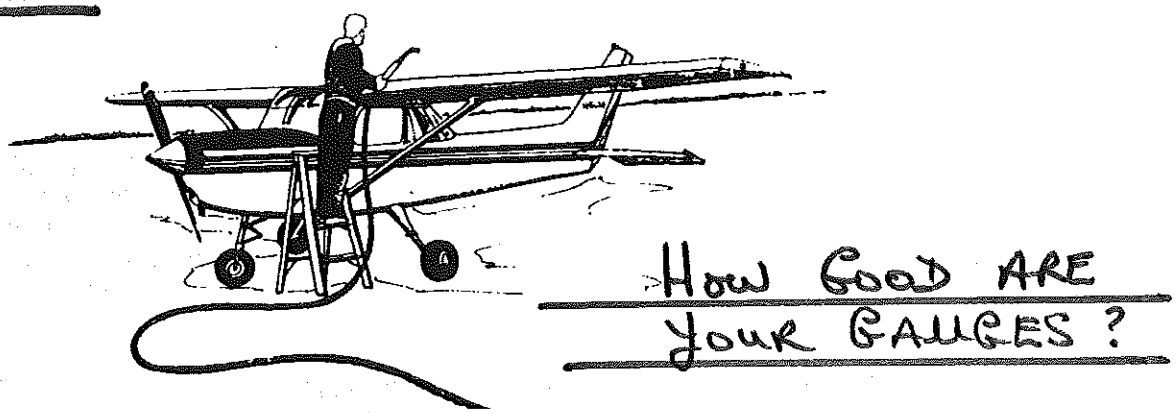
RE-ENFORCEMENT Deleted By Modification 9/5/62.

LONGERON CUT-OUTS

Failure BGA 1137.

6. FUEL SHORTAGES

P



Aircraft : Cessna 150
Date : November 1986

Whilst in the circuit flying downwind, the pilot reported that he was short of fuel, and assessed the situation as an emergency landing. Priority was given and the aircraft landed safely.

Aircraft : Piper Cub
Date : December 1986

The aircraft entered the special rules zone and landed without establishing radio contact with the ATC Unit. The Pilot subsequently telephoned to say that he had suffered a radio failure en route and being low on fuel had no option but to continue and land.

Aircraft : Cessna 340 Registration : G-BBGF
Date : December 1986
Reportable Accident near Luxor,Egypt.

The aircraft crash landed about 10 miles south of Luxor in Egypt. The Pilot was slightly injured but the passenger was uninjured. The Pilot had radioed to Luxor Airport to say that his aircraft was running out of fuel. The wreckage was found several hours later.

Aircraft : Cessna F172K Registration : G-BFPH P/E
Date : November 1986
Notifiable Accident near Andrewsfield, Essex.

Aircraft had been flying for 50 minutes in the local area and when 10 NM to the East of the airfield at 2000 ft, the engine misfired. The Pilot turned towards Andrewsfield and requested a straight in approach. When approach flap was selected and the descent initiated, the engine misfired again and then stopped. The Pilot stated that a distress call was made and the emergency checks completed, at which time the fuel gauges indicated half full. A gentle landing was made in a field about 1500 metres short of the runway. The aircraft came to rest with its nose in a hedge causing minor damage to one propeller blade and the underside of the fuselage.

Subsequent examination showed that the fuel tanks were empty of usable fuel and that the fuel gauges incorrectly over-read. The Pilot stated that a visual check of the fuel contents was not made during the pre-flight checks. The Pilot's flying experience was 202 hours, with 30 on the type.

CAA Comment:
All pilots should be aware of the need to visually check fuel before flight and to monitor during flight. Perhaps OUR Video (see Item 1) could be used to remind pilots.

7. MAGNETO PROBLEMS

P/E

Aircraft : Britten Norman BN2A Trislander
Date : December 1986
Engine : Lycoming O-540

During the climb to flight level 50, engine vibration started, gradually becoming more severe. There were no unusual indications on the engine gauges, carb air was selected to hot in case icing was present, but there was no improvement. Shortly afterwards the left-hand engine rpm started to fluctuate with slight yawing of the aircraft. The engine was shut down and the flight returned to the airport of take off.

Investigation found excessive mag drop on one magneto of the left-hand engine. When the magneto was stripped, it was found that the three distributor block electrodes were loose due to detachment of the distributor block moulding in the local area. The defect would not normally be highlighted during the course of standard scheduled inspection as the areas of partial detachment are only visible when the distributor drive gear is separated from the distributor block. The distributor block is Bendix Part No 10-391586 and is coloured brown. All published Bendix bulletins refer only to defects in distributor blocks coloured green (used on normally aspirated engines). The magneto was overhauled in a CAA approved workshop in April 1986 when the distributor block was newly installed. The magneto had run for 809 hours. Bendix Bulletin No 629 refers to cracking of distributor block towers.

8. TAILPLANE ATTACHMENT BRACKETS CRACKED

E

Aircraft : Cessna 207
Date : December 1986

While on annual inspection, FAA AD 72-07-07 (Cessna SE72-3) was being complied with. Cracks were found on both the left-hand and right-hand tailplane/fuselage brackets, Part No 0712629-3 and -4. On removal of the tailplane, the forward right-hand doubler Part No 1212003-1 was also found to be cracked. The aircraft had flown a total of 3269 hours.

CAA Comment:
Although these are the sorts of things that would be picked up at an annual check, this may be an area that requires more frequent inspection on aircraft that are used for short flights such as parachute dropping.

9. TAILPLANE CORROSION

E

Aircraft : Beech 60 Duke (Foreign Registered)
Date : December 1986

While the aircraft paint was being stripped prior to re-painting, inspection of the tailplane revealed extensive corrosion in both the horizontal and vertical stabiliser skins such that there were serious doubts as to the structural integrity. Corrosion was only visible following paint stripping. It should be noted that the skins are made from magnesium alloy.

CAA Comment:
Although Beech have not published specific information e.g. Service Bulletins, this is believed to be a known problem since a UK registered Beech 60 Duke has recently had all of its tailplane skins replaced due to extensive corrosion. All operators of these aircraft should check carefully particularly since it appears the corrosion is only visible when the paint is removed.

ISSN 0309-667X

Civil Aviation Authority

General Aviation Safety Information Leaflet

Safety Data and Analysis Unit
Brabazon House
Redhill Surrey RH1 1SQ
Telephone Redhill (0737) 65966 Telex 27100

TNS/S/6/87 **3/87**

20 March 1987

1. EDITORIAL - CAA Fuel Management Video [P]

The first of what is expected to be a series of short videos is now available. The subject of the first video is Fuel Management, and the 14 minute VHS video includes refuelling, pre-flight inspection, fuel management in flight, etc. Some flying clubs may have seen this video when it was shown as part of the 'Safety Evening' during the Autumn and Winter. The video is available to all who wish to purchase it from CAA Printing and Publication Services, 37 Gratton Road, Cheltenham, Glos, GL50 2BN, and costs £6.33 inclusive of UK postage and VAT.

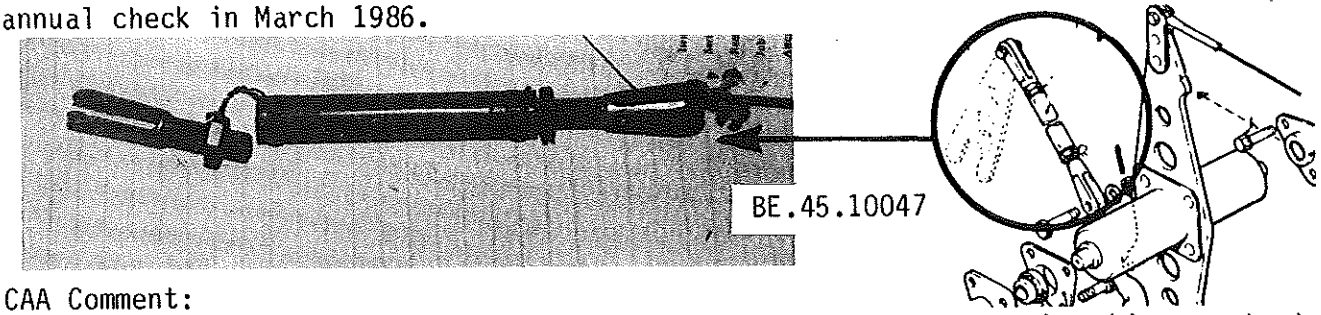
Poster - Please display where it can be seen.

All complimentary GASIL recipients will find enclosed a copy of a poster to remind pilots of the need to Book Out.

2. ELEVATOR CONTROL SYSTEM FAILURE UNLOCKED TURNBUCKLE [P/E]

Aircraft : Beagle Pup Series 2 Registration : G-AXES
Date : January 1987
Reportable Accident at Nairobi, Kenya.

During the approach to land all elevator control was lost, the aircraft struck the ground in a nose down attitude shearing off the nose leg and damaging the propeller. Subsequent investigation revealed that control tube, Part No BE-10047-1 of the elevator controls in the rear fuselage had come undone and one fork end had dropped out. It appears that both lock nuts had loosened off and the locking wire, which was still intact, was insufficient to prevent the centre barrel from rotating due to vibration, until one fork end dropped out. The aircraft had flown 1430 hours and had been maintained to the LAMS Schedule with 62 hours flown since the previous annual check in March 1986.



CAA Comment:
On aircraft with an "independent" trim system (i.e. not a spring bias system) it should be possible to land the aircraft without undue skill by use of the trimmer.

In order to identify the broad subject matter each item is classified as follows:

Operational items mostly of interest to pilots [P]
Airworthiness items mainly for engineers [E]
Items which involve both operational and airworthiness interests [P/E]

FOR APPROVAL OF COMM: Sets ONLY IN MOTOR-GLIDERS & TUGS.

BGA/RAD/INST/86

BGA PROFORMA Radio Installations

CLASS III CAA MINOR MOD: .....

(Please PRINT legibly so that this Proforma can be copied to CAA.)

1. Aircraft Type:..... Serial No: ..... Registration: .....

2. Registered Owner(s)

Address: .....

Telephone: ..... Post Code: .....

Airfield/Club where aircraft is located: .....

3. Type of Radio Equipments (Manufacturer/Type etc)

(a) .....

(b) .....

(c) .....

4. Weight: ..... Distance from CG Datum:.....

Effect on CG: .....

(NB: Where the change in weight and balance is significant, a revised weight and balance report must be raised.)

5. Power Supplies

Generator/Alternator fitted ..... Battery Capacity .....

6. Circuit Protection Rating: ..... Eqmnt Consumption .....

7. Aerial Locations: .....

.....

8. Description of Location and Installation of Equipment(s)

(Sketch on back if necessary)

9. Certificate of Compliance with BCAR Section R			BGA INSPECTOR
(a)	R2-3	Installation not hazardous	.....
(b)	R2-3	Safely and securely installed	.....
	-	(Escape from Aircraft not effected)	.....
(c)	R3-2	Compass deviation checks	.....
(d)	R3-4	Protective devices (fuse & circuit breaker)	.....
(e)	R4-5	Cables and Wiring secured	.....
(f)	R3-1	Equipment Placarded "Class III"	.....

Date: .....

BGA OFFICE APPROVED:..... DATE: ..... PASSED TO CAA: .....