

BRITISH GLIDING ASSOCIATION

BGA TECHNICAL COMMITTEE

TECHNICAL NEWSHEET TNS 5/6/92

- PART 1 Airworthiness "AGGRO" Please add to the BGA 1992 Red Pages.
- 1.1 Stemme S.10. LBA A/D 92-197 (herewith) requires replacement of the "O" Ring securing the Pitot Probe in the nose.
- 1.2 Grob G.109's Airworthiness Directives. Revised list herewith dated April 1992 (Issue 8), must be checked on Scheduled Maintenance.
- 1.3 KA8 Elevator Hinge Cracked. Sketch from Rattlesden G.C. is self explanatory.
- 1.4 DG 500 Elan - Winch Launch - operating technique and increase in weak link to 10.000N. T/Note 348/1T herewith, refers.
- 1.5 Centrair 201 Sailplanes Aileron Mass Balancing. A/D 92-088(A) herewith requires action as indicated.
- 1.6 KA7 - Cable Release Failure caused by well worn hook - **HOW WORN IS YOUR HOOK?**
- 1.7 G.103 Twin Astirs AD 92-190 increases the service life to 12000 flight hours on completion of fatigue testing. Grob G.103 Tech Note TM 315/45 refers.
- 1.8 Grob G.109B fitted with BENDIX Magento(s). AD 92-189 requires inspection of impulse fly weights, which are known to have caused damage on G.109B's in Air Cadet Service in the UK. Grob TM 817-34/2 refers. Teldyne/Bendix S.B. 599D also refers.
- 1.9 Grob G.109B Engine Defect (loss of 200 RPM) is known to be caused by valve gear malfunction, caused by loss of clearance between the Rocker Arm and the rotating cap. Check at each 50 hr inspection, or whenever compression or power is detected. (Reported to BGA and by BGA to Grob).
- 1.10 ZUGVOGEL 111B, damage to elevator hinge pin at the weld. Sketch by Colin Sanders herewith, illustrates the problem.
- 1.11 ASTIR STD II. Undercarriage Lever attachment cracked. Sketch herewith from Mr. G.R. Clark - Portsmouth Naval G.C.

- 1.12 ASK7 & ASK13 Fin Post Damage. Sketch from Steve Wilkinson - Portsmouth Naval G.C. points you towards the problem area.
- 1.13 "Turbo" Engine Vibration Levels can be so high that instruments disintegrate and fill the cockpit with debris! Reported by RAFGSA Cranwell. (Possible advert for Loctite?).
- 1.14 PA18 (Piper Cubs) Failure of the Tailplane Trim Actuator. AAIB Bulletin 4/92 herewith, refers to this recurring problem.
- 1.15 CAA Airworthiness Notice No. 88 herewith requires action to fit LOW BUS BAR WARNING SYSTEMS, on aircraft (including SLMG's), unless the owner/operator applies for a dispensation.
- 1.16 Grob G.109 Aileron / Airbrake Bellcrank - attachment plate and studs found corroded when applying TM 817-29 inspection procedure.

PART 2 General Information

- 2.1 "Eagle" Ex Air Cadet Twin-Drum Winches. It may be necessary to reduce the diameter of the driven sprocket on the pay-on-gear, to accommodate 4.5MM cable, and to prevent "piling-up" at the end of the drum. Reduce sprocket from 35 to 30 teeth. (Reported by Enstone Eagles G.C.).
- 2.2 Standard Cirrus. Tech/Note 278-32 introduces double panelled airbrakes!
- 2.3 Revised BGA Price List - includes CAA's increase to £288 for S.L.M.G. C.of.A.
- 2.4 Grob G.109's Extension of Service Life as the result of fatigue tests. TM 817-28 defines the extension periods at 3000, 6000, 7000, 8000, 9000, 10,000, 11,000 to 12,000 flight hours.

Dick Stratton
Chief Technical Officer

TNS/5/6/92

9/97/CAw/182

SAFETY REGULATION GROUP



British Gliding Association
Kimberley House
Vaughan Way
Leicester LE1 4SE

STEMME 10

1 May 1992

For the attention of Mr R Stratton

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

Switchboard: (0293) 567171
Fax: (0293) 573999
Telex: 878753

**LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVE 92-197
STEMME S10 SERIES MOTORGLIDER
REPLACEMENT OF THE FRONT O-RING AT THE MOUNTING PART OF THE PITOT TUBE**

This letter transmits a copy of the above referenced Airworthiness Directive for your attention.

The provisions of Article 8(7) of the Air Navigation Order (1989) as amended, are such that a Certificate of Airworthiness in respect of an aircraft registered in the United Kingdom will cease to be in force until any modification or inspection, being a modification or inspection required by the CAA is completed.

In accordance with Article 8(7) and Airworthiness Notice No. 36 the modification or inspection required by this Airworthiness Directive is mandatory for applicable aircraft on the UK Register.

A handwritten signature in black ink, appearing to read 'R J TeW'.

R J TEW
Aircraft Maintenance Approvals
Ext 3149

P. TEW

AIRWORTHINESS DIRECTIVE

92-197 Stemme

Date of issue: 09. April 1992

Affected powered gliders:

German type certificate no. 846
Stemme S 10
- serial numbers up to 35

Subject:

O-ring which is installed in the mounting part of the pitot tube (in the propeller dome)

Reason:

Because of the O-ring with less hardness a loss of the pitot tube due to vibration is possible

Actions:

Exchange the front O-ring (blue or red) at the mounting part of the pitot-tube by an O-ring with the part No. 10RV-PD28 (black). The hardness of this O-ring is higher.

Note:

- Do not use sharp tools.
- Use silicone grease by inserting the O-ring.
- Check the position of the O-ring by pulling the pitot tube several times out. The O-ring must remain securely in the groove.
- Grease the O-ring every three months with silicone grease to avoid that the O-ring gets brittle.

Available:

The required parts can be requested from the manufacturer (Stemme GmbH & Co. KG Gustav-Meyer-Allee 25, D-W-1000 Berlin 65).

O-ring:	Part No. 10 RV-PD28
Silicone grease	Part No. 10 RV-PD29

Compliance:

Action be accomplished until 30 days after the effective date (date of issue) of this AD

Technical publication of the manufacturer:

Stemme Technical Bulletin Nr. A 31-10-003 of February 02, 1992
which becomes herewith part of this AD and may be obtained from Messrs.

Stemme GmbH & Co. KG
Gustav-Meyer-Allee 25
D-W-1000 Berlin 65
Federal Republic of Germany

Accomplishment and log book entry:

Action to be accomplished by a skilled person or an approved service station and to be checked and entered in the log by a licensed inspector.

TNS 5/6/92

Issue 8
 April 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.

<i>LBA AD No.</i>	<i>Description</i>	<i>Applicability – Compliance – Requirement</i>
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.

PART 2 - CAA ADDITIONAL AIRWORTHINESS DIRECTIVES

CAA AD No.	Description	Applicability - Compliance - Requirement
012-11-86	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.	<p>Applicable to all G109 and G109B Series motor gliders. Compliance is required not later than 50 flying hours from the receipt of this Directive.</p> <ul style="list-style-type: none"> (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. (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, i.e. does not extend circumferentially into the spigot, or where there is a lack of weld penetration, the wings may be refitted. 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.

(AD continued overleaf)

CAA AD No. *Description*

006-10-88 (continued)

Applicability – Compliance – Requirement

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.

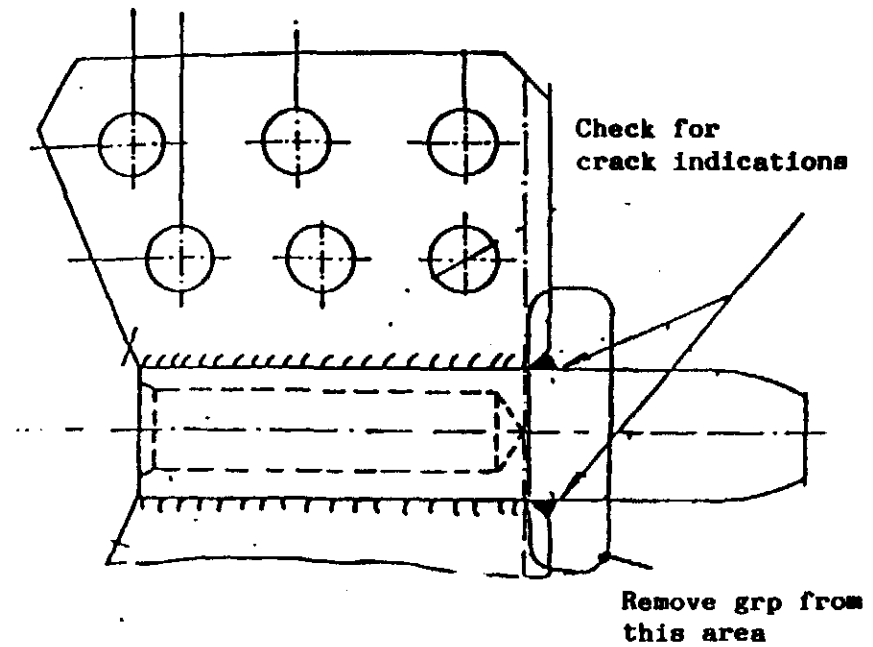
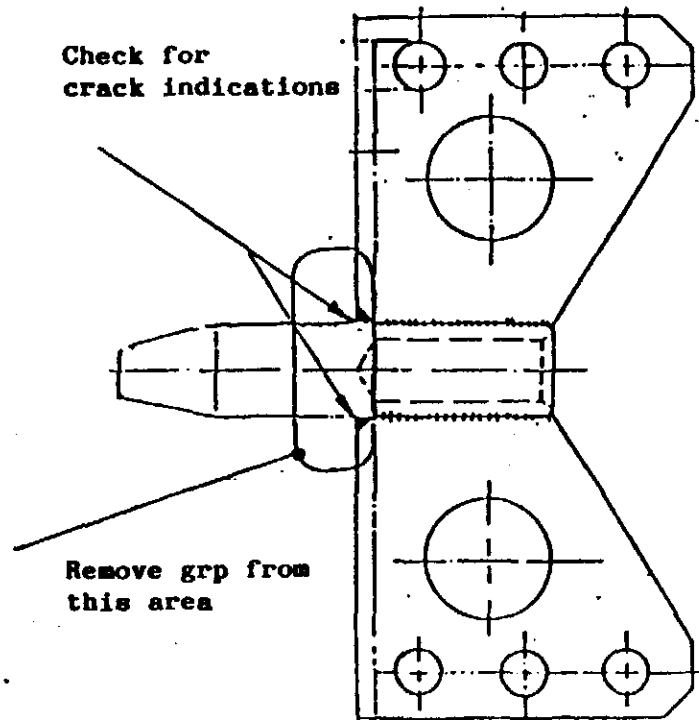
Report the results of the inspections to the manufacturer and to the SDAU of the CAA.

- (v) Where the spigots 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. Refit the wings to the instructions in the Flight Manual. Repeat the instructions commencing at (i) above except that only the re-protection has now to be removed, at intervals not exceeding 300 flight hours.

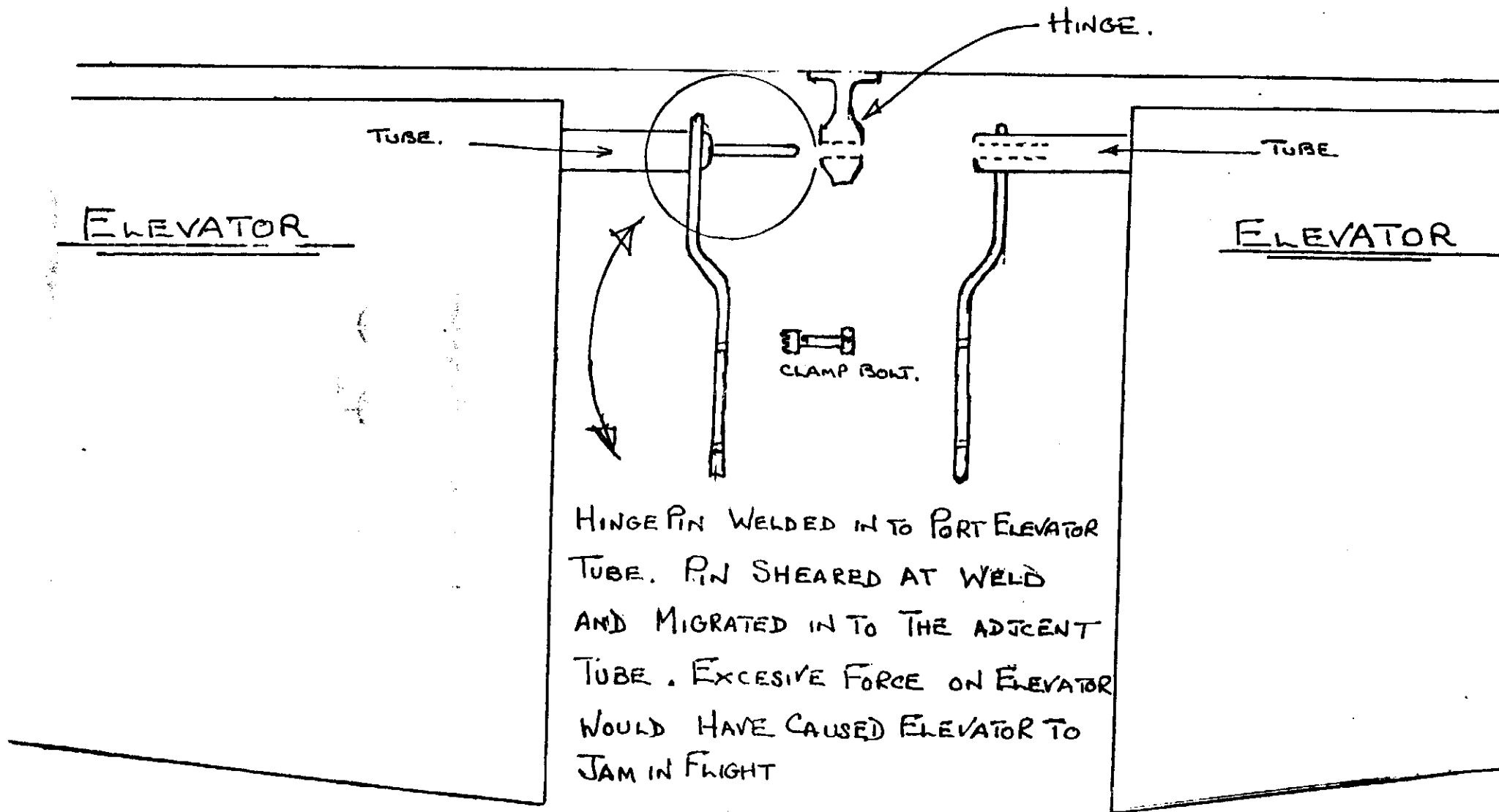
(AD continued overleaf)

006-10-88 (continued)

FIGURE A
(Not to Scale)



TAILPLANE.



HINGE PIN WELDED IN TO PORT ELEVATOR
TUBE. PIN SHEARED AT WELD
AND MIGRATED IN TO THE ADJACENT
TUBE. EXCESSIVE FORCE ON ELEVATOR
WOULD HAVE CAUSED ELEVATOR TO
JAM IN FLIGHT

C. Q. SAMERS 1/A/157 M.E.

AIRWORTHINESS DIRECTIVE

TWS 3/4/92
5/6/92

92-189 Grob

Date of issue:

March 16, 1992

Affected motorglider:

German Type Certificate No. 817

G 109 B

serial no. 6200 and upward

Subject:

Inspection of the BENDIX-magnetos at the GROB 2500 engine

Reason:

During engine inspections too less clearance between flyweights and stop pin has been found. To prevent a possible damage of the magnetos or the engine, an inspection for the clearance between flyweights and stop pin is required.

Action and compliance:

Action to be accomplished in accordance with Service Bulletin TM 817-34/2 within the next 25 flight hours after the effective date of this AD, unless already accomplished.

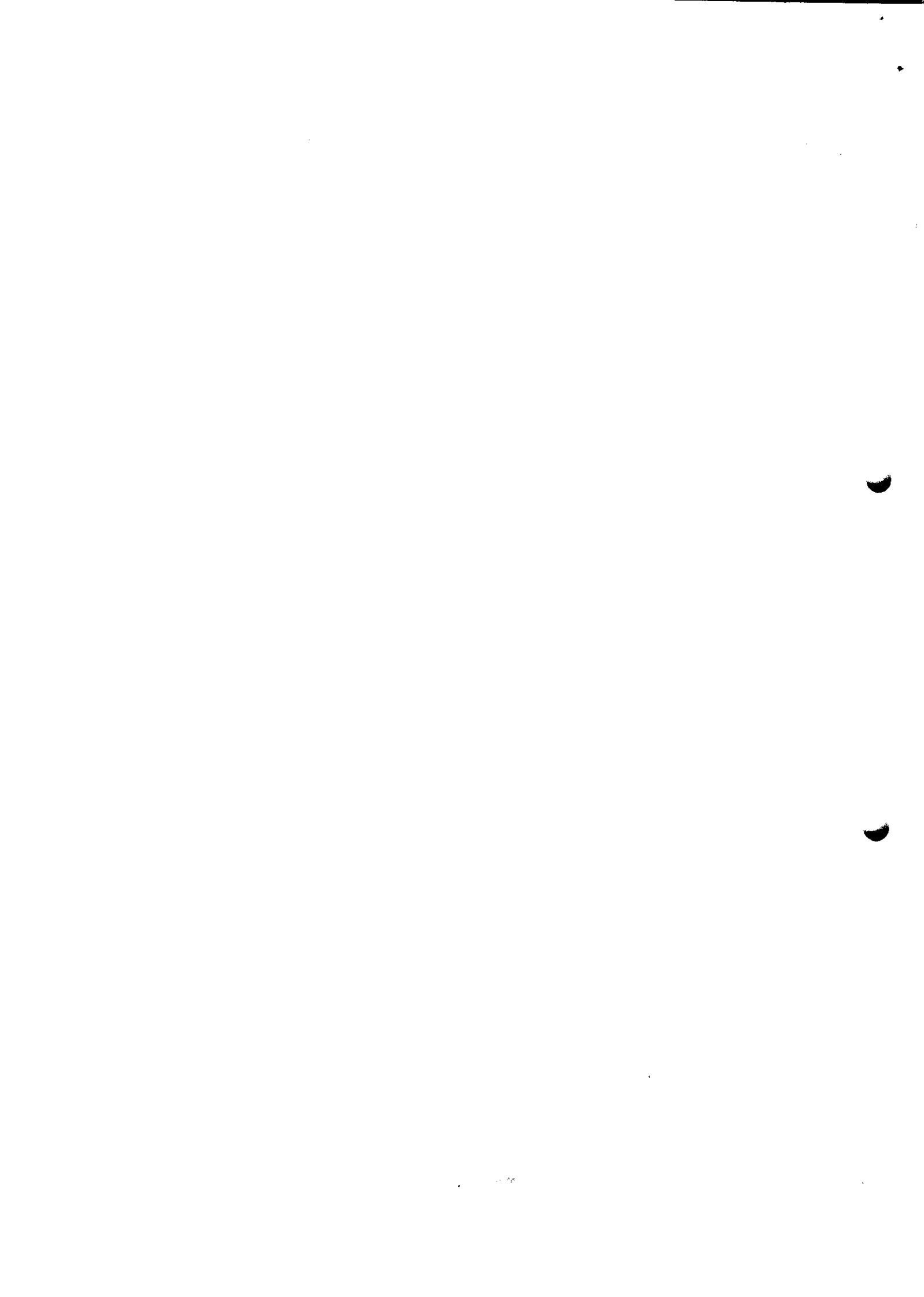
Technical publication of the manufacturer:

Grob Service Bulletin TM 817-34/2 of March 17, 1992 which becomes herewith part of this AD and may be obtained together with the Repair Instructions from Messrs.

Burkhart Grob Luft- und Raumfahrt
W-8939 Mattsies
Federal Republic of Germany

Accomplishment and log book entry:

Action to be accomplished by a skilled person or an approved service station and to be checked and entered in the motorglider's log by a licensed inspector.



AIRWORTHINESS DIRECTIVE

released by DIRECTION GENERALE DE L'AVIATION CIVILE

Inspections and/or modifications described below are mandatory. No person may operate a product to which this Airworthiness Directive applies except in accordance with the requirements of this Airworthiness Directive

Translation of 'Consigne de Navigabilité'

Rél.: 92-088(A)

In case of any difficulty, reference should be made to the French original issue.

CENTRAIR sailplanes type 201

Balancing masses in aileron

This Airworthiness Directive concerns all CENTRAIR 201 sailplanes, all types and all serial numbers.

Incorrect fastening of ailerons balancing masses has been discovered on a sailplane 201 model during a maintenance inspection.

In order to avoid a dissociation of balancing mass from the aileron :

- 1) Before the next flight follows the effective date of this Airworthiness Directive :
 - Proceed to the checking as described on CENTRAIR Service Bulletin number 201-11 item a.
- 2) At the next annual maintenance inspection, disassemble the aileron and check it as described on CENTRAIR Service Bulletin number 201-11 item b.

Record the application of this Airworthiness Directive in the sailplane logbook.

Ref. : CENTRAIR SB N° 201-11 dated February 26, 1992

EFFECTIVE DATE : APRIL 11, 1992

e/Z

97

April 1, 1992

CENTRAIR sailplanes type 201

92-088(A)

AIRWORTHINESS DIRECTIVE

92-190 Grob

Date of issue: 16. März 1992

Affected sailplane:

German Type Certificate No. 315

TWIN ASTIR	S/N: 3000 - 3291
TWIN ASITR TRAINER	S/N: 3000 - 3291 (with "T")
G 103 TWIN II	S/N: 3501 - 3729 3730 - 3878 33879 - 34078
G 103A TWIN II ACRO	S/N: 3544 - 34078 (with "K")
G 103C TWIN III ACRO	S/N: 34101 - 34170
G 103C TWIN III	S/N: 36001 - 36014

Subject:

Extension of service life

Reason:

The results of performed fatigue tests have shown, that the service life of GRP/CRP-sailplanes can be increased to a maximum of 12000 flight hours.

Action and compliance:

Action to be accomplished in accordance with Service Bulletin TM 315-45 before reaching a service time of 3000 flight hours, then after reaching 6000 flight hours, then stepwise every 1000 flight hours to a maximum of 12000 flight hours (refer to MM).

Technical publication of the manufacturer:

Grob TM 315-45 of October 11, 1991 which becomes herewith part of this AD and may be obtained from Messrs

Burkhart Grob Luft- und Raumfahrt
W-8939 Mattsies
Federal Republic of Germany.

Accomplishment and log book entry:

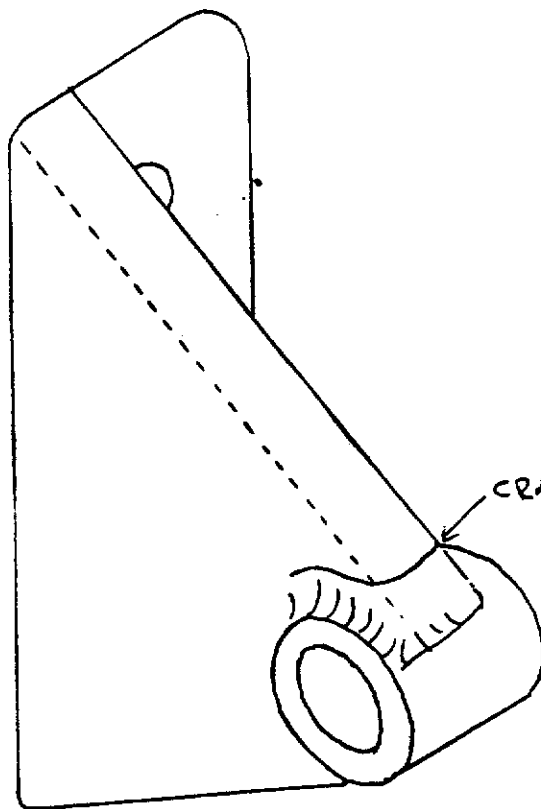
Action to be accomplished by an approved service station and to be checked and entered in the sailplanes log by a licensed inspector.

KAB

PLEASE SEE BELOW A SKETCH OF A KB ELEVATOR HINGE
FOUND CRACKED. ALSO FOUND RECENTLY WAS A KB TOP
RUDDER HINGE, OF THE SAME DESIGN, CRACKED IN A SIMILAR WAY.
THESE RUDDER HINGES ARE ALREADY ^{THE} A SUBJECT OF T.N.S.'S

R

RATTLESDEN G.C.



CRACKED HERE, RUNNING ROUND
THE OUTSIDE OF THE WELD

SUBJECT : winch launch
EFFECTIVITY : DG-500 ELAN Trainer
ACCOMPLISHMENT : May 31, 1992
REASON : a) During winch launching, especially when flown solo large pitch attitudes may be reached during initial take-off if the control stick is not pushed enough in forward direction.

Therefore the take-off procedure will be described in more detail in the flight manual. In addition the adjustment of the trim mechanism shall be checked.

b) During operation it appeared that the 7500 N weak link was not strong enough for winch launching. As the strength of the glider had enough reserve, the use of a 10.000 N weak link can be permitted.

INSTRUCTIONS : 1. Exchange the following manual pages against the new pages issued February 1992.
Please note all changes which are marked by a black vertical line in the left hand margin.

Flight manual

0.1 record of revisions
0.3 effective pages
2.8 weak links
2.9 placards
4.8 winch launching

Maintenance manual

1 record of revisions
3 content
diagr. 9 placards

2. Check the adjustment of the trim mechanism according to maintenance manual sect 1.2.5 page 7 and adjust if necessary.
3. Exchange the placard for the rated load at the right landing gear door against the new placard with 10.000 N.

MATERIAL : Manual pages see instruction 1
Placard for weak link 10.000 N

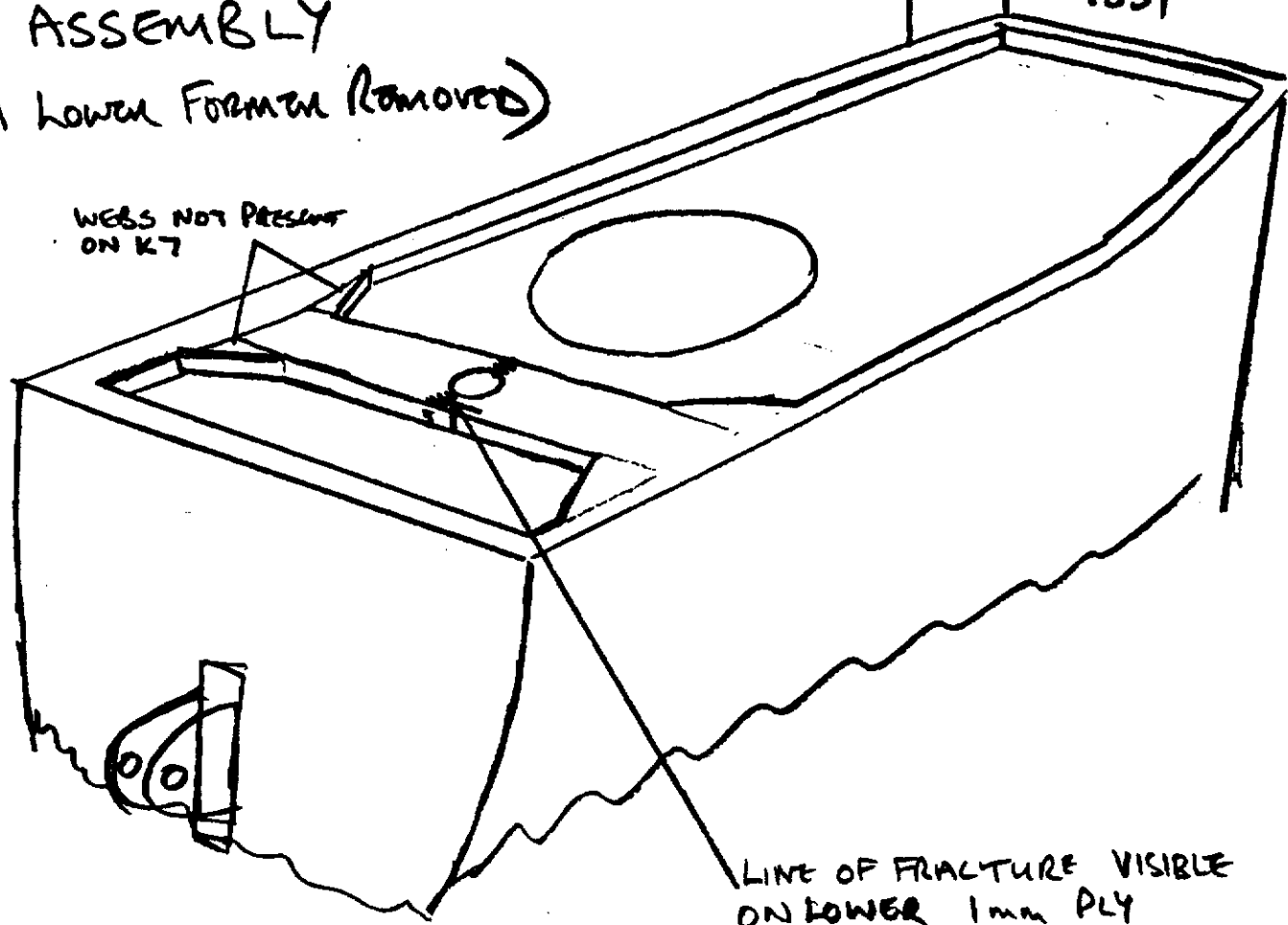
WEIGHT AND BALANCE : /

ASK 13 & ASK 7
 FIN ASSEMBLY
 (WITH LOWER FORMER REMOVED)

INS/S/G/MZ

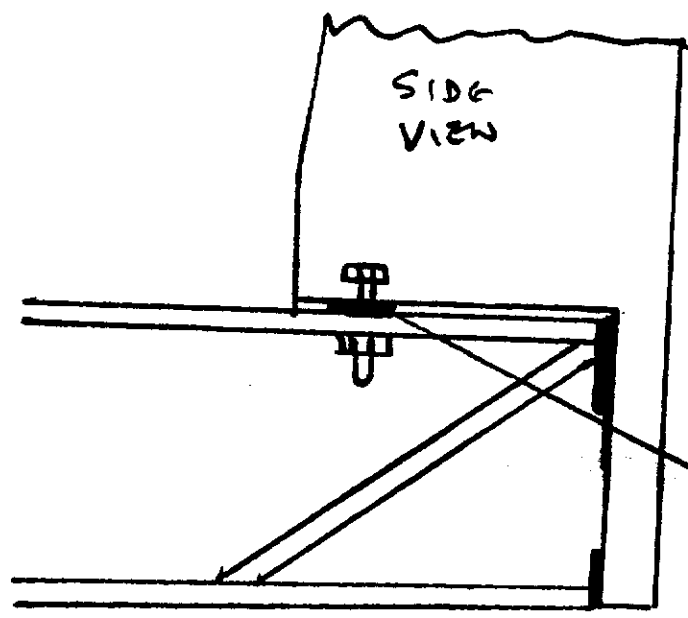
STEEL
 POST

WEBS NOT PRESENT
 ON K7



LINE OF FRACTURE VISIBLE
 ON LOWER 1mm PLY
 FORMER

SIDE
 VIEW



VIEWED
 FROM BELOW

SUGGESTED PLY
 PACKING TO
 SHIT (GLUED TO LOWER
 FORMER)

Steve Wilkinson. JIC/924M
 Portsmouth Naval Gliding
 Club.
 27/3/92.

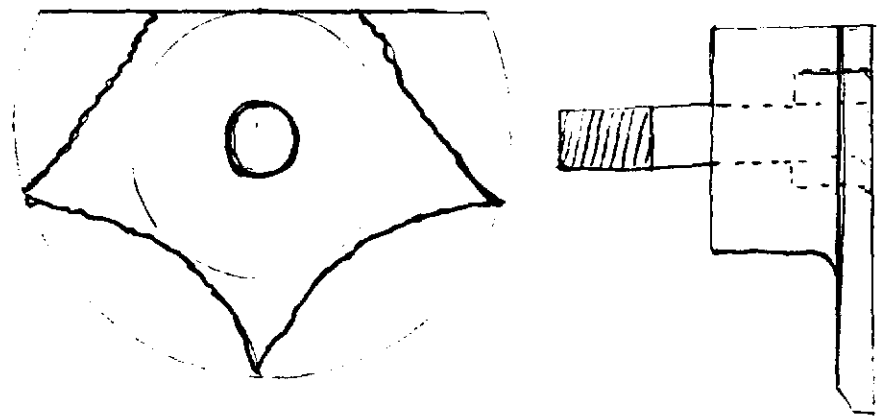
ASTIR. II.

Astir Std II under carriage Lever Retaining Bolt Attachment Plate is cracked in four places.

Whilst carrying out annual C of A the bracket was found to be loose inside the fibre glass sandwich which holds it to the fuselage side wall. Starring of the Gel coat on the outside in line with the leading edge of the bracket was noticed. Further investigation was then carried out.

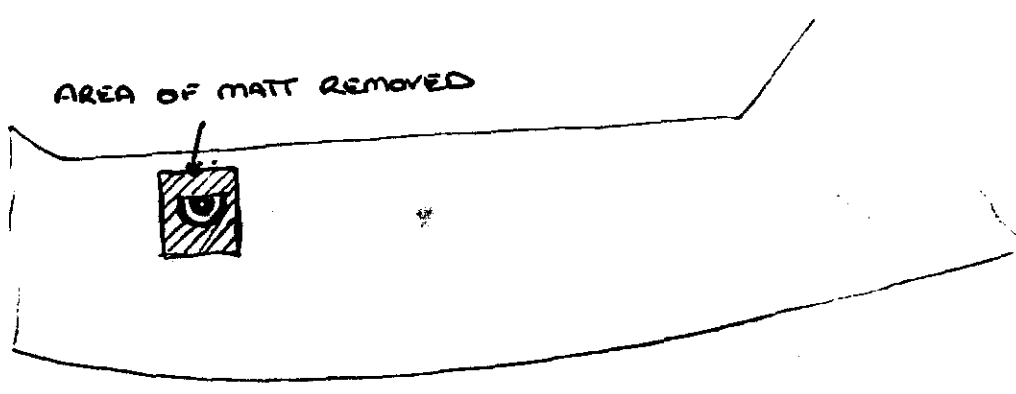
Four layers of matt were removed which retain the bracket to the fuselage side wall. The bracket was then accessible and found to be cracked in four places.

The bracket seems to be made of a brittle cast alloy.



CRACKED IN FOUR PLACES AS INDICATED

BRACKET SANDWICHED BETWEEN FUSELAGE AND FIBER MATT.



AREA OF MATT REMOVED



No: 4/92

Ref: EW/G91/09/21

Category: 1c

Aircraft Type and Registration: Piper PA-18-180 Super Cub, G-AVOO

No & Type of Engines: 1 Lycoming O-320-A3A piston engine

Year of Manufacture: 1967

Date & Time (UTC): 8 September 1991 at 1100 hrs

Location: Dunstable Airfield, Bedfordshire

Type of Flight: Private (glider towing)

Persons on Board: Crew - 1 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Damage to tailplane trim system

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

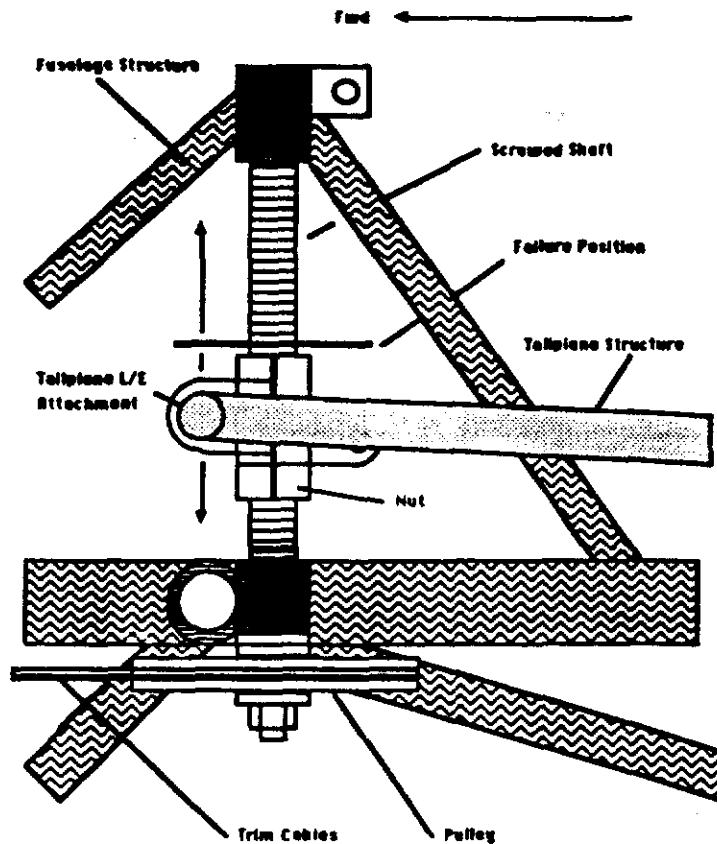
Commander's Age: 33 years

Commander's Flying Experience: 1,150 hours (of which 130 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot

As the aircraft accelerated in a descent from 2000 feet on the second aerotow of the day, the pilot operated the pitch trim handle to trim nose-down, only to find that he could not 'trim out' the stick forces. The remainder of the flight was conducted with a large measure of nose-up trim which resulted in a difficult, but uneventful, landing. Subsequent examination of the aircraft revealed that the pitch trim screwjack had broken into two sections but had been retained, as the screw is effectively held captive between its upper and lower bushes.

Pitch trim on this aircraft is effected by altering the incidence of the tailplane. This is accomplished by the tailplane pivoting about its trailing edge, with the leading edge attached at its centre to a nut which runs on a screw-shaft mounted vertically in the airframe. The shaft is rotated by cables from a handle in the cockpit, there being approximately 25 turns of the handle required for full travel. During aerotow operations this trim system is in almost constant use, compensating for large variations in pitching moments due to flap, power and speed changes. The aircraft is also subject to considerable vibration, particularly during the low speed, full power, climb segment of each flight.



Tailplane Trim Mechanism Installation - Schematic

The shaft had failed at its mid-point within a region which exhibited excessive wear on the screw thread. Evidence of fatigue cracking was present on the fracture surfaces, originating from the entire circumference of the thread root. Metallurgical examination of the screw material showed it to conform to the manufacturer's specification.

The shaft was fitted to the aircraft in March 1984 and had accumulated a total time of 2,448 hours. Data extracted from the records showed that, on average over the life of the screw, the aircraft had achieved 6.89 aerotows per hour, with a total number of flights of 16,866. The last recorded maintenance on the screw was in August 1991, 102 hours before the failure, when it was found to be 'loose'. It was re-shimmed, tested and found to be satisfactory. Comments were made by an experienced engineer on type to the effect that any excessive shimming used to eliminate side play on the tailplane front or rear attachments can result in high friction in the system and introduce side loads on the screw. He also stated that a check for increased friction should be accomplished after such shimming. There is no related guidance given in the Maintenance Manual on this subject.

TBS 5/6/92-

CIVIL AVIATION AUTHORITY



AIRWORTHINESS NOTICE

No. 88
Issue 2
17 March 1992

THIS NOTICE GIVES DETAILS OF A MANDATORY ACTION

ELECTRICAL GENERATION SYSTEMS - BUS-BAR LOW VOLTAGE WARNING SINGLE-ENGINED AIRCRAFT WITH A UK CERTIFICATE OF AIRWORTHINESS

1 Introduction

- 1.1 When Airworthiness Notice No. 82 was introduced in June 1973, it was considered inappropriate to impose the whole or part of those requirements on single-engined aircraft. Since that time, systems which were once fitted only in the more complicated twin-engined general aviation aircraft, have now been developed and fitted to single-engined aircraft. Thus, greater reliance is being placed on the integrity of the electrical power supplies for such aircraft.
- 1.2 As a result of the above, Issue 1 of this Notice was published in December 1986. This Notice required certain single-engined aircraft to be equipped with low voltage warning devices to give indication to the pilot of when the aircraft's battery commences to support all or part of the electrical load of the aircraft. Compliance was required by 1 January 1988.
- 1.3 Since that time, a number of incidents and accidents have continued to occur on single-engined aircraft equipped with electrically operated systems. Investigations have shown that a general misunderstanding exists as to the categories of single engined aircraft (depending upon the level of equipment installed) that have to be equipped with low voltage warning devices.

1.4 The purpose of this Notice is to extend and clarify the requirement for a clear and unmistakable warning of the loss of generated electrical power (to the main bus-bar) as detailed in paragraph 2.1.1. This will be by the introduction, where necessary, of retrospective modifications.

2 Requirements

2.1 For all single-engined aircraft with a UK Certificate of Airworthiness (not already modified to meet the requirements of Issue 1 of this Notice) equipped with an engine driven electrical generating system, compliance with paragraphs 2.2 and 2.3, or with a CAA approved alternative providing an equivalent level of airworthiness is required not later than 31 December 1992, or next annual check whichever is the latest.

NOTE: The intent of this Airworthiness Notice will be covered in JAR 23 Airworthiness Requirements and will, therefore, not be applicable to Aircraft Type Certificated to this code.

2.1.1 Where an aircraft is equipped to operate under day VMG conditions only and the loss of generated electrical power could not prejudice continued safe flight and landing, the CAA on application will waive the requirement of this Notice, where it is satisfied that compliance would not be justified in the circumstances of a particular case.

2.2 A clear and unmistakable red visual warning shall be provided, within the pilot's normal scan of vision, to give indication of the reduction of the voltage at the aircraft bus-bar to a level where the battery commences to support all or part of the electrical load of the aircraft.

2.3 Guidance shall be given in the appropriate aircraft manual(s) on any actions to be taken by the pilot should the warning operate. See also paragraph 3.2.

3 Additional Information

3.1 The recommended voltage levels for operating the warning required under paragraph 2.2 of this Notice are 25 volts to 25.5 volts for a nominal 24 volt dc system and 12.5 volts to 13 volts for a nominal 12 volt dc system.

3.2 The battery duration should be sufficient to make a safe landing and should be not less than 30 minutes, subject to the prompt completion of any drills. This duration need only be a reasonable estimate and not necessarily calculated by a detailed electrical load analysis. However, when making this estimate, only 75% of the battery nameplate capacity should be considered as available because of loss of battery efficiency during service.

3.3 Owners and operators are recommended to contact the aircraft constructor or main agent for information regarding suitable means of compliance with this Notice.

3.4 Owners and operators may, on application, submit proposals for their own means of compliance and should refer to the guidelines laid down in CAA Information Leaflet AIL/0130.

4 **Cancellation** This Notice cancels Airworthiness Notice No. 88, Issue 1, dated 10 December 1986, which should be destroyed.

for the Civil Aviation Authority

Safety Regulation Group
Aviation House
Gatwick Airport
West Sussex RH16 0YR

B.G.A. CHARGES 1992**(as from 1st May 1992)****CERTIFICATES**

'A' Endorsement	£ 7.50
'A' Pin Badge	£ 2.00
'B' Endorsement	£ 4.50
'B' Pin Badge	£ 2.00
Bronze Endorsement	£ 6.25
Bronze Pin Badge	£ 2.00
Silver, Gold & Diamond - per leg	£ 6.25
Silver Pin Badge	£ 2.00
Gold Pin Badge	£ 2.00
UK Cross-Country Diploma - each part	£ 5.50
if applying simultaneously for both	£ 10.00

CERTIFICATE OF AIRWORTHINESS

Glider - issue/renewal per year	£ 30.00
Motor Glider - renewal	£288.00(3 yrs)
COMPETITION LICENCE - issue/renewal per year	£ 5.00
COMPETITION NUMBER - issue/renewals per year	£ 12.00
A.B.I. RECORD CARD	£ 15.00
INSTRUCTOR RECORD CARD	£ 25.00
INSPECTORS - issue/renewals per year	£ 16.50
INSTRUCTOR RENEWAL PER YEAR	£ 5.00
OFFICIAL OBSERVER - issue	£ 5.00

