BRITISH GLIDING ASSOCIATION

TECHNICAL COMMITTEE

TNS 3/4/89.

PART 1 AIRWORTHINESS "AGGRO"

This TNS supplements the 1989 Blue Pages.

1.1 KA7 (KA 2's) Air Brake Cross Links Cracked. Re-enforcement recommended as per attached photo. (Reported by Tim MacFadyen, Cotswold G.C).

1.2 KA7 - Air Brake Paddles - Glue failure due to water not being drained. Drain holes required. (Reported by Tim MacFadyen).

1.3 KA8B (also KA7 and K2) - Rudder pedals cracked, and bent. Inspect and re-enforce as required by TNS/1/81.

1.4 Bocian - Trim Tab Cable Failure At The Tab - A swivelling device must be installed to prevent cable fatigue failures, which will result in uncontrollable motions of the elevator. (Sketches by Ian Hipkin, Highland G.C).

1.5 ASW 17. "Soft" Balsa In The Tailplane - Moisture will degrade the balsa. (Reported by Southdown Aero Services).

1.6 Grob G.109 B's - Magneto Drive Coupling Badly Worn - which may result in timing errors or complete failure of the ignition system. (Reported by RAFGSA Bicester (See also SLICK MAGNETO SERVICE BULLETIN herewith).

1.7 Slick Magneto Failures - Slick Service Bulletin SBZ - 80B (Revised January 1988) requires internal inspection of the magneto (by approved agency) at 500 hour intervals, or replacement by exchange.

1.8 Grob 109 B's Induction Swirl Vanes - Immediately down stream of each carburrettor, may disintegrate and be swallowed.

1.9 Glasflugel Hornet Club Libelle 205 - LBA A/D 88/280 (herewith) extends the Service Life to 6000 hours, subject to inspection in accordance with amended Flight/Operations Manual, at 3000 hours.

1.10 Composite Wing Catastrophy (Quickie 2 in Canada) - The enclosed extract from GASIL 2/89 outlines the importance of correct manufacture and repair of G.R.P. structures!

1.11 Seat Belt Attachment Failure (J3 CUB) - The extract from GASIL 2/89 could apply to any type of seat belt anchorage.

1.12 Compass Errors - GASIL 2/89 reports sizeable errors induced by hand - held radio's and by headsets (and by loud speakers?)

1.13 Failed Oil Hoses (Aeroquip) - GASIL 3/89 refers.

1.14 Aircraft (Piston) Refuelled With Turbine Fuel - GASIL 3/89.

1.15 PIK 20 Heavy Landing Damage - to undercarriage support structure, and Lower Rudder Hinge found to be cracked (sketches by M.J. Smallbridge are self explanatory).

1.16 Unleaded Motor Gasoline - should not be used in aero-engines. BGA have correspondence from Limbach and Pieper (stamo) to this effect (Limbach letter herewith).

1.17 Marvel - Schebler Carburrettors - fitted to most glider tugs. FAA A/D 89-04-02 applies to units manufacturerd after April 1984. (Copy herewith).

1.18 Imported "Used" Aeroplanes - on to the U.K. Civil Register. CAA Airworthiness Notice No 18 (herewith) outlines the problems? The BGA are aware of two recent instances of a PA18 - 150 and a PA25 - 235 (Pawnee), on which the CAA have raised queries on two-hooks and undercarriage modifications, which may take months to resolve (if ever?).

1.19 DG 300 (Elan). Tech/Note 359/4 places a Vne restriction of 108 knots, pending modifications to re-enforce the wing root bulkheads which support the speed brake mechanisms. (Details from UK Vendors).

Copy attached 14-12-01

1.20 Pawnee - Engine Malfunction - Plastic debris from the landing lamp assembly in the Nose Cowl, was injested by the carburrettor via the "Scat" hose! (Reported by York Gliding Centre).

1.21 Electrical Fires In Gliders - The Gliding Federation of Australia report several cases, including hospitalisation of a Blanik crew after inhaling toxic acid smoke from overheated p.v.c. covered wiring.

In the UK a Janus CM was badly damaged by unprotected electrical systems

Isolation devices should be installed close to the source of power. Wiring should be protected against damage.

GENERAL MATTERS

2.1 S.L.M.G's Warning Placards. The attached letter from the CAA requires removal of all placards worded "This aircraft must not be operated in conditions such that engine failure could result in a hazzard". (Rule 5 of the Rules Of The Air (ANO) already covers this situation).

2.2 Licence Privileges S.L.M.G's. Extract from G.A.S.I.L 2/89 is self explanatory, and arises from the total destruction of a G.109B with casualties!

2.3 Changes To The Air Navigation Order (4th amendment). SIGNIFICANT CHANGES effecting all forms of recreational flying are briefly outlined in extract from G.A.S.I.L. For full details refer to ANO.

In particular, Article 32 "Pre Flight Action By The Commander Of An Aircraft, is extended and re-enforced, in repsect of **PRE-FLIGHT CHECKS**

2.4 G.R.P. Courses. Southall College of Technology, Beaconsfield Road, Southall, Middlesex. UB1 1DP (Mr Frank Dunning 01-574-3448) are now running both ab initio and advanced courses. These courses are aerospace related, as are such courses at Slingsbys, and the Marine Builders Trust (TNS/1/89).

2.5 New Types Evaluated by the BGA Technical Committee:-

LS 7 - BGA C of A Issued.

ASW 24 - Permits To Fly will be isued for ASW 24's until such time as the vendor makes a Flight Manual available in English!

DG 600 - Permits To Fly are issued pending flight test evaluation.

2.6 Blanik Oleo Modifications to accept standard "O" rings. The attached sketch from The Gliding Federation of Australia is acceptable to BGA.

2.7 Blanik - Repairs to Wing Spar, following galvanic corrosion (Ref 7/8/88). A repair scheme devised by J.L. Smith, Culdrose G.C, is available from BGA.

2.8 Ex Air Cadet Twin Drum Winches - The Attached advice may prove useful

EX AIR CADET (TWIN DRUM/PETROL) WINCHES

These will become available, as and when replaced by new winches, from which ever sites they are currently located. Most will probably be in good working order.

The configuration of these winches make them very suitable for re-engining with high performance automotive power units with automatic transmissions, or with diesel power units with fluid couplings etc.

If you are interested, make your interest known in writing to M.O.D Air (F6 Disposals), Government Buildings, St. Georges Road, Harrogate, North Yorkshire. M62 9DB. You might also enquire about the future disposal of winch spares.

The BGA's book "Winching & Auto Towing 1989" gives useful guidance. Price £1.50 from BGA office.

NOTE: LATE AMENDMENT (Under Airworthiness Aggro)

REF GROB 103, TWIN ASTIR/ACCRO AILERON MASS BALANCE WEIGHT ATTACHMENTS

1.22

1) Cracks have been reported in the G.R.P attachment brackets on a G.103 Accro at Lasham, by Southdown Aero Services. (025/683/359).

2) Separation of Mass Balance Weight might jam ailerons, and would reduce flutter margins.

3) BGA recommend inspection a.s.a.p, and thereafter at annual inspections.

4) Southdown Aero have repaired by local re-enforcement.

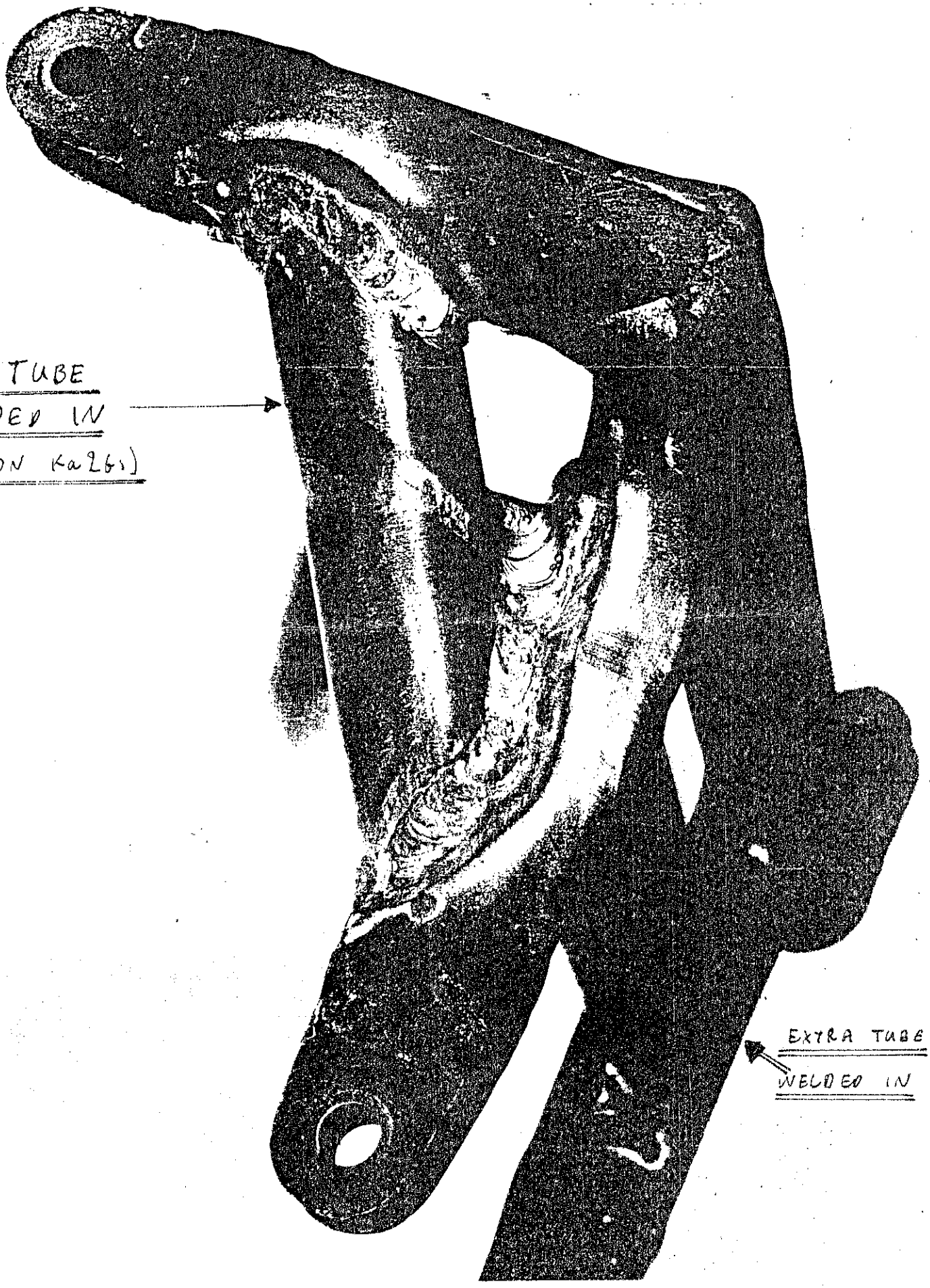
R.B. STRATTON.

CHIEF TECHNICAL OFFICER

1.4.1989

KA7 | KA2B

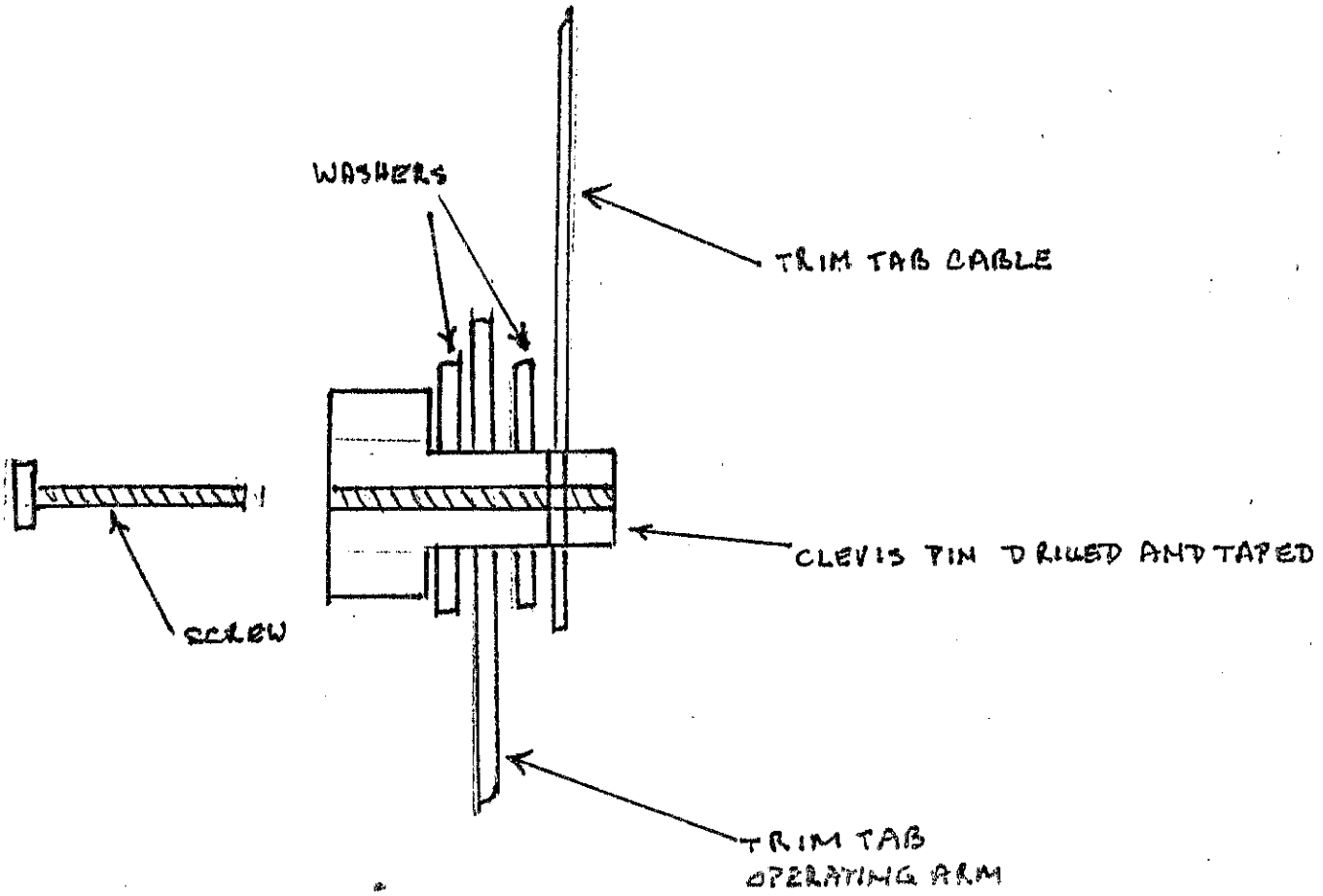
TNS | 3 | 4 | 89



Ka7 & Ka2b AIRBRAKE CROSSLINK - MODIFIED

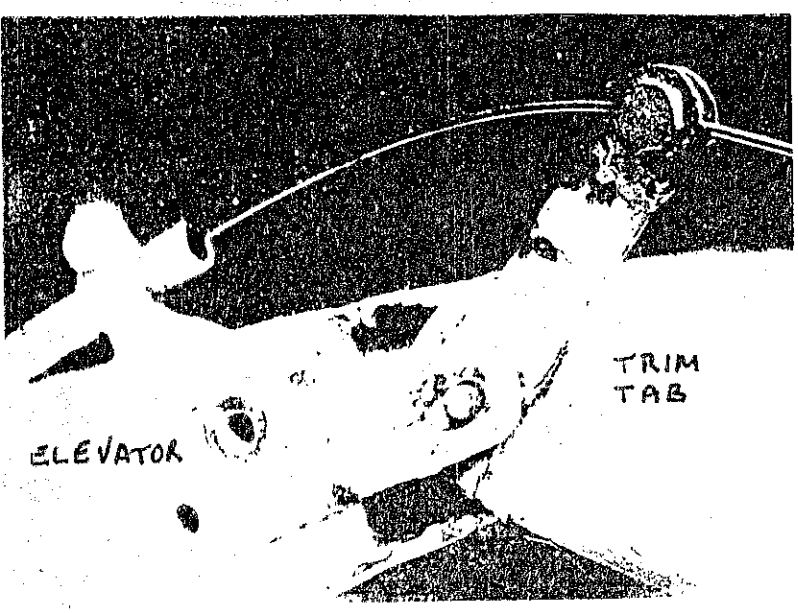
BOCIAN TRIM TAB DRIVE. TNS 3/4/89.

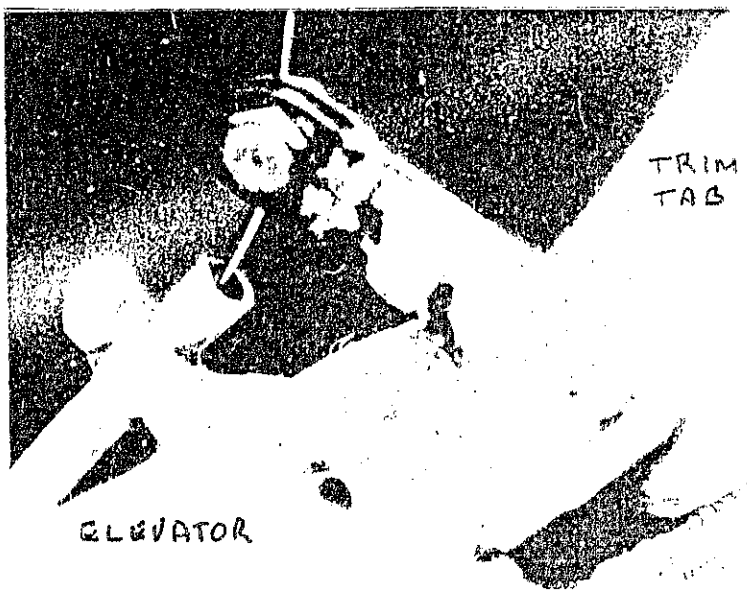
BOCIAN/TRIMTAB/MOD



THE CLEVIS PIN IS FREE TO ROTATE IN THE TRIM TAB OPERATING LEVER. THE TRIM TAB CABLE IS CLAMPEDBY THE SCREW PASSING THROUGH THE CLEVIS PIN

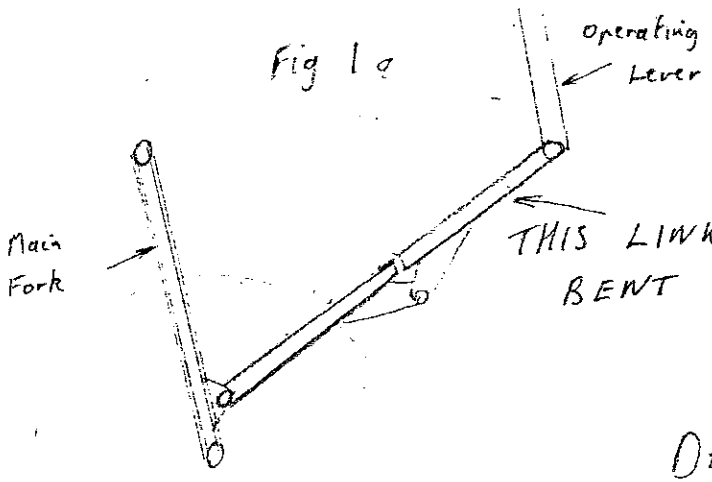
BEFORE MODIFICATION !!

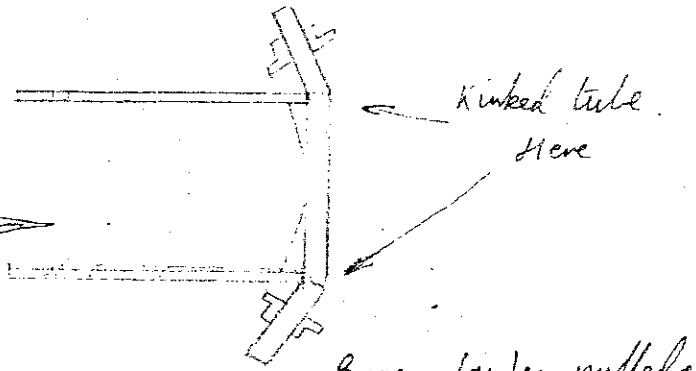




HEAVY LANDING.

Fig 1a



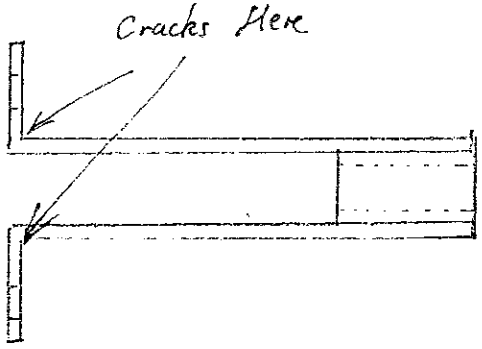


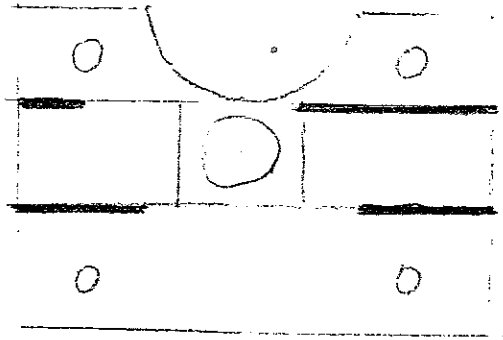
DAMAGE TO UNDER CARRIAGE

Brass bushes pulled out of glass wheel box sides

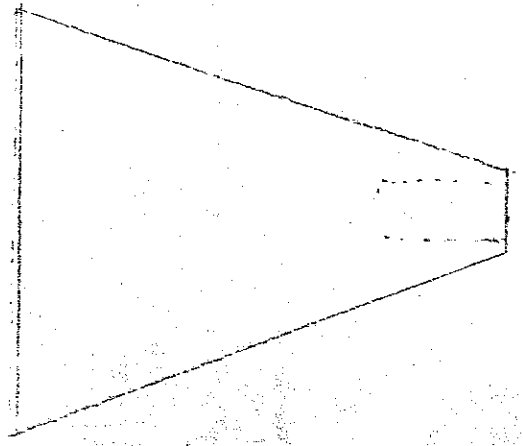
DAMAGE TO LOWER RUDDER HINGE

Fig 2





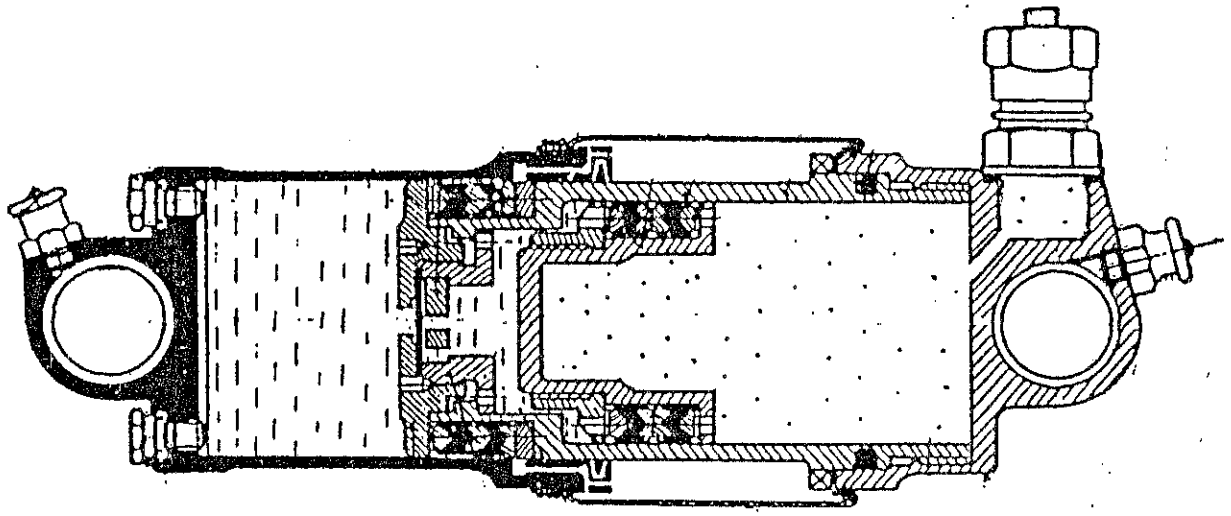
Approx extent of cracks shown.



BLANIK.

~~ITEM 18~~ UNDERCARRIAGE OLEO MODIFICATION. (G.F.A.Mod 88/12)

Overhaul of the Blanik oleo strut often requires the replacement of the seals shown in the following diagram.



To allow the use of standard "O" rings instead of imported metric lipped seals, a modification has beeen developed by a Blanik operator involving the manufacture of a new piston and cap both machined to accept standard "O" rings.

Field experience to March 1988 has shown satisfactory service of oleos fitted with this modification.

For further details contact N. Harding Euroa Soaring Centre Euroa Victoria.

7. OIL COOLER HOSE FAILED

CASIL 3/89 P/E

Aircraft : Piper PA-23 Aztec
Date : January 1989

Shortly after the aircraft had landed, the Tower reported smoke coming from the right hand engine. On parking, the engine caught fire and this was extinguished by the airport Fire Services, but extensive damage was caused to the lower cowling.

On examination, it was found that the hose to the oil cooler from the oil pump had failed about 2" from the end fittings. This is a flexible metal braided Aeroquip hose.

The hose Part No which failed is 624110 38D and was manufactured in June 1984. The Aeroquip Bulletin recently issued does not identify this Part No hose.

SLICK

SB2-80B
FAA APPROVED

Service Bulletin

TO: Aircraft Manufacturers, Aircraft Engine Manufacturers, Distributors, Dealers, Engine Overhaul Facilities, Owners and Operators of Slick Aircraft Magnetos.

SUBJECT: Magneto Maintenance and Overhaul Schedules

BACKGROUND INFORMATION: The service and warranty history of Slick magnetos clearly show that the prescribed maintenance and overhaul schedules found in Slick Maintenance and Overhaul manuals L-1020 and L-1037 are not being followed. Failure to properly perform the prescribed inspections, maintenance, and overhaul procedures voids Slick warranty and may jeopardize the airworthiness of these components resulting in possilbe serious equipment damage, personal injury, or loss of life.

ALL AGENCIES OR INDIVIDUALS SERVICING ANY COMPONENT MADE BY SLICK AIRCRAFT PRODUCTS MUST HAVE THE MOST CURRENT REVISIONS OF SLICK MASTER SERVICE MANUAL F-1100 BEFORE PERFORMING MAINTENANCE OR OVERHAUL. CONSULT SLICK REGARDING SUBSCRIPTION SERVICE INFORMATION.

COMPLIANCE: As required.

PROOF OF COMPLIANCE: Appropriate log book entries.

MODELS AFFECTED: All

400 and 600 series magnetos
4000 and 4100 series magnetos
4200 and 6200 series magnetos

MAINTENANCE PARTS AFFECTED: None

PARTS REQUIRED PER BULLETIN: None

TOOLS REQUIRED PER BULLETIN: None

WEIGHT CHANGE: None

DETAILED INSTRUCTIONS:

400 AND 600 SERIES MAGNETOS - REFERENCE MANUAL L-1020

I. INSPECTION
These magnetos should be inspected externally every 100 hours and internally every 500 hours. Consult Manual L-1020 for complete inspection procedures.

II. ADDITIONAL SERVICE INFORMATION
Slick Service Bulletins and Service Letters contain service information critical to the airworthiness and operation of particular magneto models. Consult the most current revision of **Slick Master Service Manual** F-1100 for applicability of special service information to particular magneto models.

III. OVERHAUL
These magnetos should be completely overhauled as required by the inspections noted above. Total time in service may not exceed the manufacturer's TBO for the engine on which the magneto is installed. When servicing magnetos use only the most current revision of Slick manufactured parts. In most cases it may be easier to replace a faulty magneto with a new, current production, factory assembled 4200 or 6200 Series magneto than to perform the overhaul in the field. Factory assembled new and rebuilt 400 and 600 Series magnetos have been discontinued and are no longer available from Slick.

IV. REPLACEMENT
These magnetos should be replaced as necessary when indicated by the above inspections.

4000/4100 SERIES MAGNETOS:

I. INSPECTION
At each 200 hour interval the following inspections should be made:

1. Adjust timing to engine
2. General Inspection
   a. Wiring connections and condition
   b. Vent holes
   c. P-lead attachment

II. OVERHAUL
These magnetos are certified by the FAA as factory-sealed and no attempt should be made to overhaul or repair them in the field. Replacement parts and service information are unavailable for these magnetos. They are to be exchanged completely for new current production repairable 4200 Series magnetos.

AIRWORTHINESS DIRECTIVE

88-280/2 Glasflügel

Date of issue:

3. Jan. 1989

Affected sailplane:
German Type Certificate No. 304
"Hornet"
-variant "Hornet"
-variant "Hornet C" and "Club Libelle 205"
all serial numbers

Subject:
Extension of Service life

Reason:
The results of cyclic loading tests carried out on wing spars justify the extension of the service life of FRP sailplanes and motor gliders to 6000 hours, provided that the airworthiness of each individual aircraft is evidenced by a special multi-stage inspection program carried out in compliance with supplementary instructions of the Flight- and Operations Manual.

Action:
The Flight- and Operations Manual is to be supplemented by
- Page No. E 57 and E 58 resp. E 51 and E 52 titled
"Inspection procedures for extension of the service life"

and the table of contents on page No. 4 is to be amended accordingly.

Compliance:
Before reaching a total service life of 3000 hours, however not later than May 31st, 1989.

Technical publication of the manufacturer:
Hansjörg Streifeneder Technical Note No. 206-12 of November 5, 1988 resp. No. 205-15 of December 15, 1986.
which becomes herewith part of this AD and may be obtained from Messrs. Glasfaser-Flugzeug-Service GmbH, Hofener Weg, D-7431 Grabenstetten, Federal Republic of Germany.

Accomplishment and log book entry:
The accomplishment is to be entered into the aircraft log book by a licensed inspector.

Note:
Page No. E 57 and E 58 resp. E 51 and E 52 of the Flight- and Operations Manual are available from Messrs.

H.J. Streifeneder
GLASFASER-FLUGZEUG-SERVICE
Hofener Weg
D-7431 Grabenstetten
Federal Republic of Germany.

This AD supplements AD No. 88-280 of December 14, 1988.

Limbach
Flugmotoren GmbH & Co. KG
Königswinter

LIMBACH Flugmotoren

Aircraft-Engines

the world over

Limbach · Kotthausener Str. 5 · D-5330 Königswinter 21 · W.-Germany

British Gliding Association
Attn. Mr. R. B. Stratton
Kimberley House, Vaughan Way

Leicester LE1 4SE / GREAT BRITAIN

Ihre Nachricht vom *your letter of*	Ihre Zeichen *your reference*	Unsere Zeichen *our reference*	Tag *date*
		pljr-us	March 10th, 1989

Unleaded Motor Gasoline

Dear Mr. Stratton,

our engine are commonly used with motor gasoline, leaded however. We do not have experience with unleaded fuel and therefore cannot give any recommendation.

According to the gasoline manufacturers there is a difference in physical and chemical properties of fuel sold in europe, so that test data gathered with german fuel might not be applicable to the UK.

So far we only know that unleaded fuel will lead to accelerated valve wear which might be componsated by adding some aviation fuel to every filling.

With automotive fuel there is a higher probability of vapour locks. The degree of probability changing with outside temperature aircraft type and percentage of methanol.

German automotive fuel already has as much as 15 % methanol added. All gasket and elastomeric materials in the engine fuel system are resistant.

I'm sorry that we couldn't give you any more percise answer to your questions but maybe this information can help you make a decision.

Yours sincerely,
LIMBACH Flugmotoren GmbH & Co. KG

Dipl.-Ing. Peter Limbach

Telefon (0 22 44) O 23 22 + 30 31
Telex 8 89 574 plm d
Bahnstation:
Expreß 5330 Königswinter
Fracht 5300 Bonn 3 (Beuel)

Postgiro: Köln (BLZ 370 100 50) 2 716 86-506
Banken/Bankers: Volksbank Beuel (BLZ 380 602 86) 5 033
Deutsche Bank Bonn (BLZ 380 700 59) 0 548 412
Kreissparkasse Oberpleis (BLZ 386 500 00) 008 003 485
First Wisconsin Bank of Oshkosh · P.O. Box 2448
Oshkosh, Wisconsin 5 4901 USA · Account 512 036 525

Amtsgericht Königswinter HRA Nr. 1194
Persönlich haftender Gesellschafter:
Limbach GmbH
Amtsgericht Königswinter HRB-Nr. 714
Geschäftsführer:
Peter Limbach sen.

Engineers Supplement

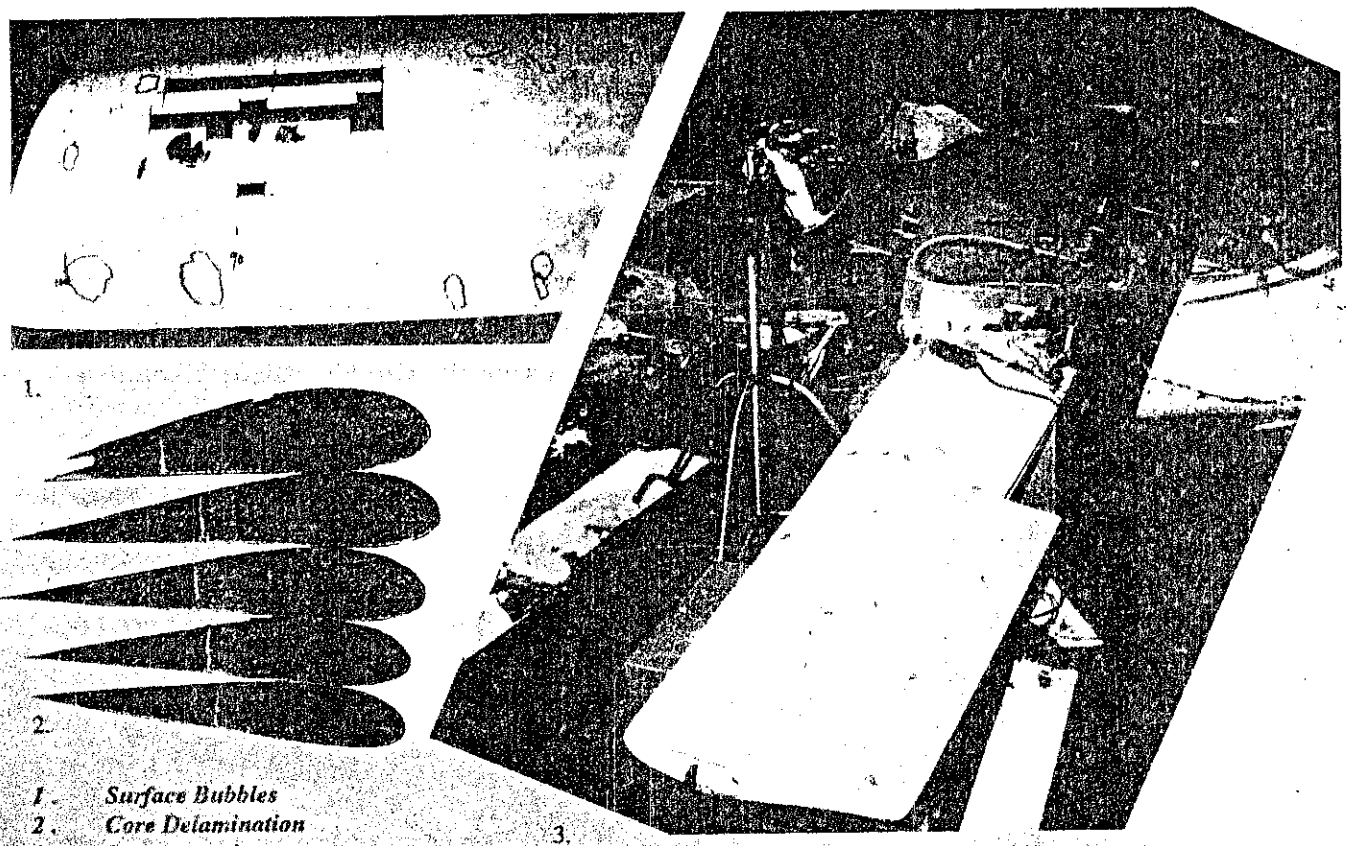
SEE ALSO P/E ITEMS IN MAIN GASIL

E1. COMPOSITE WING CATASTROPHE

Aircraft : Amateur Built Quickie 2 Aircraft
Date : 1988

The following article is photocopied from the Canadian Aviation Safety Maintainer exactly as printed.

Composite wing catastrophe



1. Surface Bubbles
2. Core Delamination
3. Reconstruction scene

A recent fatal accident resulted from the in-flight breakup of the left wing of a Quickie 2 Amateurbuilt aircraft. Although the aircraft was constructed in the USA, it was flying in Canada at the time of the accident. A letter validating the aircraft's FAA special airworthiness certificate to allow flight into Canada had been issued by the Department of Transport.

As this publication primarily addresses licensed aircraft maintenance personnel, you probably wonder why I have chosen this particular accident for a safety article. The answer is twofold. Firstly, AMEs can be called upon to inspect or service amateurbuilt aircraft. Secondly, a lot of public money was spent to investigate and produce lab reports on various aspects of the construction of this composite aircraft. Therefore, what I am about to say is supported by the reports and may add to your knowledge of composites. Remember,

cont'd

we will be seeing more and more of this material in future factory-built airplanes.

The aircraft's history is most significant to you, the maintenance people. In particular a log entry indicated that, during the second flight after initial construction, the pilot observed a noticeable right roll. The log later indicates that the aircraft ran off the runway damaging the leading edge of the right rear wing. This damage was repaired and at the same time the aircraft was modified by the installation of a larger engine, a Continental 0-200. Also, the canard surface was remounted to 0.75 degrees and the main (rear) left wing washout was corrected by a method called solar heating.

Solar heating is the procedure detailed in the designer's manual to correct wing creep or deformation that can occur if the wing is not properly supported after construction until cured. This involves spraying the upper wing surface with a black substance to absorb solar heat. The wing is then twisted to the correct washout angle.

In general terms, the Canadian Aviation Safety Board Engineering Laboratory determined the following construction faults involving the wings or related components:

- Misalignment in the +45 degree plies of the outboard left wing skin, causing these unidirectional plies to be more spanwise than called for, thus reducing the wing's torsional stiffness.
- The second ply of the skin on a portion of the upper surface had a kink in it, weakening the wing an unknown amount.
- At least nine areas of the left wing had palpable bubbles present, the largest being 2 inches by 3 inches.
- The outboard trailing edge of this wing was heavy, due to excessive use of filler to fair the wing skin.
- The left wing foam core was incorrectly constructed and inadequately glued together so that visible gaps resulted.
- The owner's efforts to adjust "washout" by solar heating and twisting caused some wing-skin debonding.

The report concludes that the left wing failed in the static divergence mode with positive "G" forces bending and buckling the wing as a result of weakness introduced by improper construction and maintenance practices.

There are two lessons in this tragic story. Firstly, if an amateurbuilt aircraft is to enjoy a long and safe life it must be constructed exactly as intended by the designer. Persons or AMEs supervising such work must be familiar with the material and method of construction for a particular aircraft. Secondly, the ongoing maintenance and repair of composite structure requires as much care and attention to the detailed method of repair as did the original construction of the aircraft. Persons inspecting such work, or acting as designated inspectors, have a grave responsibility to thoroughly familiarize themselves with the aircraft designer's specifications and methods of applying material, before certifying such aircraft as serviceable and ready for flight. △

E2. RUDDER CABLE FRAYED

Aircraft : Partenavia P68
Date : November 1988

The flight control cables were being inspected in accordance with Partenavia Service Bulletin No S875. The right hand rudder cable was found to be frayed at the first pulley.

cont'd

THE CARBURETTORS. (POST 1984).

MARVEL - Schebler.

FACET
(Appliance)
Airworthiness Directive
SMALL AIRCRAFT

89-04-02 FACET AEROSPACE PRODUCTS, CO (MARVEL SCHEBLER): Amendment 39-6109.

Applicability: Facet Models MA-4-5, MA-5, and MA-6AA carburetors manufactured after April 1984, having Part Numbers (P/N) and Serial Numbers (S/N) as listed herein:

Carburetors	Serial Numbers
Model: MA-4-5	
P/N 10-3878	G-54-11129 thru G-54-11136, G-55-11500 thru G-55-12064
P/N 10-4164-1	K-49-9001 thru K-49-9023
P/N 10-4404	R-48-11501 thru R-48-11721
P/N 10-4404-1	R-45-11005 and R-45-11007 A0-45-11000 thru A0-45-11101
P/N 10-5054	BZ-16-3000 thru BZ-22-3110
P/N 10-5193	CP-5-3500 thru CP-5-3967
P/N 10-4893	BD-5-10000
P/N 10-4893-1	CL-4-3700 thru CL-7-3776
P/N 10-5284	DV-0-500 thru DV-0-505 DV-1-1000 thru DV-1-1392
Model: MA-5	
P/N 10-4865	BC-33-5001 thru BC-33-5005
Model: MA-6AA	
P/N 10-4218-1	AK-37-3002
P/N 10-4401-1	AC-38-3278 thru AC-38-3298 AC-40-4001 thru AC-40-4021
P/N 10-4438-1	AH-29-6000 thru AH-29-6009

The carburetors listed above are used on, but not limited to:

Textron Lycoming Models O-360, O-540, VO-540, and TVO-435 series engines.

Teledyne Continental Model O-470 series engines.

Pezetel (Franklin) Model 6A-350 series engines.

Compliance: Required within the next 200 hours time in service, or when the carburetor is removed from the engine, whichever occurs first, unless already accomplished.

To prevent possible jamming of the carburetor throttle, accomplish the following:

(a) Check all Facet (Marvel Schebler) Model MA-4-5, MA-5, and MA-6AA carburetors manufactured after April 1984 to determine the carburetor part number and serial number. These numbers can be found on the carburetor nameplate which is located on the throttle body.

NOTE: When checking the carburetor serial number for comparison to the above listing, disregard the center number, as described in the service bulletin, since this is used for Facet internal blueprint control only.

(b) If the part number and serial number are listed above, remove the carburetor, disassemble it, and replace the air metering stop pin, P/N 62-226, with the air metering stop pin, P/N 62-F1, in accordance with the instructions given in Facet Service Bulletin A1-88, dated August 1988.

(c) Stamp or etch a "P" on the lower portion of the carburetor nameplate and make an engine logbook entry to indicate compliance.

NOTE: If the serial number is not one of those listed above, corrective action is not required.

(d) Aircraft may be ferried in accordance with the provisions of FAR 21.197 and 21.199 to a base where the AD can be accomplished.

(e) Upon request, an equivalent means of compliance with the requirements of this AD may be approved by the Manager, New York Aircraft Certification Office, ANE-170, Engine and Propeller Directorate, Aircraft Certification Service, Federal Aviation Administration, 181 South Franklin Avenue, Room 202, Valley Stream, New York 11581.

(f) Upon submission of substantiating data by an owner or operator through an FAA Airworthiness Inspector, the Manager, New York Aircraft Certification Office, ANE-170, may adjust the compliance time specified in this AD.

Facet Service Bulletin A1-88, dated August 1988, identified and described in this document, is incorporated herein and made a part hereof pursuant to 5 U.S.C. 551(a)(1). All persons affected by this directive, who have not already received this document from the manufacturer may obtain copies upon request to Facet Aerospace Products, Co., 1048 Industrial Park Road, Bristol, Virginia 24201. This document may also be examined at the Office of the Assistant Chief Counsel, Federal Aviation Administration, New England Region, 12 New England Executive Park, Burlington, Massachusetts 01803, Room 311, Docket No. 88-ANE-39, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except federal holidays.

This amendment (39-6109, AD 89-04-02) becomes effective on March 8, 1989.

FOR FURTHER INFORMATION CONTACT:

Pat Perrotta, Propulsion Branch, ANE-174, New York Aircraft Certification Office, Engine and Propeller Directorate, Aircraft Certification Service, Federal Aviation Administration, 181 South Franklin Avenue, Room 202, Valley Stream, New York 11581; telephone (516) 791-7421.

Civil Aviation Authority

General Aviation Safety Information Leaflet

Safety Promotion Section
Aviation House, South Area
Gatwick Airport, West Sussex, RH6 0YR
Telephone – (0293), Safety Prom 573225/6, Exchange 567171
Telex – 878753, Facsimile – (0293) 573999

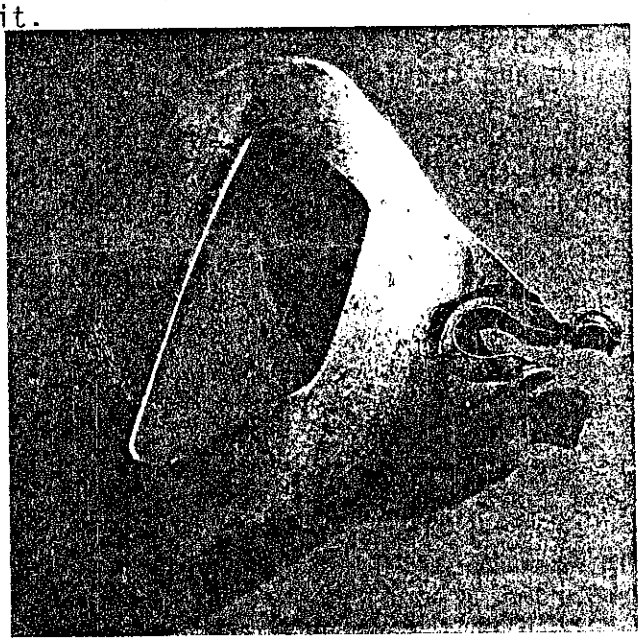
24th February 1989 **2/89**

P/E

1. SEAT BELT ATTACHMENT FAILED

Aircraft : Piper J3 Cub
Date : November 1988

The aircraft was operating from a private strip which was approximately 250 yards long. In addition, it had a significant up-slope at the start of the strip. The pilot was demonstrating a curved approach to a second pilot who was a passenger in the aircraft. He carried out one landing successfully, taxied to the top of the hill and took off downhill for a second circuit.



Unfortunately, the touchdown on the second landing was part way into the strip and rather fast. After a moment's indecision the pilot opened the throttle but forgot to cancel carburettor heat, so the engine did not produce full power. Although the aircraft reached normal lift-off speed, it failed to clear the boundary hedge which it struck at a speed of about 40 knots. The aircraft came to rest with the nose in the hedge at an angle about 45° to the horizontal. The passenger was unhurt but unfortunately the pilot's lap strap failed and he hit his head on the instrument panel causing a scalp wound which necessitated stitches.

CAA Comment:
It is clear that operating from this strip required considerable skill and judgement and the decision to go-around should have been made much earlier.

The seat belt fitting involved is an American Safety 6000 seatbelt, constructed from light alloy which is fitted to many other aircraft types. The right hand seatbelt attachment fitting had failed at the hole to the attach point. A considerable amount of wear had already taken place at the attachment of this fitting which cannot be inspected without dismantling. The seatbelt was generally in good condition. Whilst this matter is still being investigated by the CAA, it is strongly suggested that these fittings be inspected at the earliest opportunity and any found in a worn condition be reported to the nearest CAA Area Office. This particular aircraft had flown a total of 2777 hours.

In order to identify the broad subject matter each item is classified as follows:
Operational items mostly of interest to pilots
Airworthiness items mainly for engineers

P
E

2. HOSES DAMAGED BY RODENTS

P/E

Aircraft : Morane Saulnier MS880B Rallye Club
Date : November 1988

During routine maintenance the engineer found damage to the plastic hoses of the fuel vent system. Further investigation showed that the plastic hoses in the cockpit floor and the right hand wing had been damaged by rodents gnawing them.

The aircraft is operated from a farm strip and is stored for long periods in a building which contains straw and other agricultural items.

CAA Comment:
Mice and other rodents are a hazard to any aircraft which are stored in farm buildings. A particularly careful pre-flight inspection should be carried out on such aircraft and as an added precaution trays of poison should be placed around each of the wheels to prevent rodents from climbing the undercarriage legs into the aircraft structure.

The Safety Promotion Section is in the final stages of producing a Safety Sense Leaflet titled "Strip Sense" which will give further guidance on operating and storing aircraft at private strips.

3. INFRINGEMENTS

P

A batch of 12 infringement reports reached the GASIL Editor's desk during the last month and the following disturbing points emerged.

Poor standard of navigation featured in four of them. In two of these the pilots missed their turning point while a third mis-identified two similar cooling towers which were situated some ten miles apart. The fourth omitted to reset his DI to the compass resulting in a track error of some 20°.

Poor radio and radio/electrical problems featured in two more of the occurrences and a faulty compass in another. (In this case, a new AFI on his first day of full time employment allowed the aircraft to infringe a major control zone - not a good start to his flying career!)

In another case, it was apparent that the pilot had no understanding whatsoever of what controlled airspace meant.

In two more the pilots had the wrong maps, (one of them was unaware of the enlarged area of controlled airspace and the other basically had an incorrect map which didn't even show the airways).

Finally, in the last two, the old chestnut of alleging "late handover" is cited as an excuse. It **MUST** be remembered that responsibility for obtaining clearance into controlled airspace is the responsibility of the pilot. **NEVER** assume that the clearance has been obtained for you.

Although Air Traffic Control are normally more sinned against than sinning it has been reported that there are a few controllers who clutter the frequency by delivering lengthy airborne admonishments. If an explanation, discussion or admonishment is considered necessary, the pilot should simply be instructed to telephone ATC on landing.

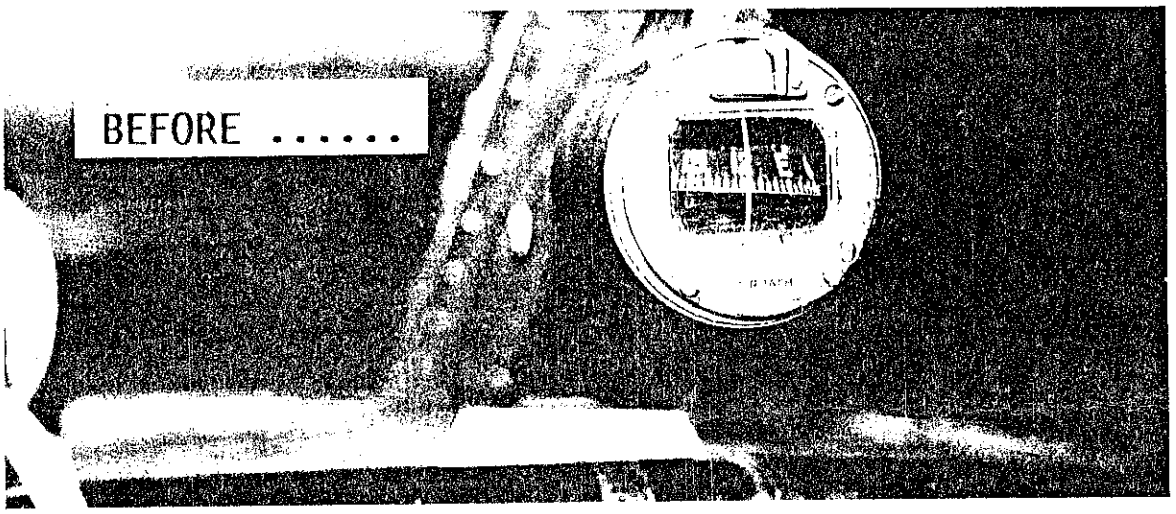
5. PROBLEMS CAUSED BY POSITIONING OF HEADSET

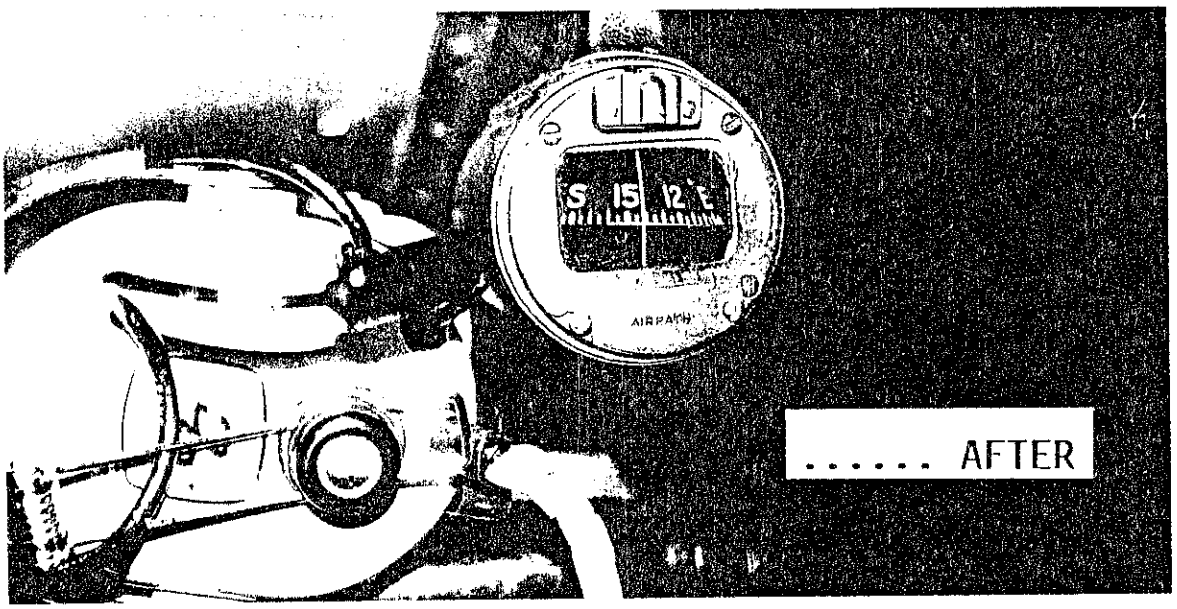
P

From the NASA Aviation Safety Reporting System publication, "Callback".

"When making position reports I always use my headset, and upon completion I laid the headset on what seemed a very convenient place since the cockpit was crowded - **the top of the instrument panel!** During the few minutes it took to make the report, I obviously never noticed that the compass read differently. (I steered by the liquid compass because I had not found the operation of the slaved gyro satisfactory, and, of course I had swung the liquid compass). Depending how close to the compass I had laid the headset, the compass had shown an erroneous reading of about 15° to the left.....

CAA Comment:
Whilst in this case the procedure that the pilot used might seem a little strange - if he wasn't wearing the headset, how could he receive messages from Air Traffic, - the same problem could easily arise if for any other reason you stowed the headset on top of or close to the magnetic compass.



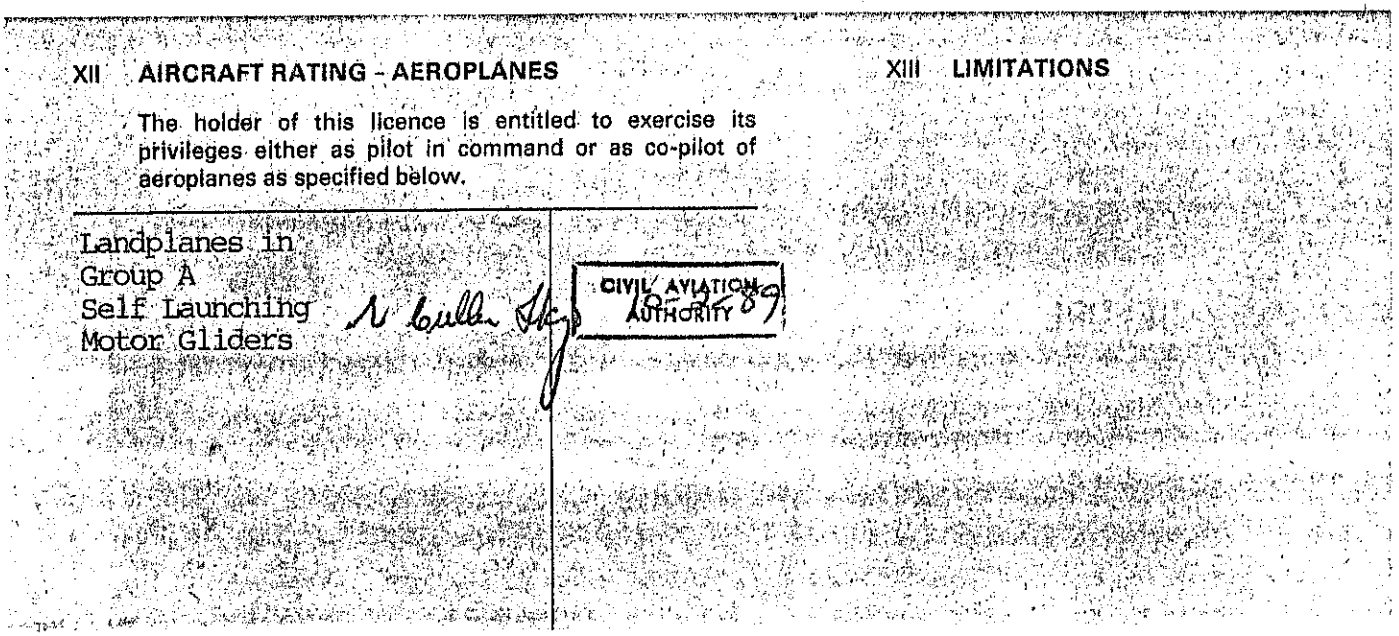


The photographs, taken in a Piper Cherokee 160, with all electrical systems switched off, shows the effect a modern headset had on its magnetic compass.

YOU HAVE BEEN WARNED.

4. LICENCE PRIVILEGES - SELF LAUNCHING MOTOR GLIDERS [P]

As a result of a recent occurrence, there appears to be some confusion among private pilots as to whether the holder of a PPL(A) aeroplanes needs any further test or examination before flying a Self Launching Motor Glider (SLMG). When SLMG's came on the scene in the late 1960's, the decision was taken that a person qualifying for a PPL(A) would have both "Aeroplane" and "SLMG" entered in the licence. If the private pilot completed a course of PPL instruction on a Group A aeroplane, "land planes in Group A and SLMG's" is entered into the aircraft rating section of the licence page. The Certificate of Test however, states that in this case the pilot has passed a test validating flight as Pilot in Command on Group A aeroplanes only.



XII AIRCRAFT RATING - AEROPLANES

The holder of this licence is entitled to exercise its privileges either as pilot in command or as co-pilot of aeroplanes as specified below.

Landplanes in Group A
Self Launching Motor Gliders

CIVIL AVIATION AUTHORITY

XIII LIMITATIONS

If the pilot subsequently wishes to fly as Pilot in Command of SLMG's, a separate test is needed on an SLMG and a separate Certificate of Test must be entered in the logbook by the SLMG examiner. (This procedure has the advantage that the pilot does not have to return his or her licence to the CAA for inclusion of a separate SLMG rating as he or she would if they had obtained a Group B - multi-engined aircraft, rating).

The privileges of both Group A and SLMG may be maintained either by separate flight tests in each class of aeroplane or by the inclusion in the pilot's logbook of a Certificate of Experience. The Certificate shows that in the previous thirteen months five hours of aeroplane piloting (including at least three hours of pilot-in-command) have been completed - including at least one flight in each class of aeroplane.

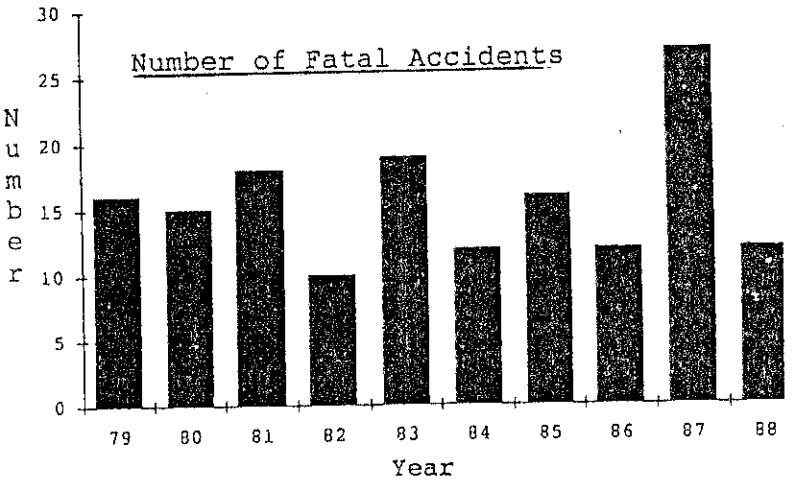
Should you have any doubts about these requirements or whether the aircraft type that you propose flying is correctly titled as "Aeroplane" or "SLMG", then you should obtain clarification from CAA Flight Crew Licensing at Aviation House, Gatwick, or telephone 0293 573564 before you next fly.

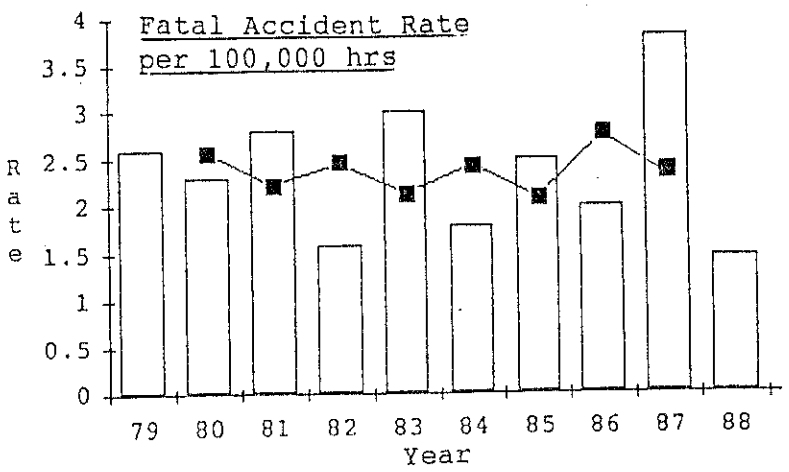
(15) With effect from **1 April 1989** the definitions of public transport and aerial work are substantially revised. Provided that certain specified conditions are complied with, the following are no longer treated as public transport flights or aerial work flights (as the case may be). A flight for the purpose of taking part in an aircraft race, contest or exhibition of flying is deemed to be a private flight notwithstanding the payment to the owner or operator of the actual costs of the flight or the award to the pilot of a prize which does not exceed a specified limit. A flight in respect of which the only payment is made to a registered charity and which is carried out with the permission in writing of the Authority will be deemed to be a private flight. A flight on which no more than four persons are carried and who each bear a proportionate share of the actual costs of the flight is deemed to be a private flight. A flight in respect of which the pilot reclaims the actual costs from his employer is deemed to be a private flight. A flight in an aircraft which is jointly owned when the only payment in respect of the flight reflects the actual costs thereof and is paid by one or more of the joint owners to others of the joint owners is deemed to be a private flight for airworthiness as well as all other purposes. A flight in respect of which valuable consideration has been given or promised for the carriage of passengers which flight is for the purpose of dropping persons by parachute and which is carried out in accordance with a written permission granted by the Authority is deemed to be an aerial work flight. A positioning flight made prior to such a parachute dropping flight and the return of the aircraft to its base after such a parachute dropping flight shall also be aerial work flights (Articles 96(1) and 96A).

18. FATAL ACCIDENTS 1988 - UPDATED INFORMATION

P/E

As a result of our request for information about the Piper Aztec believed to be missing in Africa, we received a phone call from a reader who had just got his first copy of GASIL. He told us that the aircraft and occupants were safe and well having been forced to divert around storms. The number of fatal accidents therefore becomes 12 for 1988, with consequent changes to the rate and 3 year moving average. 1988 thus becomes a very good year, KEEP IT UP.





A.N.O.

Pre-flight action by commander of aircraft

32 The commander of an aircraft registered in the United Kingdom shall reasonably satisfy himself before the aircraft takes off —

(a) that the flight can safely be made, taking into account the latest information available as to the route and aerodrome to be used, the weather reports and forecasts available, and any alternative course of action which can be adopted in case the flight cannot be completed as planned;

(b) (i) that the equipment (including radio apparatus) required by or under this Order to be carried in the circumstances of the intended flight is carried and is in a fit condition for use, or

(ii) that the flight may commence under and in accordance with the terms of a permission granted to the operator pursuant to article 14A of this Order;

(c) that the aircraft is in every way fit for the intended flight, and that where a certificate of maintenance review is required by article 9(1) of this Order to be in force, it is in force and will not cease to be in force during the intended flight;

(d) that the load carried by the aircraft is of such weight, and is so distributed and secured, that it may safely be carried on the intended flight;

(e) in the case of a flying machine or airship, that sufficient fuel, oil and engine coolant (if required) are carried for the intended flight, and that a safe margin has been allowed for contingencies, and, in the case of a flight for the purpose of public transport, that the instructions in the operations manual relating to fuel, oil and engine coolant have been complied with;

(f) in the case of an airship or balloon, that sufficient ballast is carried for the intended flight;

(g) in the case of a flying machine, that, having regard to the performance of the flying machine in the conditions to be expected on the intended flight, and to any obstructions at the places of departure and intended destination and on the intended route, it is capable of safely taking off, reaching and maintaining a safe height thereafter, and making a safe landing at the place of intended destination;

(h) that any pre-flight check system established by the operator and set forth in the operations manual or elsewhere has been complied with by each member of the crew of the aircraft.

Civil Aviation Authority

AIRWORTHINESS NOTICE No. 18

Issue 5

16 March 1989

ACCEPTANCE STANDARDS FOR THE MAINTENANCE, OVERHAUL AND REPAIR OF SECOND-HAND IMPORTED AIRCRAFT FOR WHICH A UK C OF A IS SOUGHT

1 For some years difficulty has been experienced in establishing whether compliance is shown with the CAA requirements in respect of the maintenance, overhaul and repair of second-hand aircraft imported into the United Kingdom. Examples of difficulties are as follows:—

NOTE: The requirements covering the issue and renewal of Certificates of Airworthiness are contained in the British Civil Airworthiness Requirements, Section A, Chapters A2-1 to A2-5.

(a) Repairs having been embodied without records adequate to establish compliance with an approved scheme or manual acceptable to either the CAA or other Airworthiness Authority.

(b) Modifications having been embodied without records adequate to indicate either the source of approval or the organisation responsible for embodiment of the modification.

(c) Doubt as to the extent of compliance with the CAA maintenance schedule requirements, particularly those relating to major inspections or overhaul work which are intended to ensure the structural integrity of the aircraft and those relating to overhaul periods of components and accessories when compared with the overhaul periods which have previously been applied.

2 Prospective purchasers of second-hand aircraft from sources outside the United Kingdom are advised that, in future, before a Certificate of Airworthiness is issued in respect of an imported second-hand aircraft, the CAA will require to be satisfied that:—

(a) Both the approval and embodiment of repairs and modifications comply with corresponding British Civil Airworthiness Requirements, or that, if this cannot be established, satisfactory supporting evidence is available from an acceptable source such as the original manufacturer, other Airworthiness Authority, or a suitably approved Design Organisation in the UK.

(b) The aircraft has been inspected, its condition has been established and reports have been supplied to the CAA.

(c) All UK Special Conditions, Airworthiness Directives, CAA Additional Directives or Mandatory Modifications/Inspections have been complied with.

NOTE: Concessions in respect of UK Special Conditions, Airworthiness Directives or CAA Additional Directives which have not been embodied prior to certification because of shortage of the appropriate kit of parts, etc., will only be considered on the production of satisfactory evidence of the condition of the item(s) concerned, bearing in mind the nature of the particular Special Conditions or Directives.

(d) A check to the manufacturer's recommended maintenance programme, or to the standard of an approved maintenance schedule for the type, or to the Light Aircraft Maintenance Schedule, as appropriate, has been certified.

NOTE: Information Leaflet No. IL/0131/1-5 giving details on the procedures to be followed is available from the local Area Office (see Airworthiness Notice No. 29).

3 **Cancellation** This Notice cancels Airworthiness Notice No. 18, Issue 4, dated 31 August 1977, which should be destroyed.

for the Civil Aviation Authority

Safety Regulation Group,
Aviation House,
Gatwick Airport,
West Sussex RH6 0YR.

Civil Aviation Authority
Safety Regulation Group
Aviation House
South Area
Gatwick Airport
Gatwick
West Sussex RH6 0YR
Tel: Switchboard 0293 567171
Direct Dial 0293 57 3157
Telex: 878753 Fax: 0293 573999

Maintenance Standards Department

Re: 9/23/7/1

The British Gliding Association Ltd
Kimberley House
Vaughan Way
Leicester LE1 4SE

For the attention of Mr R B Stratton
Chief Technical Officer

16th February 1989

Dear Sir

SLMG's Warning Placard

For some time now our colleagues in the Design and Manufacturing Standards Division have been discussing the continuing need, if any, for the placard that is required to be displayed in the cockpit of the SLMG's advising the pilot that:

> "The aircraft must not be operated in conditions such that engine failure could result in a hazard."

As a result of these discussions which included an input from our Legal Advisers office, it has been confirmed that the placard is no longer required and the condition on the Certificate of Airworthiness will be deleted at next renewal. We have therefore decided to remove the placard from all SLMG's with immediate effect. Would you please advise BGA members that they should now remove this particular placard, the amendment to the Certificate of Airworthiness will be accomplished at the next Certificate of Airworthiness renewal.

I attach a computer print out of SLMG's for your general reference and a copy of the conditions page from a typical Certificate of Airworthiness.

The PFA are being asked to remove the placard from any SLMG's under their control and a GASIL entry is in preparation.

2. AIRCRAFT REFUELLED WITH AVTUR INSTEAD OF AVGAS

GASIL 3/89 [P]

Aircraft : Piper PA31 Navajo
Date : January 1989

The aircraft had completed the first sector of a charter flight and arrangements had been made with the refueller to top up the inboard tank. Because the refueller was busy with another aircraft and the weather was unpleasant, both pilots retired to the airport lounge to complete the post-flight paperwork and debrief.

Some 20 minutes later the driver of the refuelling vehicle, together with the ground engineer, approached the pilot and advised that approximately 40 litres of AVTUR had been loaded into the left inner tank by mistake. Immediate steps were taken to drain the tank, flush and drain again followed by refuelling and engine runs to prove the system was safe. The aircraft departed and the flight was completed without further incident.

CAA Comment:
The Captain made a very comprehensive report where he listed all the opportunities which existed for this error to happen. In summary, they were as follows:

a) The flight was being used for line training on a Captain who, although not new to the Company, was new to the type.

b) The aircraft was on loan, which required additional paperwork for each stopover.

c) The arrival had been in very poor conditions and although the Pilot gaining line experience had coped extremely well there were still points which merited a lengthy de-brief.

d) Pilot's supervision of the refuelling process was allowed to lapse while his attention was diverted to other matters.

e) The other aircraft being refuelled at the same time on the apron was a Twin Otter aircraft which used AVTUR fuel.

f) The Navajo was parked in a position that was not well lit and darkness was approaching.

g) Although the aircraft had the correct AVGAS labels alongside the tank caps, these failed to register in time with the refueller.

The honesty of everyone involved in this occurrence is to be applauded, but it does prove once again that there is no substitute for the pilot **PERSONALLY** supervising the refuelling process of his aircraft.

Pink A.I.C. 60/1985 strongly recommends that, wherever possible, restrictor kits be fitted to fuel tanks to prevent this type of occurrence.

3. TYRE CARE

[P/E]

Extract from New Zealand Flight Safety Magazine

When his aeroplane tyres developed a slow leak, the owner used an automotive type of tyre sealant, inserted through the valve stem to try to stop the leak.

Two weeks later, when the tyre was removed, severe corrosion was found on the inside of the wheels.

CAA Comment:
Before you use any substance or additive in your aircraft, check with a licensed aircraft engineer that it is approved for aviation use. If it is not, it could result in an expensive repair job or worse!

Limbach
Flugmotoren GmbH & Co. KG
Königswinter

LIMBACH Flugmotoren

Aircraft-Engines

the world over

Limbach · Kotthausener Str. 5 · D-5330 Königswinter 21 · W.-Germany

British Gliding Association
Attn. Mr. R. B. Stratton
Kimberley House, Vaughan Way

Leicester LE1 4SE / GREAT BRITAIN

MOGAS.

Ihre Nachricht vom *your letter of*	Ihre Zeichen *your reference*	Unsere Zeichen *our reference*	Tag *date*
		pljr-us	March 10th, 1989

Unleaded Motor Gasoline

Dear Mr. Stratton,

our engine are commonly used with motor gasoline, leaded however. We do not have experience with unleaded fuel and therefore cannot give any recommendation.

According to the gasoline manufacturers there is a difference in physical and chemical properties of fuel sold in europe, so that test data gathered with german fuel might not be applicable to the UK.

So far we only know that unleaded fuel will lead to accelerated valve wear which might be componsated by adding some aviation fuel to every filling.

With automotive fuel there is a higher probability of vapour locks. The degree of probability changing with outside temperature aircraft type and percentage of methanol.

German automotive fuel already has as much as 15 % methanol added. All gasket and elastomeric materials in the engine fuel system are resistant.

I'm sorry that we couldn't give you any more percise answer to your questions but maybe this information can help you make a decision.

Yours sincerely,
LIMBACH Flugmotoren GmbH & Co. KG

Dipl.-Ing. Peter Limbach