

BRITISH GLIDING ASSOCIATION

MEMORANDUM (TNS/1/86)

AVGAS/MOGAS/ALCOHOL / AND SINKING FLOATS!

1. CAA Notice No 98 is the "statutory" document in respect of the operation of certain "listed" aircraft on BS 4040 Mogas.
2. CAA Notice No 8 is likewise a "statutory" document requiring the operators of Cessna 300/400 series aeroplanes to add 1% Isopropyl Alcohol to their Avgas tanks, to prevent double engine failure due to icing of the fuel (injector) manifold valve.
3. FAA Airworthiness Directive 66-05-04 required the removal of metal floats in Marvel Schebler carburetors, to be replaced by composite floats of "moulded cellular rubber". (Marvel Schebler carburetors are fitted to most small USA engines.)

In 1985, FAA AD/66-05-04 was withdrawn, because, after 20 years, it was discovered that "the composite floats are not compatible with certain low lead fuels". A redesigned metal float will be introduced!

4. In April 1984, FACET Aerospace Products, who make Marvel Schebler carburetors issued Service Bulletin A1/84 stating that "there have been many reported instances of the moulded cellular floats absorbing fluid, possibly 100LL Avgas, auto-fuels, fuel additives and carburetor cleaner. Because we have no control of the chemistry that goes into the aircraft fuel tanks, we feel that it is MANDATORY to change float material. Effective immediately, FACET will supply only metal floats.

The metal floats are available from your local distributor in Kits:

666-915 for all MA3 and MA4 carburetors
666-916 for all MA4-5, MA5 and MA6 carburetors
666-917 for all HA6 carburetors."

5. In 1985 Composite floats began to sink in the UK resulting in two start-up fires on PA 38-112 Tomahawks and mysterious rich and rough running on many other types. And finally, in GASIL 10/85, it was reported that both engines of a B-N "Islander" on delivery flight had high fuel consumption, due to "heavy" floats. (Presumably on Roumanian Avgas?)
6. In September 1985 the CAA published strong recommendations on the dangers of alcohol in fuels, notwithstanding Notice No 8! When asked for substantiating data, they referred to an automotive industry report originating in Germany. It referred to the probable deterioration of polymer based products in the presence of alcohol. (Since polymers are synthetic rubbers, they occur in almost all hoses, diaphragms, seals etc.) Hopefully the automobile industry and the fuel producers will get their act together before literally millions of malfunctions occur, and billions of warranty claims are made? (A figure of 3% alcohol in Mogas was mentioned.)

7. The BGA drew the attention of the CAA to this unacceptable state of abject confusion at a meeting on December 10th 1985, of the General Aviation Airworthiness Consultative Committee. Our written submission dated 14/10/85 to that meeting included the following: "Having regard to the almost total inability of the recreational flying movement throughout the UK to comply with Schedule 2 of Notice No 98, which effectively creates, unreasonably, an unworkable monopoly, we formally apply herewith for the removal of all constraints on the "dedicated" supply of Mogas for use in aircraft types approved by listing in CAA Notice No 98, or by individual AAN, or where type certificated on Mogas, as in the case of automotive engines installed in Motor-Gliders."
8. The BGA have also written to Lloyd's Aviation Department concerning the alleged unsatisfactory attitude of insurers to the small print of Notice No. 98. We understand that one Club's policy is endorsed in favour of non-dedicated supplies!
9. In Conclusion:

- a) CAA Notice No 8 introduces 1% Isopropyl Alcohol as an anti-ice additive, which may save somebody's life! (There must be Cessna 300/400 series aeroplanes with more than 1% alcohol accumulated in their Avgas?)
- b) The German automotive report suggested 3% alcohol in Mogas?
- c) Carburetor floats made of cellular moulded rubber are known to have become progressively "heavy" in the UK on Avgas 100LL. They may or may not have suffered the same fate on Mogas or 80/87?

The FAA AD states that such floats are incompatible with certain "low lead fuels".

FACET Service Bulletin A1/84 suggests that they may be incompatible with most fuels and some cleaning solvents. It recommends that cellular floats should be replaced. (NO FAA or CAA Directive to this effect has so far been issued.)

- d) Therefore, if you experience any of the following symptoms, you should investigate the condition of your carburetor float:
- (1) Flooding
 - (2) Rough/rich running ("black exhaust")
 - (3) High fuel consumption.

N.B. Just to spoil your day - some fuel gauge transmitter floats may also be made of moulded cellular rubber?

R. B. STRATTON
Chief Technical Officer
British Gliding Association

JANUARY 1986

B.G.A. CHARGES 1986

1) Inspector Renewal (incl.insurance)	£15.00 (incl.VAT)
2) Glider C. of A. Renewal	£22.50 (incl.VAT)
3) C.A.A. (S.L.M.G. Renewal) Ref. C.A.A. Notice No. 25. £28 per 500kgs (or part thereof per year of validity. Typically (for 550kgs), £28 x 2 x 3 = £168.00	£168.00
4) AC 43-13-1A & 2. Acceptable methods. Alteration & repair.	£15.35
5) B.G.A. Standard Repairs to Gliders	£3.45
6) B.G.A. Technical Procedure Manual (Gliders & S.L.M.G.s.)	£1.25
7) B.G.A. Winch & Auto-Tow Equipment	£1.25
8) Light Aircraft Maintenance Schedule (LAMS 50/100/Annual)	F.O.C.
9) B.G.A. Forms 267 (Inspection Report) pads	£3.95
10) B.G.A. Proforma 267(M). Engine Inspection Report.	F.O.C.
11) B.G.A. Proforma 267(FT). Flight Test Renewal (S.L.M.G.).	F.O.C.
12) B.G.A. Tug Management Advisory Package	£1.25
13) B.G.A. Proforma JAR 22. Assessment of Gliders/Motor Gliders.	F.O.C.
14) G.R.P. Repair Manual (Slingsby/VEGA)	£21.00
15) B.G.A. Guidelines - Installation of Radio Systems. (RAD/INST/86)	F.O.C.

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British Gliding Association

20th January, 1986.

Dear B.G.A. Inspector,

B.G.A. INSPECTION RENEWAL 1985/86

Your Inspection Renewal fee of £15.00, due in October 1985, has not yet been received, and consequently your name can no longer be included in the list of B.G.A. Inspectors covered by our indemnity insurance. Likewise, you will not receive the Annual Compendium of Airworthiness Directives, Mandatory Modifications and Special Inspections, which will be published with TNS/1/86 next month.

C. of A. renewals can not be accepted from persons who are no longer currently listed as B.G.A. Inspectors.

If your renewal has been mislaid please forward a cheque for £15.00, before February 1st 1986.

Happy New Year.

R.B. STRATTON
CHIEF TECHNICAL OFFICER.

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