

B.G.A. TECHNICAL COMMITTEE

TNS 6/7/82

- PART 1 AIRWORTHINESS "AGGRO" (Please add to the 1982 Blue Pages)
- 1.1. SF.25, SF.28, T.61A (all variants) Self-Launching Motor Gliders C.A.A. letter to operators (LTO) 514, (supercedes LTO 345 dated 1980 and LTO 508 dated 4/6/82 and Slingsby TI 94 dated 11/11/80), and requires INSPECTION OF WING CENTRE SECTION JOINT (copied herewith). Slingsby TI/103/T61 will also refer.
 - 1.2. Astir (and similar types) Speed-Brake Rod-end connections in Centre Section Having connected such rod-ends, they should be checked over the full range of the controls, to ensure that forces are not generated by changes in geometry, which may force them apart. (Speed-brake opened asymmetrically on take-off at Dunstable).
 - 1.3. KA-13 (and similar types). WING ROOT "A" BRACKETS CRACKED. Degradation of speed-brake control will arise from cracks at this fixture. (Recurring since TNS 10/74 and reported by R.A.F. Germany). After repair/replacement, check that control rods are adjusted to minimise loads in the system when retracted and locked.
 - 1.4. Motor-Gliders (all types). Integrity of wiring and fuel systems. Particularly on retractable power-plants, special checks should be made of systems that may become damaged to the extent that engine reliability becomes impaired.
 - 1.5. Motor-Gliders (all types). Levels of unusable fuel and accuracy of gauge systems. Periodic checks should be made to establish levels of unusable fuel and the accuracy of gauge systems, particularly in adverse attitudes such as in the climb after take-off. Unusable fuel should be identified by placarding or other obvious means.
 - 1.6. Motor-Gliders - Pitot/Static Systems. Gross errors may result from improperly connected or poorly maintained systems. CAIP leaflet AL 10-1 gives guidance on system testing.
 - 1.7. Control Movement Checks. B.G.A. Form 267 specifically requires that movements and the correct setting of stops shall be verified at C of A renewal.
 - 1.8. Mandatory Modifications and Special Inspections. B.G.A. Form 267 (Item 53) specifically requires verification that such modifications and special inspections have been complied with, at C of A renewal. (B.G.A. Annual Compendium is issued in January each year, and up-dated in bi-monthly TNS.)
 - 1.9. Ground Loop Damage. Control systems must be inspected for "hidden" damage. "Ventus" types have incurred damage to the elevator operating tube guide in the rear fuselage. (Reported by Southern Sailplanes).
 - 1.10. Extracts from C.A.A. Safety Information Sources. (Herewith).
 - (a) Mogas for Light Aircraft (C.A.A. Notice No. 98).
 - (b) Exhaust system leaks.
 - (c) Control-cables, crossed.
 - (d) T.61 Falke - overstressed.
 - (e) Water in Fuel (Again!!).
 - (f) Tug/Glider collision.

PART 2 GENERAL MATTERS

- 2.1. Blanik: Bulletin L13/055 introduces re-enforced wings. Details from Peter Clifford Aviation, White Waltham, Nr. Maidenhead, Berks. (062-882-3341).
- 2.2. B.G.A. Type Approvals List Please add the following gliders:-
- L.S.4.
D.G. 200-17C (202)
Wessamer W.A.30 (omitted in error).
- 2.3. 400 X 4 Tyres. Watts Tyre Co., (Aviation Division), Church Road, Lydney, Glos, GL15 5EN, (0594-42203) have 400 x 4 tyres available to an acceptable specification.
- 2.4. VW Conversions/VW Parts etc. Aero Engines and Airframes, 2 Wrentree Close, Redcar, Cleveland, TS10 4SB (0642-475631) may be able to offer assistance with parts, repairs, machining etc. Also supplies 4130 Tube 510/514 Sheet, SITKA spruce, etc. etc.
- 2.5. "Metalock" Repair Agencies. The latest list of agencies who may be able to repair crankcases etc. is available from Metalock - 01-930-8902.
- 2.6. Class III Radio Equipment in Light Aircraft. The attached C.A.A. information leaflet AD/IL/0086/1-2 dated 1/5/82, offers some degree of de-regulation for light aircraft (not exceeding 5700 Kg.).
- 2.7. C.A.A. Airframe/Engine Log Books for aircraft below 2730 Kgs - operating on the Light Aircraft Maintenance Schedule (LAMS). Only C.A.A. approved Engine or Air Frame Log Books must be used with the LAMS maintenance programme, as required by C.A.A. Notice No. 63. (Available from C.A.A. Publications Dept. 37 Gratton Road, Cheltenham, Glos. GL50 2BN, C.A.A. Area Offices, some Airfield Bookshops and maintenance organisations).
- 2.8. Accident Investigation Branch (Dept. of Trade). New Address:-

Bramshot,
Fleet,
Aldershot,
Hants.
GU13 8RX.

(Tel: Fleet 3361)

R.B. Stratton
Chief Technical Officer

July 1982

TNS 6/7/82

PART 3 MOTOR GLIDER C of A RENEWALS (3 YEARS)

C.A.A. Approval of the B.G.A. Ref DAI/8378/73 (para 6) has been amended as follows:-

"To certify work completed in accordance with approved maintenance schedule reference CAA/LAMS/FW/1978/BGA, and star inspections for aircraft listed in B.G.A. Technical Procedure Manual (Tugs and Gliding Related Powered Aircraft) Appendix 8, at Sites listed in Appendix 8A. For these purposes the persons specified in the B.G.A. Technical Procedure Manual Appendix 8B are approved by the C.A.A. to certify the Annual Check coincident with C of A Renewal as specified in the Maintenance Schedule (i.e. "Star" inspections)."

B.G.A. Explanation. Appendix 8 lists, by registration, all aircraft within Scope of B.G.A. This list will be updated automatically by B.G.A.

Appendix 8A lists all those sites/locations, for which proforma nominations were completed in response to TNS/1/82. (This list will be updated on application).

Appendix 8B lists all B.G.A. Inspectors, current at January 1982. For the purpose of motor-glider "Star" inspection/C of A renewals: signatures are required from person(s) with both Airframe (senior and ordinary) and 'E' (engine) Ratings. (This list will be updated annually).

C.A.A. Charges Ref CAA Notice No. 25 (issue 10/5/82 and subsequent!!). The charge is now £26.00 per 500 Kgs (or part thereof) per year of validity. Typical for a T61 Falke would be (£26 x 2 x 3) = £156.00 for three years (1982 rates!!) If in doubt, consult B.G.A. office.

Documentation. It is now required that the following be sent to the B.G.A. office:-

- (1) Expired C of A.
- (2) BGA Form 267 (Inspection Report Airframe).
- (3) BGA Form 267 M (Inspection Report Engine).
- (4) BGA Form 267 FT (Flight Test Report).
- (5) L.A.M.S. (Blue Book C.A.A. Light Aircraft Maintenance Schedule issued to each registered owner, complete with amendments).
- (6) Cheque for 3 year period of validity.
- (7) C.A.A. Form 202L (Sample attached).

- NOTES
- (1) Please ensure that legible top copies of B.G.A. Forms are forwarded with your application.
 - (2) LAMS Schedules are required for endorsement by C.A.A. and for proof that each aircraft has up-dated schedules, with which to comply.
 - (3) C.A.A. Forms 202L are available on request from B.G.A. office.

Civil Aviation Authority

Airworthiness Division

(MOTOR - GLIDERS). BGA Inspector to complete X

REPORT AND RECOMMENDATION FOR RENEWAL OF CERTIFICATE OF AIRWORTHINESS BY AN ORGANISATION APPROVED IN ACCORDANCE WITH BCAR, SECTION A, CHAPTER A8-15

DISTRIBUTION

White - CAA Area Office
Pink - CAA Area Office
Yellow - Aircraft Records
Blue - Approved Organisation

NOTE: Where an item is not applicable or appropriate the letters 'NA' should be entered.

1 AIRCRAFT DETAILS

1.1 Registration X Type: PRIVATE Constructor's No: X
1.2 C of A Category: PRIVATE
1.3 Engine Type(s) V Propeller Type(s) X

2 REPORT

2.1 Total hours flown either since manufacture or since initial issue of UK C of A*: X
2.2 Hours flown during each calendar year since C of A issue or last renewal:
X 19 hr/19 hr/19 hr/19 hr/Total X hr
2.3 Aircraft tested to Airworthiness Flight Test Schedule No: BGA FORM 267M Issue No: Date of satisfactory Flight Test: X
2.4 Radio equipment installed is in accordance with Form AD 917 dated: N/A
2.5 Flight Manual/Pilots Operating Handbook/Owners Manual* is in accordance with Flight Manual checklist dated: N/A
2.6 Date of Current Weight Schedule: X
2.7 ~~Aircraft is approved for Glider Towing/Parachuting*~~ (BGA OFFICE)
2.8 I confirm that all appropriate CAA requirements and Airworthiness Notices - Contents No: have been complied with.
2.9 I confirm that compliance with the following, as appropriate, is recorded in the aircraft records:
(a) FAA Airworthiness Directive Vol 1 at Bi-weekly Listing No: N/A
(b) CAA Mandatory Modifications and Inspections Summary, Contents and checklist of pages at Issue N/A dated N/A
(c) Foreign Airworthiness Directives Vol III, Contents and checklist of pages at Issue BGA Annual Summary dated
(d) CAA Additional Directives, Contents and checklist of pages at Issue +TNS dated
2.10 The aircraft complies with Specification/Data Sheet/Fiche No:* Revision/Issue/Edition No:
Quote Variations:

3 CERTIFICATION

3.1 STAR INSPECTION
completed on: X
Certified by: BGA/INSP.
Category Name X AMEL No. X

3.2 Certified that the appropriate requirements of BCAR, Section A Chapter A2-5 have been complied with and that the particulars contained herein are correct. It is recommended that Certificate of Airworthiness No: X be renewed for a period of 36 months, in the Private/Aerial Work/Transport* Category
Signed: (BGA) Name: (STRATTON)
Organisation: B.G.A.
Approval Ref. No.: DAE/8378/73 Date: (BGA)

The following documents are attached for CAA records: Flight Test Schedule/Flight Manual/Check List/Weight and Centre of Gravity Schedule*

*Delete as necessary

FORM 267
FORM 267M
LAMS.

Civil Aviation Authority
Brabazon House
Redhill
Surrey RH1 1SQ
Telephone Redhill 65966
Telex 27100 Telegrams & Cables Bordair Redhill

6 JUL 1982

TNS/6/7/82



Airworthiness Division

9/97/LTO/514

2 July 1982

LETTER TO OPERATORS NO 514
CAA ADDITIONAL AIRWORTHINESS DIRECTIVE NO. 001-07-82
SCHEIBE SF25 AND SF28 ALL VARIANTS AND SLINGSBY T61A, B, C AND
D. SELF LAUNCHING MOTOR GLIDERS
SLINGSBY TECHNICAL INSTRUCTION NO. 103/T61
INSPECTION OF WING CENTRE JOINT AND ADDITIONAL LIMITATIONS

Further to LTO 508 and CAA AD 003-06-82 the CAA has classified the following inspections and additional limitations as mandatory.

1. Before further flight after receipt of this LTO

NOTE: Aircraft inspected to CAA Emergency AD No. 003-06-82 or Slingsby TI 103/T61 will be deemed to be in compliance with this paragraph.

- 1.1. (a) With the main rigging pin pulled fully upwards by means of the Tee handle, such that the safety pin is hard against the lower face of the top boom lug fitting establish that the plain untapered portion of main pin shank protrudes below the port bottom boom lug fitting.
(b) If difficulty is encountered in establishing para 1.1. (a) inspection, due to poor access the wings must be removed and port wing inspected in accordance with para 1.1. (a).
- 1.2. Should no plain untapered shank be visible protruding below the port bottom boom lug fitting the aircraft shall not fly until the cause has been established, and rectified.
- 1.3. Establish whether more than one safety pin hole exists in the main pin. If more than one safety pin hole exists the aircraft must not be flown until the correct hole has been established by compliance with inspection to para 1.1. (a) or 1.1. (b) and the redundant hole made unusable.

2. At Each Rigging

NOTE: Aircraft inspected to CAA Emergency AD No. 003-06-82 or Slingsby TI 103/T61 will be deemed to be in compliance with this paragraph.

- 2.1. Accomplish the inspection contained in paragraph 1.1. (a) or 1.1. (b). Extreme care must be exercised when aligning the fittings to ensure that the lugs are not splayed during mainplane rigging, following inspection to 1.1. (b).

continued/....

- 2.2. Should no plain untapered shank be visible protruding below the port bottom boom lug fitting the aircraft shall not fly until the cause has been established, and rectified.
3. Inform Slingsby Engineering Ltd if:
- 3.1. Plain portion of pin does not protrude.
- 3.2. Additional safety pin hole exists.
- 3.3. Any damage likely to have a detrimental effect upon the airworthiness of the aircraft is found.
4. Additional Flight Limitations
- 4.1. Turns steeper than 60° angle of bank, Loops, Chandelles., Spins or winch launches are prohibited on aircraft fitted with:-
- 4.1.1. Main pin No. 653B-51-514
- 4.1.2. Main pin with bottom end radius greater than 3 mm
- 4.1.3. Main pin with more than one safety locking pin hole or where the safety locking pin hole exceeds .125" diameter.
- 4.1.4. Safety locking pins made from less than 12 SWG (.104") piano wire (spring steel).
- 4.2. A placard prohibiting manoeuvres stated in paragraph 4.1. shall be installed in full view of the pilot/s if any of the conditions contained in 4.1.1., 4.1.2. or 4.1.3. and 4.1.4. are not met.
- 4.3. If compliance under 4.1. permits aerobatic manoeuvres the aircraft shall be placarded in accordance with Airworthiness Notice No 51 Issue 1 Paragraph 3.2. and 3.3. and it is strongly recommended that an accelerometer red-lined at + 3.5g be fitted in this event.

This CAA Additional Directive will be formally published in Volume III of Foreign Airworthiness Directives and in Mandatory Aircraft Modifications and Inspection Summary at the next revision.

For further information contact the General Aviation Section at the above address.


D V PRICE
AIRCRAFT MAINTENANCE & APPROVALS
for the Civil Aviation Authority

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Safety Data Unit
Applications & Certifications
All UK Area Offices
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P.F.A.
Scheibe Flugzeugbau GmbH
Luftfahrt Bundesamt - W. Germany
B.G.A (6)

OVERSTRESSED MOTOR GLIDER !!

No: 5/82

Ref: EW/G82/03/07

Aircraft: Slingsby T61A Falke G-AYZW

Date and time (GMT): 21 March 1982 at 1500 hrs

Location: Portmoak Airfield

Type of flight: Private

Persons on board: Crew - 2 Passengers - Nil

Injuries: Crew - Nil Passengers - N/A

Nature of damage: Damage to starboard wing root fitting, main rigging pin and elevator control rod

Commander's Licence: Private Pilot's Licence

Commander's total flying experience: 1,316 hours (of which 86 hours were on type)

* The aircraft was being flown on a type rating test and following an unsuccessful air restart during which the aircraft was dived to a speed of 90 kts a second attempt was made from approximately 1,300 feet. The aircraft was dived to approximately 95 kts but again the engine failed to start and a pull-out, thought to be about $2\frac{1}{2}$ to 3g, was made with the intention of completing a glide landing at the airfield.

Immediately following the pull-out it was apparent that the control column could not be moved forward and since the aircraft had rapidly assumed an over the vertical attitude, the control column was pulled back and the aircraft completed the looping manoeuvre. After the second pull-out the combined efforts of both pilots was required to return the control column to a near vertical position. The aircraft was recovered to a normal attitude at a height of approximately 300 feet and an immediate landing was made downwind in a field with the captain using both hands on the control column while the other pilot operated the spoilers.

In examination after landing the crew found that the metal fitting of the starboard spar root had collapsed forcing the main spar connecting the pin down onto the elevator control rod thus impeding its movement.

* Subsequent investigations would indicate that much more "G" was pulled! *St. COPBA*

14. MOGAS FOR LIGHT AIRCRAFT - AIRWORTHINESS NOTICE 98

P/E

The Civil Aviation Authority has published a list of 124 light aircraft types which may use Motor Gasoline (Mogas) as an alternative to Aviation Gasoline, when flying with a Private category C of A or a Permit to Fly subject to certain conditions. The aircraft have been selected on the basis of having simple gravity systems providing fuel to the engine at positive pressure; the engines were initially certificated for 80 grade fuel or less. Selective testing has shown that these engines can operate safely on Mogas.

Applications for permission to use Mogas in other aircraft types will be considered by the CAA on their merits, possibly requiring flight and engine testing.

The Mogas, which must be four star motor gasoline to Specification BS 4040:1978, must be obtained from a company which undertakes to notify any significant changes in the fuel's properties or each bulk delivery of fuel must be analysed and the analysis approved. Mogas supplied for aircraft use must be stored in an aerodrome installation.

When Mogas is used in any aircraft on the CAA list, the fuel's temperature prior to take-off must be below 20°C and the aircraft must be flown below 6000ft. A notice is required to be displayed in the aircraft's cockpit setting out the limitations due to the use of Mogas. When Mogas is used, the fact must be recorded in the aircraft's log books.

The CAA is advising certain precautions when using Mogas, in particular that only fresh fuel should be used; that the fuel should be checked for water content if left standing for 24 hours or more; and that particular attention should be paid to preventing carburettor icing.

The Notice gives full details of the exemption from the requirements of the Air Navigation Order 1980 Article 7(1) - Certificate of Airworthiness to be in force.

Airworthiness Notice 98 - Use of Motor Gasoline (Mogas) in certain light aircraft is obtainable from CAA Printing & Publication Services, 37 Gratton Road, Cheltenham, Glos GL50 2BN.

15. EXHAUST SYSTEM LEAKS

E

Aircraft : Socata TB10 Tobago
Date : March 1982

During the annual inspection, a pressure test of the engine exhaust muffler revealed several leaks. These were mainly from the exhaust outlet reinforcing plate and from each welded end plate. All leaking areas were inside the heat exchanger cover, which created a possible carbon monoxide hazard. The aircraft had flown 416 hours.

CAA Comment:

This case, which revealed a problem before any hazard occurred, illustrates the value of an annual pressure test (see LAMs Schedule, Section 7, Item 37).

16. CROSSED CONTROL CABLES

E

Aircraft : Beagle A61 Terrier
Date : February 1982

During an annual inspection it was found that the elevator control cables were crossed. The cables were routed normally through the fairleads at the side of the fuselage but at the rear of the cockpit bulkhead they were crossed about each other before continuing to their respective bellcranks on the elevator. The elevator was operating in the correct sense. The fault was corrected, cables inspected, system re-rigged and duplicate inspected. The aircraft had not undergone any maintenance since its C of A renewal in May 1980, and had flown 28 hours since that date.

CAA Comment:

Obvious defects of this sort should not go undetected. The CAA is discussing the matter with the organisation responsible for the C of A renewal.

No: 6/82 TUG/GLIDER COLLISION! Ref: EW/G82/04/09

Aircraft: Piper PA-18 Super Cub G-ATRG
Schempp-Hirth Nimbus 3 Glider

Date and time (GMT): 18 April 1982 at 1330 hrs

Location: 1½ Nautical Miles North-East of Lasham Aero Aerodrome

Type of flight: G-ATRG - Private
NIMBUS 3 - Private

Persons on board: Crew - G-ATRG - 1 Passengers - Nil
NIMBUS 3 - 1 Nil

Injuries: Crew - G-ATRG - Nil Passengers - N/A
NIMBUS 3 - Nil N/A

Nature of damage: G-ATRG Damage to leading edge of left wing, left aileron and upper cross member of centre section. Upper transparency shattered.

Commander's Licence: Nimbus 3 Leading edge of left wing damaged
G-ATRG Private Pilot's Licence
Nimbus 3 Gold "C" Certificate

Commander's total flying experience: G-ATRG 350 hours (of which 60 hours were on type)
Nimbus 3 1045 hours (of which 2 hours were on type) with an additional 330 hours on powered aircraft

G-ATRG was operating as a glider tug at Lasham Aerodrome where runway 09 was in use. After taking off with a glider in tow it turned left and climbed to approximately 2,000 feet when on a northerly heading the glider was released. It then made another turn to the left and began a descent towards the airfield in order to rejoin the circuit. As it was passing through 1,400 feet the pilot suddenly saw that he was very close to a white Nimbus 3 glider which was converging on a collision course from his right. He took avoiding action by turning right and diving but the left wings of the two aircraft struck each other leaving a portion of the Super Cub's wing embedded in the leading edge of the glider's left wing, a few feet from the tip. The glider was also rejoining the circuit and its pilot did not see G-ATRG until the latter was already taking avoiding action. He initiated a right turn just before the two wings collided. Both aircraft landed successfully at Lasham, although the glider pilot had to apply approximately half right rudder in order to maintain normal flight. The weather at the time was fine with no cloud. In-flight visibility was estimated to be over 10 nautical miles but the horizon was indistinct and hazy.

Civil Aviation Authority

Airworthiness Division

~~FAA~~
TWS/6/7/82

AIRWORTHINESS INFORMATION LEAFLET

Ref AD/IL/0086/1-2

Date 1 May 1982

Author's Initials MJH

This Leaflet will not necessarily be kept up to date by reissues.

SUBJECT TITLE LA Class 3 Radio Equipment

PURPOSE This leaflet is to advise all concerned of the changes in procedures related to the installation and maintenance of aircraft radio equipment approved for use in light aircraft.

REFERENCES

BCAR Section R. Chapter R3-3

CAP 208 Vol 2

FOREWORD

The purpose of this Information Leaflet is to introduce information concerning the approval of Light Aircraft Radio Equipment and its subsequent installation and maintenance in aircraft with a maximum all up weight not exceeding 5 700 kgs.

The CAA has reviewed its policy with regard to Light Aircraft Radio Equipment with a view to recognising more clearly the limitations of radio equipment which does not qualify for V.C., W.R., or LA Class 1 approval. The following decisions have been taken.

- a) No additional equipment will be approved in the LA Class 2 category, with the ultimate object of discarding that classification.
- b) Since, to qualify for CAA approval, LA Class 3 radio equipment is required to be inherently safe and comply with performance requirements related to Frequency Stability and Spurious Emissions only, the CAA is relaxing its requirements for the installation of such equipment.

Consequently, the CAA will not concern itself with whether or not such equipments perform properly, either at installation or on a continuing basis, provided that they do not interfere with other equipment on that, or other, aircraft.

This change in policy affects the procedures as follows:-

The CAA will still require to be notified of a modification to install LA Class 3 equipment in order to satisfy itself that the installation is intrinsically safe. Although it is hoped that installers will ensure that the aerial is mounted in an approved location the CAA will not require that it shall be. When satisfied, the CAA will continue to issue, or amend, the Certificate of Approval for the Radio Station (AD 917) as heretofore. There will be no requirement for scheduled maintenance on the installation other than that of security, intrinsic safety and frequency tolerance checks on transmitter crystals. The ANO will be amended to permit an engineer licensed in some categories other than radio to issue certification, having ensured that compliance with those requirements have been met.

This procedure will not apply to:-

- a) Equipment classified LA Class 1 which is not being used to satisfy a mandatory requirement.
- b) Equipment classified as LA Class 1 but installed in such a manner (eg unapproved aerial location) that the installation itself has been classified LA Class 3. In this context no further installations will be approved as LA Class 3 and attempts will be made to reduce the number of such existing installations.

A pre-requisite for approval of the installation of equipment classified as LA Class 1 is that the associated aerial location has been approved by the CAA. The approval status of the aerial location will be considered on this basis if LA Class 3 equipment is subsequently replaced by that in the LA Class 1 category.

The scheduled maintenance requirements for LA Class 1 radio equipment are unchanged.

AD/IL/0086/2