

BGA Technical Committee

TNS/5/4/78

Part 1. Airworthiness "Aggro". (Please add to 1978 "Pink" Compendium).

- 1.1. SZD 45A "Ogar" Motor glider. CAA Foreign Airworthiness Directives Vol. III Feb. 1978 requires electrical bonding check of the glass fibre fuel tank at 50 hour intervals.
- 1.2. Pik 20 and 20B. Frayed Rudder Cables. Service Bulletin M18 (herewith) requires inspection of rudder cables for signs of damage by the landing gear control mechanism (AD/779/78 also refers).
- 1.3. BG 135 "Consort" (Gypsy). Excess free-movement in control stick assembly. Break up of the stick bearer rivetted to the torque tube, caused excessive back lash in the stick. Replace rivets as required.

Also, control column bearings may be seized, and generate excessive wear in light alloy stick! (K.A. McGregor).

- 1.4. Astir CS/77. T.M. 102-8. Supplies of "solid" rudder control cable lever assemblies are available from Soaring Oxford Ltd., 90 Garsington Road, Oxford (086-736-565). Ref TNS 2/3/78.
- 1.5. Bergfalke II. Control Stick Failure. The rear stick failed as a result of overload applied by Instructor in conflict with pupil. (Light alloy stick - no sign of corrosion). Inspect as required for signs of deterioration. (J.M. Scott).
- 1.6. IS.28 B.2 Undercarriage Failures. Vickers-Slingsby have modification kits available, to re-enforce this installation. (Customer option - but recommended!).

/2.....

2.4. (cont)

(a) With effect April 1978 CAA will issue Certificate of Airworthiness in the "Private" Category (previously "Special"). Valid for 3 years.

(b) Operators will be required to comply with the maintenance cycle contained in the LAMS (Light Aircraft Maintenance Schedule) at 50 hr, 100 hr and annual intervals. Appropriately rated BGA Inspectors are authorised to sign for these Inspection under CAA/BGA Approval Ref: DAI/837/73 (Technical Procedure Manual).

(c) Copies of LAMS Schedule will be supplied by CAA to each applicant at time of next C. of A. Renewal.

(d) LAMS Schedules should be safe-guarded with the Certificate of Airworthiness, as part of the legal documentation required under the Air Navigation Order.

(e) C of A Fees will be required for the 3 year period of validity, calculated as follows:-

Issue of 3yr C of A - £40 for series aircraft	} Payable to B.G.A.
Renewal of 3yr C of A - £25	

2.5. BGA Cockpit Placards. The limitation placard (Form 267/P), has been minimised and simplified, to convey only useful extracts from the Revised C. of A. Form. The cockpit weights which are significant to the safe operation of a tandem two-seater, are obviously the minimum and maximum solo weights, provided the max AUW is not exceeded when flown dual.

2.6. GRP Courses. Sincere apologies for last minute cancellation by Vickers-Slingsby Limited. Facts as follows:-

In response to TNS 8/9/77 - 34 applicants
In response to TNS 2/3/78 - BGA office received 13 nominations for April 8/9th and 6 (so far) for April 22/23rd.

Notwithstanding these numbers, the Course was cancelled. BGA will not initiate such arrangements as these, again. Alternatives may be possible in 1979.

/4.....

(c) Light Aircraft Maintenance Schedules (LAMS) will apply (Ref Para 2.4(b)). Licensed Aircraft Maintenance Engineers will be required to certify 100 hr Annual Inspections (50 hr inspections may be implemented as indicated in LAMS).

(d) As the result of representations made by the BGA to the CAA, a meeting was held at CAA 24/4/78. The BGA have been invited to seek additional CAA Approval under BCAR Section A8-15 to provide "umbrella" approval cover for Licensed Engineers to carry out "star" inspections for C. of A. renewal at 3 year expiry (April 1981!).

Negotiations for such approval have been initiated by letter to CAA dated 26/4/78.

- 3.3. Tug Operating Procedures to minimise cylinder damage. Advice from Lycoming is repeated here on separate page for NOTICE BOARDS.

Advice herein would appear to be relevant to all types of engine/tug combinations.

- 3.4. Fairey-Reed propeller Repair Service. The BGA have received a helpful response from Frank Houseman, Technical Director, Rogers Aviation Limited, Castle Mill, Goldington Road, Bedford MK41 OJA (Bedford 750661), to the effect that their Propeller Shop may be able to offer some assistance. Coercion/persuasion with tact may be required.

- 3.5. BGA Inspectors who are CAA Licence Holders. In order to implement the proposals in 3.2 the BGA requires to know how many LAME's would be available to take advantage of BGA approval under A8-15.

Please write brief details of any licence categories/coverage to BGA office.

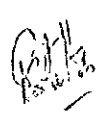
- 3.6. Tug "Prangs". The monthly average of one a month is still being maintained, and the 1978 "bag" to-date includes:-

1 Citabria
1 Condor
1 PA-18.

- 3.7. CASI 4/78. Chipmunk Tailplane Attachment. Wear in the fittings will cause excess movement at tail-plane tips.

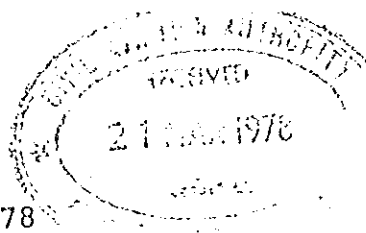
- 3.8. CAA Notices "On Condition" Engine TBO. We understand that issue 9 of Notice No. 35 is at the Printers.

The owners of Civil Registered aeroplanes are entitled to a copy of CAA Notices foc, from CAA (Printing & Publication Services), Greville House, 37 Gratton Road, Cheltenham, Glos. GL50 2BN.


R.B. Stratton

30/3/78

TNS. 4/5/78



PIK 20/B

SERVICE BULLETIN February 28, 1978

M18 page 1 of 1

REASON The fraying of the rudder cable.

EFFECTIVITY PIK-20 and 20 B models all serial numbers.

DESCRIPTION When mounting the fitting nut of the landing-gear control mechanism the spreading of the insert nut legs may have caused the fracturing of the right hand rudder cable nylon sleeve and caused the fraying of the cable.

COMPLIANCE Within 25 flight hours.

INSTRUCTIONS

- 1 Remove the landing gear operating mechanism situated at the right cockpit side wall and remove the upper fitting "Tucker" insert nuts.
- 2 Inspect the nylon sleeve for fracture and clearance to the insert nut legs.
- 3 If the sleeve is fractured replace the rudder cable with 7 x 7 ϕ 3/32" MIL-W-1511. Clean the sleeve with compressed air.
- 4 When mounting the new inserts install the legs \pm 45° to vertical to avoid new fractures.
- 5 If the clearance is too small the nylon sleeve must be moved. Keep the line as straight as possible.

WEIGHT AND BALANCE No effect.

3 ea Tucker nuts are supplied with this Service Bulletin.

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S. Altonen



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National Board of Aviation

Spark Plugs Blowing Out (contd)

Aircraft : Scottish Aviation Bulldog
 Date : 1976
 Engine : Lycoming IO-360

At approximately 5,500 ft the engine suddenly started to run roughly with a loss of power. The aircraft was landed undamaged on a disused aerodrome.

It was found that the lower spark plug on No 3 cylinder had blown out, but was still connected to the HT lead. Part of the threaded portion had been completely burned away, and the copper washer was missing. It had apparently never been fitted. The HT lead was still firmly attached to the plug and had prevented the plug unscrewing itself. It is most probable that the plug was inserted cross-threaded and jammed after a few turns and was left like that. The ensuing gas leak then gradually burned away the retaining thread.

The engine manufacturer's report brought out a relevant point for maintenance personnel (applicable to many cars as well); the plug washer not only acts as a gas seal but also conducts heat rapidly from the plug body to the cylinder head, which is why it is usually made of copper.

(From Royal Air Force Support Command Flight Safety Magazine, April-December 1977).

Two Cases of Propeller Boss Block Cracks not being Revealed by Dye Penetrant Check

Aircraft : DHC1 Chipmunk
 Date : January 1978
 Propeller : Faircy Reed

The aircraft owner wished to fit a replacement propeller for which the previous history was unknown. A dye penetrant inspection to SB FRP 001-1 did not reveal any cracks. However, as the propeller history was unknown, the CAA Airworthiness Division Area Office insisted that non-destructive testing be carried out by an approved organization. Checks using the eddy current method revealed that one boss block had two cracks in the inner circumference.

In another case, cracks in a rear boss block were only revealed by eddy current checks; although a crack in a front boss block emanating from a small nick was found by the dye penetrant method.

Blocked Crankcase Breather Pipe Caused Engine Stoppage

Aircraft : MS893A Rallye
 Date : July 1977

The aircraft was on a test flight after re-installation of the engine. The ground run and power checks had been satisfactory. After a normal take-off, at 600 ft there was a sudden and complete loss of power. The aircraft was force landed without damage.

Investigation showed that fuel pressure was excessively high, oil was leaking from the push rod seals and from No 2 cylinder. It was found that the crankcase was pressurized, due to the crankcase breather pipe being obstructed by a blanking plug which was fitted to the pipe at engine removal. The plug was of incorrect size and had fallen 2 inches into the bore, and was not noticed when re-installing the engine. On removal of the plug the engine operated normally.

BGA/TNS/4/5/78

TUG OPERATING TECHNIQUE

Tow Pilots Please Note:

Gasoline is Cheaper than Cylinders.

For many years we have been concerned with pilot technique in avoiding sudden cooling to engines during descent because poor handling can cause cracks in cylinder heads at the spark plug and valve ports and also warp exhaust valves. It is impossible in a letter to describe specific techniques for the various engines being used in towing. However, there are a few basics that apply to all engines:

1. Eliminate any technique in letdown using a high airspeed with little power.
2. Use enough power during descent to keep some heat in the cylinders.
3. Limit airspeed to high cruise or not more than 1000 fpm during descent.
4. Lean the mixture during descent.
5. "Dirty" the airplane (if it has flaps) so more power can be used.

The descent for the next pickup will take longer, but gasoline is cheaper than cylinders. The battle cry to tow pilots is simply - "Avoid sudden cooling!"

J.A. DIBLIN

Williamsport, Pennsylvania

JMS 4/2/78

CHIPMUNK MODIFICATIONS. (CONTINUAL)

CHIPMUNK

MODS/REF

REMARKS

ORIGINATOR

	MODS/REF	REMARKS	ORIGINATOR
Conversion to Lycoming O360	AAN 13954 AAN 15730	RAFGSA, Bicester, Oxon. G-AOSU Colton Aviation, Little Staughton. G-AOUO	RBS
Cleveland Disc Brakes	AAN 12150	Air Navigation & Trading, Blackpool.	ANT
Induction heater-box disconnect	Minor Mod K.129	To eliminate cracking/corrosion leading to engine malfunction.	RBS
Air-path Compass & direct reading Oil press. & oil temp gauges	CA/RBS/1/77	Colton Aviation. Installed on G-AORR	Swiss RBS
To replace carbon-pile voltage regulator with CAV auto motive unit	CA/RBS/5/78	CAV type 6GC.37454. Includes current limiter. Colton Aviation. Installed on G-BBMT	RBS
To install voltmeter (automotive)	Minor Mod 9/215/134	Gives essential warning of regulator mal-function leading to overheated batteries etc.	RBS
To install Gill Aerobatic batteries 12 x 25 AH. Type PS6-9	CA/RBS/4/78	Colton Aviation. Installed in G-BBMT	RBS
To install Rebat 12v.25AH. batteries		Colton Aviation. Installed in G-AOTR.	RBS