

BGA TECHNICAL COMMITTEE

TNS/10/12/85

PART 1

This is the last issue for 1985, and the airworthiness "aggro" will be included in the 1986 BGA Compendium of Airworthiness Directives, Mandatory Modifications and Special Inspections.

- 1.1 Compliance with Airworthiness Directives, Mandatory Modifications and Special Inspections must be checked before you sign item 53 of BGA Inspection Form 267, at Annual Inspection/C of A Renewal. Check also the latest TNS!
- 1.2 TWIN-ASTIR. Rear Rudder Pedals. TM 315-30 requires replacement of parallel lever in rear rudder-pedal support.
- 1.3 Grob G.103 TWIN II/TWIN II ACCRO. TM 315-31 requires action to prevent airbrake outer pivot stop-pads sliding beneath the wing skin and jamming the brakes in the 'out' position.
- 1.4 Grob G.103 TWIN II/TWIN II ACCRO. TM 315-29 requires inspection and replacment of airbrake operating lever in the front cockpit. (Failures have occurred in UK).
- 1.5 JANTAR - Seat Back Insecure and collapses backwards in flight when displaced by the parachute. Pilot then becomes incapacitated! (Local modification is recommended to secure the top tube.)
- 1.6 KA.7 Tailplane/Elevator. Failure of the glue line around the nose of the elevator, probably due to water/frost damage. Torsional stiffness significantly reduced. (Reported by Dr Chamberlain, Rattlesden and listed in previous TNS.)
- 1.7 KESTREL, LIBELLE, NIMBUS. Cracks in the tailplane attachment bracket on the tailplane. (Previously reported on 'Mosquito') may apply to all Glassflugel designs.
- 1.8 KESTRELS (and similar designs) Cracking of lower rudder hinge. (reported from Australia)
- 1.9 ASK 23, Tech Note 2, introduces additional bulkhead in vicinity of the nosewheel. This is mandatory to prevent damage interfering with control systems.
- 1.10 ASK 21 Trim Indicator. Tech Note 18 introduces modification to prevent restriction of the stick.
- 1.11 PILATUS B.4 Rivets loose in the front-end fitting of the elevator drive-rod in the centre-section. All such fittings to be checked. (Reported by R B Rooker)

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- 1.13 Grob 109A (second-hand import). Fuel smell/leak traced to unclipped hose on the base of the fuel tank. (Reported by Dr. Chamberlain, Rattlesden.)
- 1.14 DG.300 Tech. Note 359/7 introduces revised pages to Manuals.
- 1.15 DG.400 Tech. Note 826/12, introduces Flight Manual Revisions which become a Mandatory part of UK Certification.
- 1.16 Extracts from General Aviation Safety Information Leaflets (GASIL'S) herewith:
- a) Chipmunk Tailplane attachment brackets - bolts fail after compliance with TNS 176
 - b) Winter Operating Precautions applicable to Tugs, Motor-Gliders and Gliders
 - c) PA-18-CUB Stabiliser Jackscrew failed (new)
 - d) RF 5 - Corroded Tailplane attachments
 - e) PA-18-CUB and PA 25 PAWNEE Cracked flap bellcrank.
 - f) Accident Summary PA-25 PAWNEE Yorkshire GC
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- 1.17 PIK 20E - Fuel Supply Restricted and severe power loss due to rubber hose peeling back when Purolator (Metal) filter is fitted. "Pierburg" plastic unit from DG.400 is preferred. (Reported by Bob McLean). Full flow fuel test should be made after such replacements.
- 1.18 IS 28 B2 - Dural Fork ends in aileron circuit in the wing to be replaced. Ref. IS 28 BS/EO-14.
- 1.19 HAVE YOU CHECKED the list of Mandatory Directives, Modifications and Inspections, as updated by this and all previous Technical Newsheets before completing FORM 267 Item 53! (YET AGAIN!)

PART 2

GENERAL MATTERS

- 2.1 IS 29D - EO-11 extends the 'safe-life' subject to detailed inspection as follows:
- (a) Serial Nos. 1-20 inc - 1700 hrs/9,000 landings
 - (b) Serial Nos. 21-56 inc - 3750 hrs/15,000 landings

The Calendar life of (a) 10 years and (b) 20 years will not be applied by the BGA.

- 2.2 New Types approved by the BGA. LS.6 subject to revised tailplane/elevator and other minor modifications.
JANUS (CM) Motorglider has been added to the CAA/BGA Approved List, subject to modifications required by CAA.
- 2.3 "Meaningful" Weight and Balance Placards. If in doubt, or if the glider demonstrates unusual handling characteristics, it should be reweighed. (Ref. Tech. Procedure Manual para 7.9).
- 2.4 BGA Inspector/Insurance Renewal. This is the last opportunity to renew (£15.00).

Very happy Christmas and New Year!

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R. B. STRATTON
Chief Technical Officer

14. WEAK TAILPLANE BOLTS

Aircraft: DHC1 Chipmunk
Date : September 1985

As required by TNS 176, the tailplane brackets were being changed for new brackets (CI TP 313 in place of CI TP 167) with no requirement to change the attaching bolts and nuts.

The original AS25-3C bolts and nuts were immaculate so in order to obviate drilling split pin holes in the new bolts, it was decided to re-use the originals.

Torque figures are not quoted in the TNS or the Maintenance Manual, so a torque of 30lb/in was used, (being the lower end of the range for HTS bolts). Of the first five bolts, two sheared before 30lb/ins was reached on the recently checked torque wrench. For comparison a new bolt was torqued to destruction, and sheared at 100lb/in. All the old bolts were destroyed and the new ones used. The aircraft had flown 8164 hours.

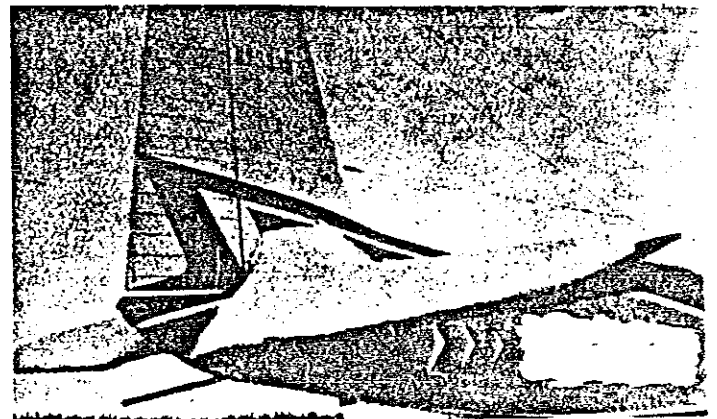
CAA Comment:

Pending CAA investigation, we strongly recommend that new bolts be used.

3. WINTER COMETH

As a country dweller I notice that all the signs have been there:

- lots of berries on all the bushes,
- masses of nuts and acorns which squirrels are eating/storing early,
- the craneflies (daddy-longlegs) hatched early,
- the creepers turned red early.



So what! I may be wrong, but these are the signs of a HARD WINTER, so read Safety Sense No 3 'Winter Flying' before you get caught out by the first frost or an early snowfall. Below are a few items to illustrate winter problems.

4. Iced Pitot/Static System

Aircraft: Britten Norman BN2A Islander
Date : February 1985

During the climb the ASI was flickering + 5 kts and after a few minutes at the cruise height of 8500 ft (OAT -13°C) the reading decreased to zero. As icing or pitot static heater failure was suspected, the alternate source was selected, before returning to base.

The ASI worked again when below the 0° isotherm at 500 ft.

CAA Comment:

A similar case was reported on another Islander in 1978. Water freezing in the pitot line was suspected as the cause. Pitot and static drains (in the cabin roof on this aircraft type) must be checked and kept clear.

5. Loss of Lift Due to Some Ice On The Wings !!

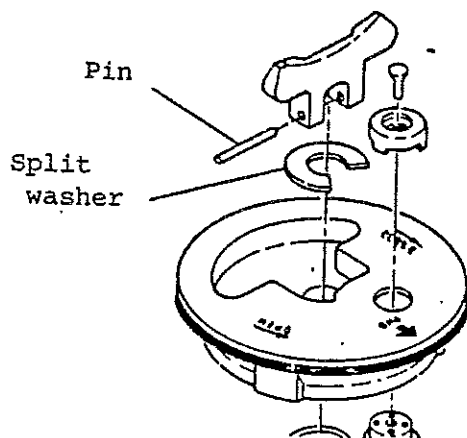
Aircraft: Gulfstream AA5A Cheetah
Date : January 1985
Reportable Accident at Biggin Hill

12. FUEL FILLER CAP FELL APART

P/E G. A. S. L.

Aircraft: Cessna F182Q (May apply to other aircraft)
Date : August 1985

During routine re-fuelling the left-hand fuel tank filler cap fell apart when removed. As a result the split washer fell into the tank. As it was non-magnetic stainless steel it could not be retrieved with a magnet. The tank had to be drained and the upper access panel removed in order to retrieve the washer. Fortunately the handle and its securing pin did not enter the tank. There is no method of locking the handle securing pin in the red plastic type cap, hence it can slide out from one end when in the "OPEN" position. The reporter has secured all the pins by deforming the cap handle plastic adjacent to the pin hole with a small soldering iron. The cap was a WISCO C156001-0106.



It appears from the Cessna Parts Catalogue that the pin used in the plastic caps has a different part number from the pin used in the metal caps.

13. CORRODED TAILPLANE ATTACHMENTS

E

Aircraft: Fournier RF5
Date : August 1985

Two cases have been reported of badly corroded tailplane attachments. One had exfoliation such that the thickness was almost doubled. One of the aircraft had only flown 814 hours. Both were built in 1972.

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10. NEW STABILATOR TRIM JACKSCREW BROKE EASILY

E

Aircraft: Piper PA18-150 Super Cub
Date : September 1985

During maintenance the horizontal stabiliser jackscrew (Part No 42961-02) was removed due to wear. A replacement was received from Airparts Supply Ltd and was fitted.

During flight the pilot found the trim was excessively stiff. A further new jackscrew cured the problem. When the "defective" one was examined there were no signs of thread damage or bowing; however, when an attempt was made to bow it, it broke in half easily with only hand pressure.

The supplier was informed.

CAA records, is reported generally as having suffered no problems. However, the pilot reports that the day prior to this accident he was forced to abandon one take off due to insufficient power following a period of idling with a hot engine.

COMMENT

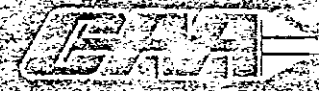
An information leaflet issued by the CAA as No 4 in the series 'General Aviation Safety Sense' and titled 'Use of MOGAS', gives details of the limitations and precautions to be adopted with aircraft engines approved to run on motor gasoline.

Civil Aviation Authority

ISSN 0309-667X

General Aviation Safety Information

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BGA TNS/12/85

9/85

20 September 1985

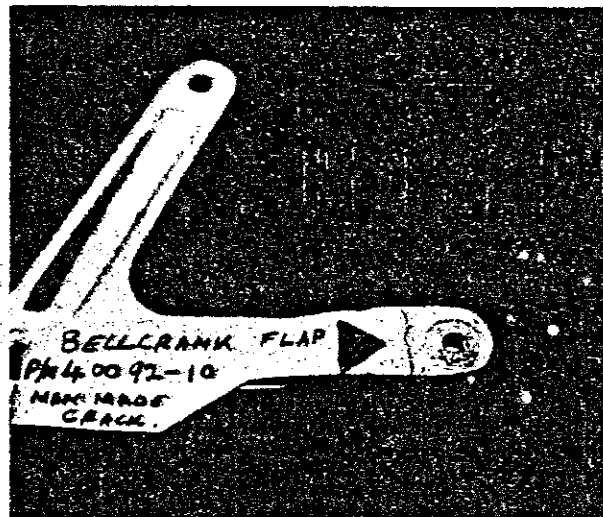
1. CRACKED FLAP CONTROL BELLCRANK

E

Aircraft : Piper PA18 Cub & PA25 Pawnee

Date : July 1985

Below is a photograph of a bellcrank Part No 40092-10 from a Piper PA18 aircraft which has been cracked as a result of overtightening the bolt which attaches the control rod or cables. The same Part No is used on PA25 aircraft.



CAA Comment:

Our area office who passed the photograph to us remarked, "would you believe it".

Aircraft type and registration: Piper PA 25 Pawnee G-BENL (light single engined fixed wing aircraft)

Year of Manufacture: 1976

Date and time (GMT): 10 July 1985 at 0830 hrs

Location: Sutton Bank, N Yorkshire

Type of flight: Gliding aerotow

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — Minor Passengers — None

Nature of damage: Aircraft destroyed

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

Commander's Age: 24 years

Commander's Total Flying Experience: 164 hours (of which 31 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot.

The airfield, at which this aircraft was operated as a glider tug, is positioned on the edge of the Hambleton Hills in N Yorkshire with a sheer drop of several hundred feet around its South and West facing boundaries. On this occasion, the aircraft had just been refuelled with 4 star MOGAS, prior to its first flight of the day, following which the pilot taxied to the glider launch point. The air temperature was +15°C.

On arrival, the engine was left running at 1000 to 1100 rpm for approximately 4 to 5 minutes until the cylinder head temperature rose to 250°F. A satisfactory magneto drop check was then carried out at 1700 rpm. As the glider pilot was not yet ready to launch, the pilot shut down the engine for a period of 4 to 5 minutes before re-starting.

The start of the launch was normal with the pilot reporting that 2400 rpm was achieved by the engine once full power had been selected. He states that the aircraft became airborne at 65 mph three quarters of the way along the 500 yard grass runway but, at a height of approximately 25 feet the engine suffered a total loss of power and the aircraft sank back onto the ground. By this time it was too close to the boundary of the airfield to stop. The aircraft fell over the cliff edge, pitching nose down and dropping the left wing as it did so, and began to accelerate downwards. It hit the tops of some trees and collided with the side of the cliff, turning through approximately 180° before coming to rest.

After salvage of the wreckage, the aircraft's engine, fuel system, and electrical system were examined by the maintenance organisation normally employed by the gliding club, with no pre-accident defects being discovered.

The aircraft had been operated mostly on MOGAS fuel for the previous 2½ years and, despite no record of approval for use with this fuel being discovered from examination of the aircraft or

No: 9/85

Ref: EW/G85/08/08

Aircraft type and registration: Hoffman H36 Dimona G-BLCV (light single engined fixed wing aircraft)

Year of Manufacture: 1984

Date and time (GMT): 21 August 1985 at 0810 hrs

Location: Sanday Airfield, Orkney

Type of flight: Private (pleasure)

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — None Passengers — N/A

Nature of damage: Both wings and empennage damage. Fuselage severed behind the cockpit

Commander's Licence: Private Pilot's Licence

Commander's Age: 49 years

Commander's total flying experience: 393 hours (of which 164 were on type)

Information Source: Aircraft Accident Report Form submitted by pilot.

The pilot intended to fly to Hannover, W Germany, via Newcastle and Southend. He obtained a meteorological briefing from Glasgow, checked his aircraft, and then walked along Runway 29 at Sanday airfield. He noted long wet grass on the uphill part of the runway but observed that it was drier and shorter at the crest of the slope. He arranged alternative transport for an anticipated passenger in order to ensure that the aircraft would become airborne shortly after reaching the mid point of the runway. With the propeller in the take-off setting he began his ground roll into a 15 knot headwind. The aircraft eventually became airborne when it had passed the mid point and highest spot of the runway, but the pilot then considered that he had insufficient height to clear the stone wall at the airfield boundary. He therefore turned left to avoid the wall and touched down again. The aircraft ground looped so that the starboard wing tip collided with a fence that ran parallel to the southern side of runway 29. The aircraft was extensively damaged. There was no fire.

The pilot considers that, since he could not see the end of the runway until he had cleared the runway crest, he misjudged the point at which he had to be airborne in order to complete a successful take off. Furthermore the long wet grass acting upon the undercarriage wheel spats had increased the take off distance required. The runway length was 397 metres.

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Date : September 1985

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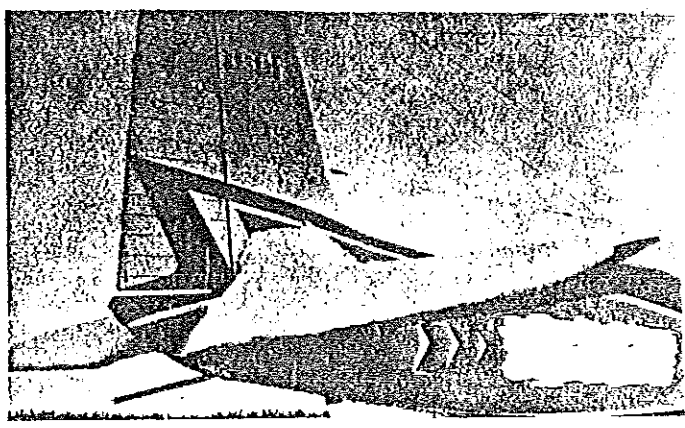
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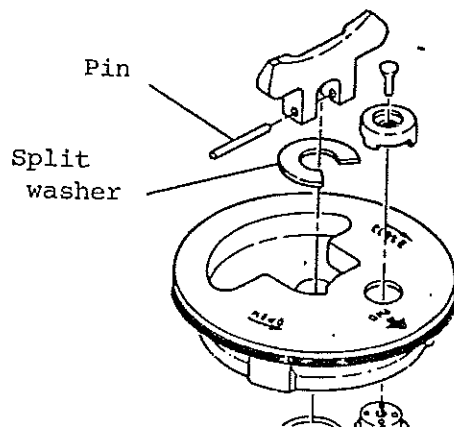
Aircraft: Gulfstream AA5A Cheetah
Date : January 1985
Reportable Accident at Biggin Hill

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P/E G.A.S.I.L

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Date : August 1985

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The supplier was informed.

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Year of Manufacture: 1976

Date and time (GMT): 10 July 1985 at 0830 hrs

Location: Sutton Bank, N Yorkshire

Type of flight: Gliding aerotow

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — Minor Passengers — None

Nature of damage: Aircraft destroyed

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

Commander's Age: 24 years

Commander's Total Flying Experience: 164 hours (of which 31 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot.

The airfield, at which this aircraft was operated as a glider tug, is positioned on the edge of the Hambleton Hills in N Yorkshire with a sheer drop of several hundred feet around its South and West facing boundaries. On this occasion, the aircraft had just been refuelled with 4 star MOGAS, prior to its first flight of the day, following which the pilot taxied to the glider launch point. The air temperature was +15°C.

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COMMENT

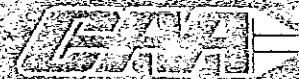
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Civil Aviation Authority

ISSN 0309-667X

General Aviation Safety Information

Safety Data and Analysis Unit
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BGA TNS/12/85.

9/85

20 September 1985

1. CRACKED FLAP CONTROL BELLCRANK

E

Aircraft : Piper PA18 Cub & PA25 Pawnee
Date : July 1985

Below is a photograph of a bellcrank Part No 40092-10 from a Piper PA18 aircraft which has been cracked as a result of overtightening the bolt which attaches the control rod or cables. The same Part No is used on PA25 aircraft.



CAA Comment:

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Aircraft type and registration: Hoffman H36 Dimona G-BLCV (light single engined fixed wing aircraft)

Year of Manufacture: 1984

Date and time (GMT): 21 August 1985 at 0810 hrs

Location: Sanday Airfield, Orkney

Type of flight: Private (pleasure)

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — None Passengers — N/A

Nature of damage: Both wings and empennage damage. Fuselage severed behind the cockpit

Commander's Licence: Private Pilot's Licence

Commander's Age: 49 years

Commander's total flying experience: 393 hours (of which 164 were on type)

Information Source: Aircraft Accident Report Form submitted by pilot.

The pilot intended to fly to Hannover, W Germany, via Newcastle and Southend. He obtained a meteorological briefing from Glasgow, checked his aircraft, and then walked along Runway 29 at Sanday airfield. He noted long wet grass on the uphill part of the runway but observed that it was drier and shorter at the crest of the slope. He arranged alternative transport for an anticipated passenger in order to ensure that the aircraft would become airborne shortly after reaching the mid point of the runway. With the propeller in the take-off setting he began his ground roll into a 15 knot headwind. The aircraft eventually became airborne when it had passed the mid point and highest spot of the runway, but the pilot then considered that he had insufficient height to clear the stone wall at the airfield boundary. He therefore turned left to avoid the wall and touched down again. The aircraft ground looped so that the starboard wing tip collided with a fence that ran parallel to the southern side of runway 29. The aircraft was extensively damaged. There was no fire.

The pilot considers that, since he could not see the end of the runway until he had cleared the runway crest, he misjudged the point at which he had to be airborne in order to complete a successful take off. Furthermore the long wet grass acting upon the undercarriage wheel spats had increased the take off distance required. The runway length was 397 metres.