B.G.A. TECHNICAL COMMITTEE

TNS 12/82

PART 1 AIRWORTHINESS "AGGRO" (These items will be included in the 1983 list).

1.1. IS. 28. B.2. Ball coupling failure at thread, speed-brake system - check for correct installation, lubrication and adjustment.

1.2. IS. 28. B.2. Speed-brake/wheel brake interconnection, may restrict speed-brake travel. Adjust as required.

1.3. IS. 28. B.2. Wing Root Locating Pins. Inspect for scores which may lead to cracking.

(The above reported by Gliding Federation of Australia)

1.4. IS - Series Gliders and Motor-Gliders The following inspections are notified to C.A.A. by Central National Aeronautics Dept. (Roumania):-

(a) Locking-wire on turn buckles in control cables may have become "aged" if brass wire used. (replace as required).

(b) Aileron Control Rod may become bent if aileron forced on the ground.

1.5. NIMBUS II Excessive backlash in Flap System. Corrosion of linkage ball-ends by water-ballast tank leaks, resulted in disintegrated ball-ends. (In TNS 11/82 item 1.6. this defect was incorrectly assigned to "Kestrels". Please correct TNS 11/82, and apologies to all aggrieved owners!) Reported by D. Jones.

1.6. LS.3. Series Gliders Trim weight attachment bracket-cracked. Technical Bulletin 3033/4010 requires disassembly, inspection and repair as necessary.

1.7. T.49 CAPSTAN Rudder bottom hinge badly corroded by water entering open ended tube. (Report by P. Kingsford, Kent Gliding Club).

1.8. GROB TWIN ASTIR Speed-Brake Control bellcrank (Ref. sketch attached) - cracked. Inspect and rectify as required. (Reported by G.F.A. Australia).

1.9. LS.4. Seat Adjusing Cable May foul speed-brake lever collet, (when seat is loaded). Bend Seat Support tube inboard to clear collet, on the port side. (Reported by G. Bolton, Cranwell Gliding Club).

1.10. PIK 20 E - Fuel Gauges Refer to DoT Accident Bulletin 12/82 herewith.

1.11. GROB A.109 Fuel Gauges Two cases are on record of significantly inaccurate fuel gauges. It is strongly recommended that calibrations are made, and the errors placarded.

PART 2 GENERAL NOTES

2.1. BLANIK L.13 Extention of Service Life beyond 15,000 launches. Whereas an increase in life may be made by "Replacement of Critical Parts" (Ref. Manufacturer's Report LET/8/4510/78 available from Peter Clifford Aviation Ltd., White Waltham Airfield, nr. Maidenhead, Berks. Price. £4). The B.G.A. may be able to grant extentions based upon data derived from in-flight testing in the U.K.

2.2. Grob A.109 Fuel Pumps and vapour locking.

(a) Grob are conducting tests on a modified fuel system to eliminate engine power-loss encountered in high ambients on mogas.

(b) Electic fuel pumps (modified by Hardi) are being replaced, by unmodified types which are more reliable.

2.3. OTTFUR RINGS a supply of incorrectly dimensioned rings, (in which the large ring is to small) has been reported. Please reject these and return them back to the supplier.

2.4. WINCH WIRE Doncaster and District Gliding Club (Bill Thorpe 0302 538170 has advised B.G.A. that cable to spec. 2.95 mm diam., 1650 - 1800 N/mm^2, priced at £55 per roll from British Ropes, lasts much longer than 2.95 mm diam., 1250-1400 N/mm^2 priced at £46.

Please keep the C.T.O. advised of any useful and cost/effective developments of this kind, which may be helpful to other clubs.

2.5. TUG OPERATING COSTS The dollar exchange rate has significantly raised the cost of U.S.A. derived spares, engine overhauls etc. Clubs should re-calculate their operating costs based upon up-date price lists. The B.G.A's "Tug Management Advisory Package" (Price £1.25), may help you to refine you calculations.

2.6. MOGAS APPROVAL C.A.A. Notice No.98 (revised 17.11.82) extends the list of types approved.

2.7. C.A.A. TYPE APPROVAL OF AIRCRAFT RADIO (Gliders) List G1-G27 dated October 1982 is attached.

2.8. Extract from C.A.A. Accident Summary (attached), refers to inadequate take-off margins during a field retrive. (Pawnee 235).

2.9. Preparations for Winter Operation Extract from GASIL 11/82 should be displayed on club noticeboard.

2.10. B.G.A. INSPECTOR RENEWALS

In order to be included in the 1983 list, (published in January), and to be included in the B.G.A. Inspector Insurance Scheme (£250,000 cover), you must have renewed by December 31st 1982. Please remit £10.00 as soon as possible if you have not already done so!

AND FINALLY

Many thanks to all those who have contributed to the maintenance of Glider Airworthiness in the U.K. during 1982 and a very happy Xmas.

R.B. STRATTON
CHIEF TECHNICAL OFFICER

No: 12/82 Ref: EW/G82/05/17

Aircraft:	PIK 20 E (motor glider) G-BHFP (FUEL GAUGE).
Year of manufacture:	1979
Date and time (GMT):	9 May 1982 at 1056 hrs
Location:	Lasham Aerodrome
Type of flight:	Private
Persons on board:	Crew - 1 Passengers - Nil
Injuries:	Crew - 1 (fatal) Passengers - N/A
Nature of damage:	Aircraft destroyed
Commander's Licence:	Private Pilot's Licence
Commander's age:	36 years
Commander's total flying experience:	114 hours of powered and gliding flight (of which an unrecorded amount was on type)

The aircraft took off on runway 27 at Lasham in a light southwesterly wind, with the weather reported as CAVOK. When the aircraft reached a height estimated to be between 100-300 agl, witnesses heard the engine surge, then stop. The aircraft then commenced to turn to the left, the turn becoming progressively tighter, and the nose dropped until the aircraft had adopted a steep nose down attitude. The aircraft continued descending in a left turn until it struck the ground left wing first, and the aircraft was destroyed. The pilot was killed by the impact forces; there was no fire.

ISSN 0309 - 4278

No evidence could be found of any failure or malfunction of the airframe, or flying controls. During the subsequent examination of the engine, successful runs were carried out with the electric fuel pump selected to ON and to OFF, using the original systems and components. Tests were carried out to determine the amount of unusuable fuel in the system, and although a small post-impact fuel leak in the fuel tank prevented measurement of the overall fuel remaining, there was sufficient left in the tank to render the possibility of fuel starvation unlikely. It was found that the fuel gauge had been assembled incorrectly, and tended to overread. In addition a short-circuit caused by a break in the insulation of a live ignition wire was discovered, and the location of the break made it improbable that the damage was caused by impact forces, or during removal of the wreckage. However, the engine ran satisfactorily with the damaged lead in situ, and there was no additional evidence such as electrical burn marks in the vicinity of the break. All cocks and switches were found to have been properly selected. It is therefore not possible to determine the cause of the engine failure with any certainty.

There was no evidence that any medical factor contributed to the accident.

TNS 12/82

No: 11/82

Ref: EW/G82/08/09

Aircraft:	Piper Pawnee D (PA - 25 - 235) G-BEOT
Year of manufacture:	1977
Date and time (GMT):	15 August 1982 at 1900 hrs
Location:	Ogbourne St Andrew, Nr Marlborough, Wilts
Type of flight:	Private (Glider Towing)
Persons on board:	Crew - 1 Passengers -
Injuries:	Crew - Nil Passengers -
Nature of damage:	Damage to the propeller, main planes and right undercarriage
Commander's Licence	Private Pilot's Licence
Commander's age:	28 years
Commander's total flying experience:	246 hours (of which 5 were on type)

The pilot was requested to aero-retrieve a glider which had landed in a field. After landing the Pawnee the pilot noticed the surface of the field consisted of fine cultivated soil and he realised that he might have some difficulty in getting airborne with the glider in tow. He briefed the glider pilot on the problem and arranged to release the tow if it became necessary. About two thirds along the take off run available (600 yds) the pilot realised that the acceleration was poor so released the glider. However, the distance remaining as insufficient for the Pawnee to get airborne and he crashed through a barbed wire fence before coming to rest in the next field.

From

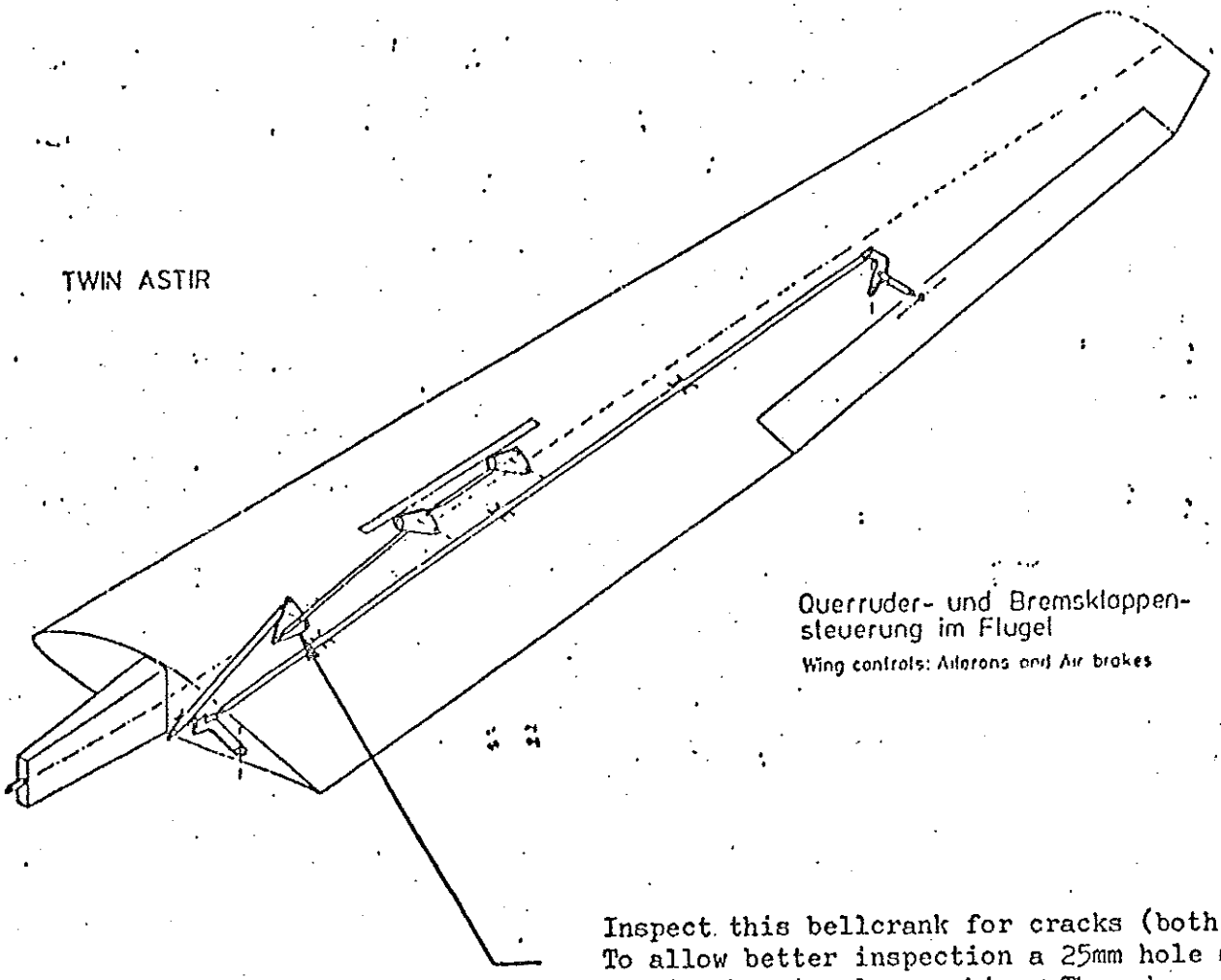
Tel

Subject: GROB TWIN ASTIR SPEED-BRAKE

Date

Reply Address

TWIN ASTIR



Querruder- und Bremsklappen-steuerung im Flugel

Wing controls: Ailerons and Air brakes

Inspect this bellcrank for cracks (both wings). To allow better inspection a 25mm hole may be cut in the wing lower skin. The edges of the hole to be sealed with epoxy and the hole covered with a "contact" patch. This hole will be repaired, or converted into an inspection panel, when the bellcrank is finally replaced.

AIRCRAFT RADIO & ASSOCIATED EQUIPMENT

ISSUE 12
Date OCT

G No.	MANUFACTURER	EQUIPMENT
1-b	Becker, Max Egon.	VHF Comm. Transceiver, AR12S
2-b	Skycrafters Inc.	VHF Comm. Transceiver, TRV122
3-b	REE Telecommunications Ltd.	"TELECOMM" VHF AM Portable Radiotelephone, TRT/2
4-b	Imp.Coll of Science & Technology	VHF Comm.Transmitter-Receiver, G.T.R. Mark II
5-a	MacPherson, G.C.J.	VHF Comm. Tx-Rx., TJD-101
6-a	Barton K.	VHF Comm Tx-Rx, KB-1
7-a	Barrett R.Q.	VHF Comm. Tx-Rx, RQ/AH/1
8-b	Handley Page Gliding Club	VHF Comm. Tx-Rx, HP.18
9-a	James P.W.	VHF Comm. Tx-Rx, PJ-2
10-b	Storey G.E. & Co.	VHF Comm. Tx-Rx, TR-6701
11-b	Murphy Aircraft Communications Ltd.	"Rambler" Portable VHF Comm. Tx-Rx. MA965A
12-a	Fratelli P.	VHF Comm. Tx-Rx, CM/168
13-a	Sykes A.W.	VHF Comm. Radio Telephone AWS.1.
14-c	Pye Telecommunications Ltd.	VHF Personal Radio Telephone "Pocketfone 70" type PF2 AMS
15-c	" " "	"Bantam" VHF Comm. T-RX
16-c	OEC (Electronics) Ltd.	"Courier" VHF Comm Transceiver
17-b	Ultra Electronics Ltd.	VHF Comm. Transmitter-Receiver "Packset" Type 3A4-A03
18-b	Dittel W, KG	VHF Communication Transceiver Type FSG-15 Series
19-c	Avionic Systems (Heathrow) Ltd.	VHF Communications Transceiver, Type ASH-360 & ASH-360P
20-c	McMullin, T.A.	VHF Communications Transceiver Type TM.360.
21-c	Becker Flugfunkwerk	VHF Communications Transceiver Type AR 10 S
22-a	James, P.W.	HF Communications Transceiver Type PJ.7.
23-b	Becker Flugfunkwerk	VHF Communications Transponder Type AS.7.
24-c	Electechniques	VHF Communication Transceiver ERT-2000
25-b	Edo-Aire	VHF Communication Transceiver RT551C
26-b	Dinosaur Electronics Ltd	VHF Comm Tx-Rx, MD-24

Civil Aviation Authority
Airworthiness Division

AIRCRAFT RADIO & ASSOCIATED EQUIPMENT

ISSUE 11
Date OCT '82

G No.	MANUFACTURER	EQUIPMENT
28-b	HT Communications	VHF Comm Tx-Rx, TR-7302
29-b	Dittel, W, KG	VHF Comm Transceiver FSG-40S
30-a	A K Mitchell	VHF Comm Tx-Rx AM7B/KH
31-b	G170 Electronics Ltd	VHR Receiver MGR-1
32-b	Sharp Electronics (UK) Ltd	VHF Airband Receiver FX-209AU
33-b	HT Communications	VHF Comm Tx-Rx TR-7603
34-b	Nolton Communications Ltd	VHF Comm Equipment SABRE Air Band PM5/6A
35-b	T.A. McMullin	VHF Comm. Tx - Rx TM-61
36-b	Lowe Electronics Ltd	Air Band RX. AP-12
37-b	A. Riley	VHF Comm. Tx-Rx HI-RAD-GR1
38-c	Avionic Systems (Heathrow) Ltd	VHF Comm. Transmitter-Receiver ASH-720A, -720B
39-c	Terra Corpn	VHF Transceiver TPX-10
40-a	GMB Electronics	VHF Transceiver GMB/GR1
41-b	Dittel, W.	VHF Comm Transceiver FSG-18
42-b	Amco (Burton-on-Trent) Ltd	VHF Transceiver GS-100
43-b	Radio Systems Technology	VHF Transceiver RST-542
44-b	Dittel, W	VHF Comm Transceiver FSG50-G, FSG50
45-b	" "	" " " FSG60G Series
46-b	Avionic	VHF Comm. Transceiver FV2720CG
47-c	Terra Corpn.	" " " TPX-720
48-c	Avionic Dittell	" " " ATR-720
49-c	Becker Flugfunk	VHF Comm Transceiver AR2008/25A&B

 TNS 12/82

WHAT TO DO IF	No 4

- YOU FLY IN WINTER

Aircraft Preparation

The engine may need a manufacturer's approved winter cooling restrictor to allow the oil to become warm enough to maintain the cylinders at a satisfactory operating temperature. After fitment, keep an eye on the oil temperature/cylinder head temperature if the weather turns warmer.

The engine oil grade may need to be changed when operating in very cold conditions.

Cabin heaters, either combustion or exhaust, can cause exhaust gases to enter the cabin. Make sure the cabin heater is working properly; if in doubt, have it pressure tested. Carbon monoxide is colourless, odourless, tasteless and very lethal. One of the first signs is a bad headache.

Check that control surface drain holes are clear. Water freezing inside can cause damage (by expanding) or can upset the balance of the surface. !!! (Glider Too!)

Ensure that the correct winter grade of grease has been used in control and trim systems, engine controls and landing gear. (Note: de-icing fluids can remove grease)

Have the pitot-static system checked for water; any water can freeze and block the system.

Make sure the battery which is worked harder in winter is well charged, it's all you have if the alternator fails in flight on a single engined aircraft.

Some aircraft need low temperature fuel additive.

Check de-icer boots for pin holes, etc., and test the system for proper operation. Check windscreen de-ice/demist systems.

Flight Preparation

Do not fly in icing conditions for which the aircraft is not cleared. Most general aviation aeroplanes are not cleared for flight in icing conditions and any which are cleared are for flight in light icing conditions only (the equivalent of a build up of ½" of ice in 40 nautical miles). General aviation helicopters are not cleared. (see Pilots' Notes, Flight Manuals, etc.)

Get a proper weather forecast and heed any icing warnings. Note the freezing level, you may need to descend below it (beware of high ground) to melt an ice build-up.

Have a cloth handy for de-misting the inside of the windows while taxying.

Have warm clothing available in case of heater failure, or a forced landing.

Some parts of the UK will be pretty inhospitable in winter (e.g. much of Wales and Scotland) so if you are in a single engined aircraft file a flight plan and carry a few survival aids in case of a forced landing.

Carry a night-stop kit so that you don't put pressure on yourself to get home if the weather deteriorates.

Don't forget to check on Snowtams in the Notam Series. Read pink AICs 71/1982 'Operation from Runways Contaminated with Snow, Slush or Water' and 80/1981 'Frost, Ice and Snow on Aircraft'. These are rather large aircraft oriented but are useful.

Pre-flight Inspection

There is a greater risk of water condensation in aircraft fuel tanks in winter. Drain fluid from all water drains (there can be as many as five even on a single-engined aircraft) into a bottle, you can't see any water on tarmac or grass.

Make sure engine crankcase oil breathers are clean and free of ice. A blocked breather can cause a pressure build-up which forces out engine oil seals.

Ensure that all snow and ice is cleared from the aircraft, especially wings, control surfaces (and rotor blades), windscreen, pitot and static ports. Cold hands are better than a broken neck. Beware of using a scraper which can damage aircraftskins, and do not rely on snow blowing off on take off, it may melt and re-freeze.

Check that the pitot heater really is warming the pitot head.

Beware of wheel fairings becoming jammed full of mud, snow and slush. Check that retractable gear mechanisms are not contaminated.

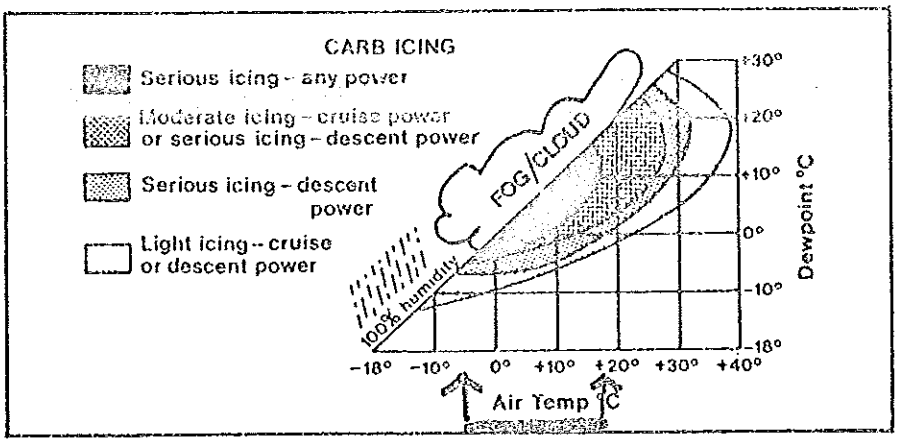
Check that the fuel tank vents are free. A blocked vent can cause engine stoppage or tank collapse.

Wet engine air intake paper filters can freeze and block the airflow.

In Flight

Turn back early, don't wait until you are in a blinding snowstorm.

Carburettor ice is one of the worst enemies. The chart below shows when it is most likely to occur.



Ensure the carb heat gives a good rpm drop during the pre-take-off checks.

During flight monitor engine instruments for loss of rpm (fixed pitch) or manifold pressure (constant speed), which may mean carb ice is forming.

Apply full carb heat periodically - and keep it on long enough to be effective. The engine may continue to run roughly for a short period until the ice melts.

Use full carb heat for several minutes before a descent, and periodically warm the engine during a closed throttle descent.

Remember carb heat increases fuel consumption.

If you are in trouble make sure the transponder is ON. The Emergency Services can receive it better than the normal radar return in marginal conditions.

After Flight

If parked outside use control locks and proper tie-downs to guard against winter gales. Put pitot cover(s) on.

If it is muddy inspect wheel fairings and landing gear for loose mud. It is easier to remove when soft rather than frozen.