B.G.A. TECHNICAL COMMITTEE

TECHNICAL NEWSHEET

TNS 11/12/83

PART 1 AIRWORTHINESS AGGRO (The 1984 issue of B.G.A. Compendium of Airworthiness Directives Mandatory Modifications and Special Inspections for U.K. and Foreign Gliders and Motor Gliders will include the following additions:-

1.1 LS4 - Air Brakes lower blade jamming at high speeds. Effects glider serial numbers as listed in Technical Bulletin 4020 herewith. (LBA AD 83-158)

1.2 ASK 21 - Rear Canopy Locking There have been at least 6 cases, in the U.K. of the loss of the rear canopy in flight, due to improper engagement of one or both lock-bolts. Schleicher have been advised by the Midland G.C. to reconsider the design. In the meanwhile, strict checks should be made to ensure proper and full engagement of both bolts. Midland G.C. modification Ref. BGA/ASK/1/83 (attached) is recommended.

1.3. D.G. 400 Flexible Wing Fuel Tanks Tech. Note 826/3 herewith, requires action as indicated.

1.4. Blanik Elevator Drive incorrect assembly restricts "down" elevator travel. BGA TNS 2/76 required red/green paint identification to ensure correct rigging of the "T" shaped connector when the tailplanes are lowered and locked. Paint markings have become faded, and incorrect assembly followed. Reported by P. Philpot, Blackpool & Fylde G.C.)

1.5. Twin Astir Cable Release knob jams aileron controls. Two cases have been reported by Lasham, of the release knob in the front cockpit control column "well" and restricting aileron movement. Action is required either (a) to shorten the cable without degrading access to it or (b) raise it to a safe position.

1.6. Motor Glider Types SF 25/T.61/SF 28 Main Rigging Pins The accident report summary (attached) in respect of SF 28A, G-BBGA is self explanatory.

1.7. Fatal Propeller Accidents Two cases, both in respect of Robin series aeroplanes, are recorded in the extract from G.A.S.I.L. (attached).

1.8. Astir Speed Brake Paddle Levers - Cracked Two cases reported by Ralph Jones.

2.0. GENERAL

2.1. Stammo Engines & Spares Ken Ballington (0283 63054) 23 Ashby Road East, Bretby, Derbys., can offer some assistance.

2.2. B.G.A. Inspector Renewals became due in October 1983. Those who have not yet completed their renewal applications will be deleted from the Approvals List in January, 1984 and will not receive copies of the Annual"Compendium of Airworthiness Directives, Mandatory Modifications and Special Inspections". Likewise , their insurance indemnity will lapse. Please complete your renewal before January 1st 1984. (Ref. TNS 9/10/83)

2.3. B.G.A./C.A.A. Approval Ref DAI/8378/73 in respect of motor glider C. of A. renewals.

The list of approved facilities, BGA approved inspectors and the registrations of all motor gliders "processed" through the B.G.A. will be updated to the C.A.A. in January 1984. Please advise the B.G.A. office (in writing) of any changes in facilities, or movements of motor gliders (change of ownership).

Finally many thanks from the B.G.A. Technical Committee to all who have contributed to the successful maintenance of airworthiness standards during the year. Happy Xmas and New Year.

R.B. STRATTON
CHIEF TECHNICAL OFFICER

Rolladen Schneider Flugzeugbau GmbH	Technical Bulletin	No. 4020	Page 1 of 1
			Edition 1.9.83

Subject: Air brakes, lower blade

Effectivity: Sailplane models LS4 and LS4-a, all serial numbers up to 4340

Accomplishment: Prior to next flight

Reason: Possible jamming of lower air brake blade at high speeds

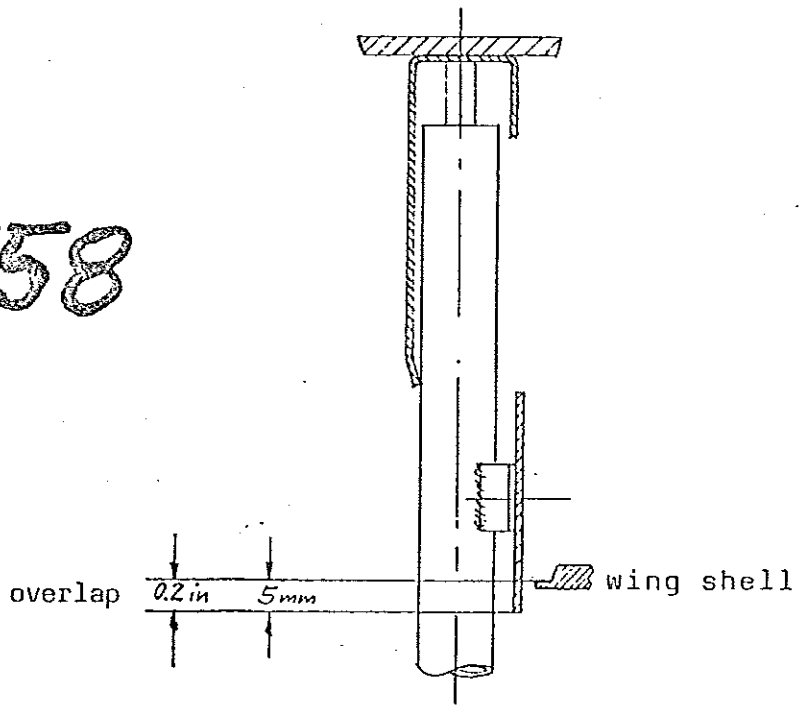
Instructions:
1) Assemble sailplane
2) With air brakes fully extended, measure overlap between lower blade and wing shell central to levers. When overlap is below 5 mm (0.2 in) proceed according to step 3.
3)a. Retract air brakes until overlap is at least 5 mm (0.2 in) at both wings
b. Check extending height at inner lever, minimum is 150 mm (5.91 in). If below minimum, contact manufacturer.
c. Rivet stop to air brake pushrod in cockpit from approx. 45° below horizontal such, that main bulkhead reduces travel to yield required overlap

Material: Stop 4R6-15, Steel blind rivet 4x10,(drill dia.4.1 mm, DN 20)

Weight and Balance: Not affected

Remarks: Material may be obtained from manufacturer.
Accomplishment must be checked by inspector and signed in log.
Enter accomplished TB on page 14-1 of Maintenance Manual <page 6-1 for US version>, TB-AD-Accomplishment List.

AD 83-158



Erstellt: 1. Sept. 83 Le	Ersetzt:	Geprüft: 1. 9. 83 Schapka

Glaser-Dirks Flugzeugbau GmbH
Im Schellengarten 19-20, 7520 Bruchsal 4
Telefon 0 72 57 / 10 71 Telex 7822410 GLDG
LBA anerkannter Herstellungsbetrieb IB 25
LBA anerkannter Luftfahrttechnischer Betrieb II A 270

Technical Note DG-400

TNS 12/83
826/3

Subject: Flexible wing fuel tanks.

Effectivity: All DG-400 serial No. 4-3 to 4-46 is they are equipped with wing fuel tanks.

Accomplishment: Instruction 1 immediately.
Instruction 2 within 6 months.

Reason: On one DG-400 a wing fuel tank became leaking. So there might be the possibility that this will occour on other DG-400 too.

Instructions: 1. The wing fuel tanks are not to be used. Use only the fuselage tank.

2. Take out the wing fuel tanks following the instructions of the service manual page 45 section 4.8.
Send them to Glaser-Dirks for inspection and modification.
Assemble the modified tanks following the above mentioned instructions.
Instruction 1 of this technical note is raised then.

Remarks: The execution of instruction 1 and 2 can be done by the owner himself.

7520 Bruchsal 4, 15.09.1983

Wilhelm Dirks

Glaser-Dirks Flugzeugbau GmbH
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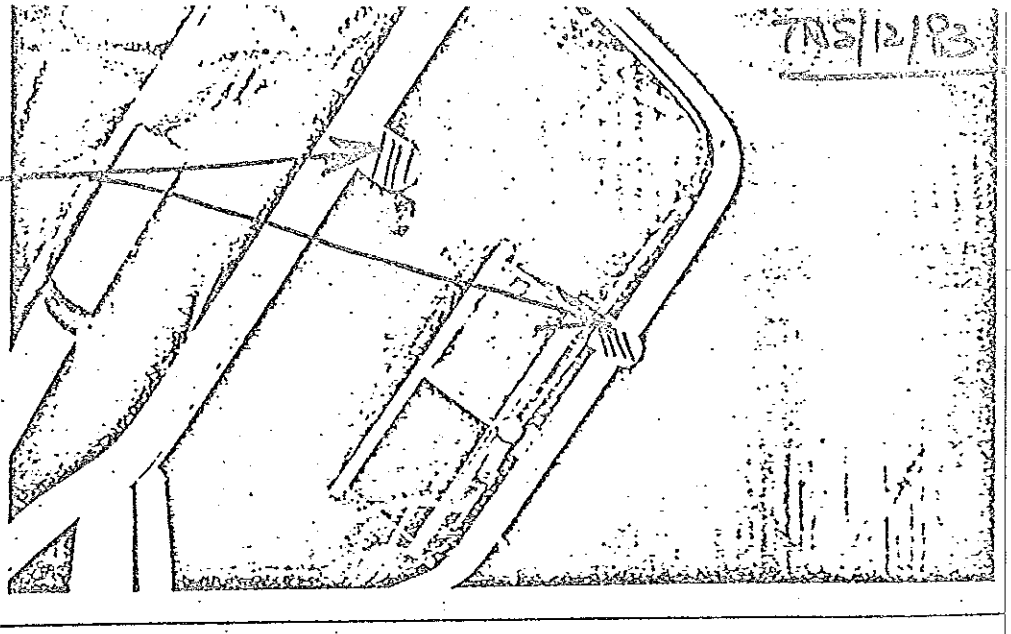
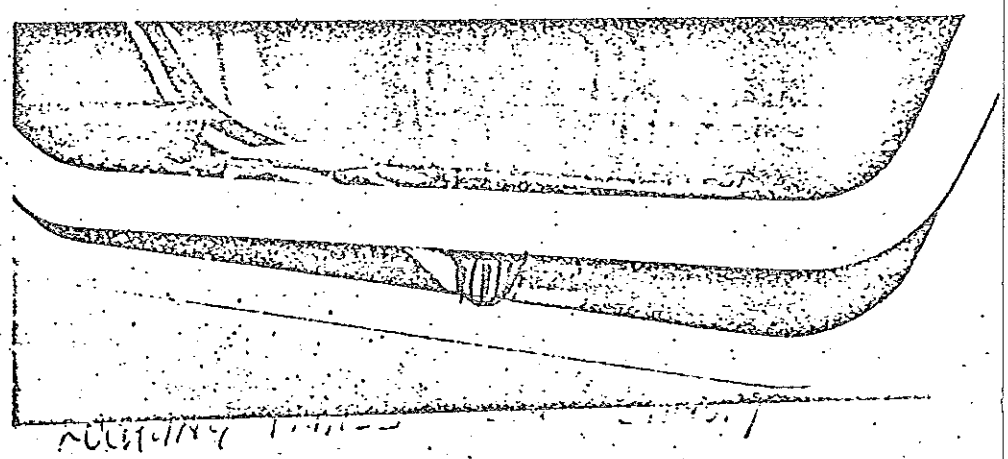
REAR CANOPY LOCKING GUIDE PLATES.

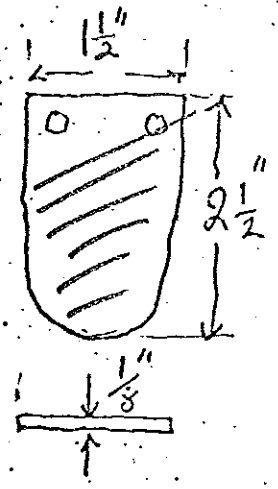
BGA Mod / ASK 21 / 1 / 83.



CANOPY MISALIGNED → WILL NOT CLOSE

ASK 21

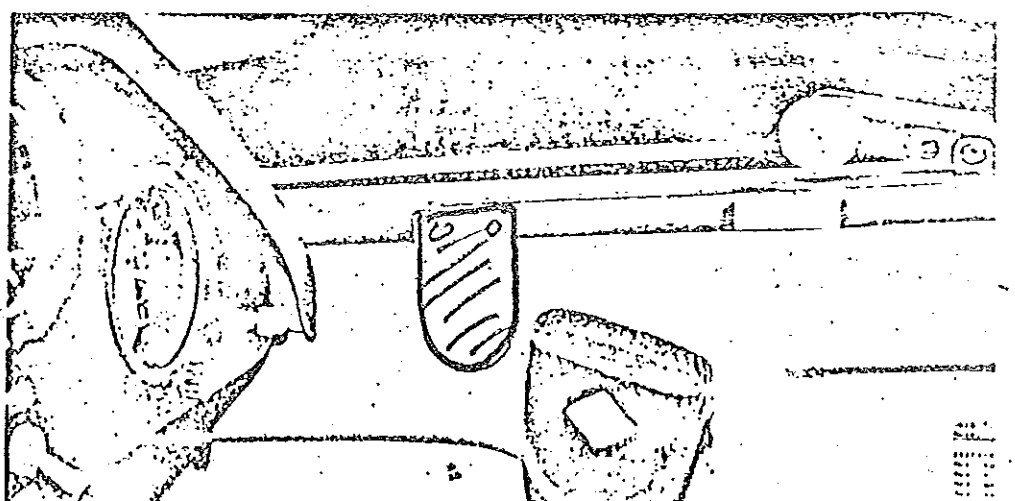




THESE PLATES DO NOT SECURE CANOPY TO FUSELAGE, THEY SIMPLY ALIGN & LOCATE THE CANOPY. THEY DO NOT RESTRICT THE OPENING OF CANOPY IN ANY WAY IT WILL.

J. MINSHALL. MIDLAND R.C. LONG MYND. 25/11/83.

CANOPY ALIGNED & CORRECTLY CLOSED



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F3/83

October 1983

ACCIDENT TO SCHEIBE SF 28A G-BBGA AT ENSTONE AIRFIELD, OXFORDSHIRE, 26 MAY 1982

SUMMARY:

The aircraft was operated by the Oxfordshire Sport Flying Club and was used for giving instruction in motor gliding. The pilot, a qualified gliding instructor who was a regular instructor at the club, was giving a short introductory flight to a prospective new club member. It had been arranged that the flight should include aerobatics.

Following a normal take-off the aircraft was seen to climb and circle the airfield at about 1000 feet. After a flight of some 10 minutes, the aircraft was observed flying across the airfield from south to north and diving under power to gain speed. It then carried out a loop and, on completing it at an estimated height of 500 feet, as it pulled up again, either to regain height or to enter another loop, both wings were seen to detach from the fuselage. The fuselage then fell to the ground a few metres from the main runway at Enstone Airfield, the starboard wing landing close by and the port wing falling some 350 metres away. Both the pilot and passenger were killed instantly on impact with the ground.

The Report of the Accidents Investigation Branch (Department of Transport) concludes that the accident was caused by the failure of the centre-line attachment assembly allowing the wings to separate from the fuselage during aerobatic flight. The failure resulted from the loss of full rigging pin engagement due to the fitting of the safety pin in an additional and incorrect hole that had previously been drilled in the rigging pin. The possibility that the pilot had exceeded the aircraft's maximum permissible speed could not be ruled out. The Report also concludes that a contributory factor was that the CAA did not require a special inspection of the SF 28 following an accident to an aircraft with a similar wing attachment system.

COMMENT

The Report contains one Safety Recommendation:-

"It is recommended that aircraft approved for aerobatics have comprehensive flight load limits available to the pilot, and be fitted with a cockpit accelerometer"

The CAA not only agrees but considers it essential that the C of A document or the Approved Flight Manual of all gliders and aeroplanes approved for aerobatic manoeuvres must contain a comprehensive statement of the load factor limitations. British Civil Airworthiness Requirements K7-5 4(g)(v), & JAR 22 para 1583 (d) & (e) requires that this information is made available to the pilot in the Flight Manual.

Non-aerobatic aeroplanes under BCAR Section K and FAR 23 must be designed to positive manoeuvering load factors of 3.8. However, semi-aerobatic aeroplanes require a greater margin of strength and are thus designed to a positive load factor of 4.4. Gliders and motor gliders have an even greater margin of strength and are required to show a capability of withstanding a positive load factor of up to 5.0 under BCAR Section E and 5.3 under older European and more recent JAR 22 requirements.

Concerning that part of the Recommendation dealing with accelerometers, it is normal international practice to specify flight manoeuvering load factor limitation for gliders, self launching motor gliders and aeroplanes without requiring the fitting of a cockpit accelerometer. Since there is no evidence that the design manoeuvering load factor limitation applicable to the SF 28A was exceeded in this accident, the CAA does not consider it necessary to depart from this practice.

OTHER MATTERS DISCUSSED IN THE REPORT

One of the Findings (viii) in the Report states:-

"The CAA failed to include the SF 28 when inspections were required of the SF 25 and T 61 motor gliders following a previous accident. Had they done so the second hole in the rigging pin would probably have been detected when the aircraft was inspected for a UK Certificate of Airworthiness".

It should be noted that the CAA investigation of design aspects of light aircraft which have been initially certificated abroad is necessarily limited. The CAA would not necessarily expect to know that the Scheibe SF 28A had a similar wing attachment fitting to the SF 25/T 61. Accordingly, following the accident in 1980 to a Slingsby T 61 (which is the UK version of the Scheibe S 25), the CAA sent to all operators of Slingsby T 61 and Scheibe S 25B and SF 25E motor gliders a Letter to Operators (LTO) No.345, requiring them to inspect the wing root fittings before the next flight. Operators were required to check the retention pin holes for ovality, and the pin itself for proper engagement. Additionally, and in accordance with Paragraph 4.2.3* of Annex 8 to the ICAO Convention, copies of this LTO were also sent to the Luftfahrt-Bundesamt, the West German certificating authority and to Scheibe the manufacturer to assist them in discharging their responsibilities under Paragraph 4.2.2 of Annex 8 ‡. The CAA considers that these two organisations were best qualified to decide whether any other related aircraft should also have been inspected in accordance with the LTO. Notification to this effect was not received by the CAA, and this matter is now being taken up with the Luftfahrt-Bundesamt.

* This reads "Any Contracting State which has entered on its Register an aircraft in respect of which that Contracting State is not the State of Manufacture and for which it has issued or validated a certificate of airworthiness in accordance with 2.2 of this Part, shall ensure the transmission to the State of Manufacture of all mandatory continuing airworthiness information originated in respect of that aircraft in the former Contracting State."

‡ "The State of Manufacture of an aircraft shall transmit all generally applicable information which it has found necessary for the continuing airworthiness of the aircraft and for the safe operation of the aircraft (hereinafter called mandatory continuing airworthiness information) as follows:-

a) to every Contracting State which has in accordance with 4.2.1 advised the State of Manufacture that it has entered the aircraft on its Register, and

b) to any other Contracting State upon request."

The CAA is also unable to agree with the AIB conclusion that inclusion of SF 28A aircraft in this LTO would probably have resulted in detection of the existence of a second hole in the rigging pin of G-BBGA. Following the circulation of LTO 508, covering SF 25, SF 28 and T 61 aircraft subsequent to the G-BBGA accident, and which specifically referred to the possibility of two safety pin holes, a number of SF 25 operators reported finding two holes in rigging pins. These must almost certainly have been present when the first inspection, called for by LTO 345 was received and they were not detected, or at least not reported because their significance was not appreciated, at that time. It is also relevant that the AIB report contains the view of the owner of G-BBGA, himself a licensed aircraft engineer, that "even if he had noticed the second hole he might well not have realised the effect of this on the engagement of the rigging pin".

The CAA concludes that the terms of the earlier LTO, which catered for the problem revealed by the 1980 accident, were not such that, had they been applied to SF28 aircraft, would necessarily have resulted in the finding of two safety pin holes being reported to the CAA.

15. TWO CASES OF PASSENGERS BEING KILLED BY WALKING INTO PROPELLERS [P]

Aircraft : Robin R2160 Registration G-BKRC
Date : July 1983
Notifiable Accident at Seething

Aircraft : Robin HR200/100 Registration G-BDJN
Date : August 1983
Notifiable Accident at Sywell

In each of these accidents a passenger was disembarking from the aircraft during a passenger change with the engine still running. In spite of being briefed to leave via the wing trailing edge, in both cases the passenger climbed off the wing leading edge straight into the propeller. Both died from their injuries.

CAA Comment:
Whereas the majority of low wing aircraft have doors which, when open, prevent passengers from attempting to leave via the front of the wing, some types, including Robin, Gulfstream AA5, Fuji 200, Airtourers and Rallye have sliding canopies. It is therefore suggested that on sliding canopy or upward hinging door aircraft pilots should shut down the engine before the passengers are disembarked. Even though passengers may have been briefed beforehand they may well be in a state of some excitement at the end of their flight and when leaving the aircraft in the midst of engine noise and prop wash may not remember their briefing. Furthermore common terms such as wing leading edge and trailing edge are well understood by pilots but not necessarily by other people. Play safe and shut-down the engine.

The walkways on some models of Robin aircraft (and possibly on other types) are coated with black non-slip material almost to the leading edge of the wing. This may suggest to inexperienced passengers that the leading edge of the wing can be used when leaving the aircraft. It is suggested that all owners should consider marking the area forward of the black walkway with DANGER or NO STEP in large letters or even with red and yellow diagonal hatched lines. It would also be an advantage to ensure that the black walkway extends forward only as far as is necessary to provide an adequate means of exit via the trailing-edge.