BRITISH GLIDING ASSOCIATION

BGA TECHNICAL COMMITTEE

TECHNICAL NEWSHEET TNS 11/12/91

PART 1 Airworthiness "AGGRO"
This is the last TNS for 1991!

1.1. Open Cirrus. Rudder Cable Failure ("birds" nest) at rudder pedal adjustment pulleys. This cable failed shortly after previous inspection, which suggests that it was damaged internally? (Hemp cored cable should be removed a.s.a.p)! (Reported by R.H. Darby, Southdown G.C.).

1.2. Bocian Winch Launch Hook. Partly separated from the fuselage. General deterioration in the associated structure resulted in this failure - Inspect a.s.a.p. (Reported by Lou Glover, Coventry G.C.).

1.3. KA 23 Air/Wheel Brake - operating lever found fractured at the weld. (Sketch herewith from Ron Hawkes, Midland G.C.).

1.4. KA 13 Inspection & Main Fittings. Service Bulletin 13 herewith, refers to possible loose bolts in Jubi built gliders. (Reported previously to BGA in TNS 1/2/91).

1.5. Puchatz

1. Rudder Cables foul - radio connector box, when both pedals are loaded, and cables go slack.

2. Rear Canopy - Restraining Reel lanyard, can FOUL THE REAR STICK.

(Reported by Ron King, Southdown G.C.).

1.6. DG. 300 - Speed Brake Slots - fill with water, and do not drain. Could freeze up and spoil your day! Drill some discreet holes! (Ron King, Southdown G.C.).

1.7. Discus / Ventus with Dittel ATR 720, and tilting instrument panels. Forward Stick position may cause wheel-brake lever to demolish the radio controls, leaving bits lying about. (Reported by S.T. Harper, Cranwell G.C.).

1.8. ASK 21 - (No's 21-001 - 21-495). Tech Note 23 introduces Flight Manual Changes relevant to SPINNING and other modes of flight operation. (Copies from UK Agents).

1.9. DART 15 - Corrosion of Wing Root Fittings. Sketch attached refers to corrosion of aluminium strengthening

plates. (Reported by Parker Sailplanes).

1.10. Security of Harnesses. (In Gliders & S.L.M.G.'s) Recent injury to occupants in an accident involving pilot induced oscillations in a S.L.M.G., were caused by incorrect attachment of the top straps. These straps should have been wrapped around a primary structural transverse tube. They were incorrectly secured to the adjacent minor structure provided to constrain the harnesses from migrating across the glider. Please check all SF 25's (SLMG's) and similar harness installations. (Reported by RAFGSA, Laarbruch).

1.11. DG.400 - Airworthiness Directives. The latest issue of CAA. VOL III (October 1991), includes Modifications to Powerplants. Tech Note 826/24 from UK Agents.

1.12. Nimbus 2C. Failure Of Trim System. Sketch from A. Pickles of Lasham is self explanatory.

1.13. Control Stops Removed (KA6E). Stops at the base of the control column were manufactured and fitted to establish correct range of operation! These stops had been missing for some time, and BGA Inspectors had failed to notice. Ref items 12, 13 and 14 of BGA Airworthiness Report Form 267! (Reported by Chiltern Sailplanes).

1.14. L'Hotellier Couplings. Gliding Federation of Australia AD/177 herewith, is for Information only in the UK. It does give good advice.

1.15. KA13 Bearing Bracket Failure at Wing-Roots. AD 9-173 herewith refers to this long standing problem.

1.16. LS.7 Aileron MISRIGGING - TNS 9/10/91 is re-enforced by AD-91-172 herewith.

PART 2 GENERAL MATTERS

2.1. Puchatz Weak Link - for winch launching is rated at 1520 lbs ± 10% in the Flight manual (BGA list will be amended).

2.2. Nimbus - 2B Weak Link - Flight Manual recommends 1830 lbs.

2.3. New Types Certificated in UK - DG.500M, Nimbus 3DM, Stemme 10.

2.4. M.O.D. Disposals of Winches and Slingsby T61(F) Ventures are organised by :- Defence Export, Service Organisation, Ministry of defence, St. Christopher House, Southwark Street, London SE1 0TD. Fax No: 071-921-1443, Telephone: 071-921-1505.

2.5. HAVE YOU RENEWED YOUR BGA INSPECTOR REGISTRATION FOR 1992?

If not, please send cheque for £16.60 together with details of your inspector reference, otherwise you will be excommunicated!

2.6. **The Technical Committee wishes to you a HAPPY CHRISTMAS, and a even better NEW YEAR!**

R.B. Stratton
Chief Technical Officer

AS - K 13
Service Bulletin
No. 13

JUBI GMBH
ROBERT-KRONFELD-STR. 2
4811 OERLINGHAUSEN
TEL. (0 52 02) 7 24 46

TNS 1/2/91
TNS 1/2/91
K. 13

Subject: Inspection of the main-fittings

Affected Sailplane: German Type Certificate No. 267
AS - K 13
Serial No. 13618 - 13686 incl. and
Serial No. 13689, all with addition A.B.

Compliance: Action 1. and 1.1. before next flight
Action 2. before next flight
Action 3. if necessary before next flight

Reason: Possible non-observance of the tolerance on the backside of the main fitting-holes can lead to an light movement from the main fitting to the end spar.

Action 1. Affected Serial No. 13618 A.B. - 13665 A.B.
and No. 13667 A.B. - 13670 A.B.

Check the main-fitting for possible traces, which show to a movement of the fitting and end spar. It looks like cracks in the varnish between metall and wood. This controll have to be done in rebuilded condition.

Action 1.1. Check the bolts in front of the root-ribs. Therefor take a pin, 550 mm long with 9,5 mm diameter into the bolts and work with hand-power. The controll have to be done out of the backside of the wing end spar. If there is no objektion, flight operation is already possible.

AS - K 13
Service Bulletin
No. 13

SPORTFLUGZEUGBAU
JUBI GMBH
ROBERT-KONEN-STR. 2
4811 OERLINGHAUSEN
TEL (05202) 72446

KA 13.

Action 2. Serial No. 13671 A.B. - 13686 A.B. and also 13666 A.B. and 13689 A.B.

Out of action 1. is following check to do:
Untie the nuts M 18 x 1,5 mm of all bolts.
Replace the bolts 50 mm out of the holes and measure the holes in the spar - wood and the fitting - metall. The holes diameter 18 mmØ is authoritative. The bolts behind the root - ribs are to check from the underside of the wing. For that purpose see the drawing sheet 3. If there is no deviation, replace the bolts in the old position and also the nuts.
Unconditional is the right place of the wedge-shaped discs. Powerment of the bolts is 75 lbs/ft.

Action 3. Shows the check a difference of holes-diameter there is for next steps an agreement with the manufacturer to aspire.

Remarks: Action 1. - 1.1. - 2. is only execute from the manufacturer or an authorized approved aviation workshop.
Action 3. is only execute from the manufacturer or an especially instructed aviation - workshop.
The correct execution has to be certified in the log-book by an authorized Inspector, Class 3.

Oerlinghausen, the 19th Dec. 1990

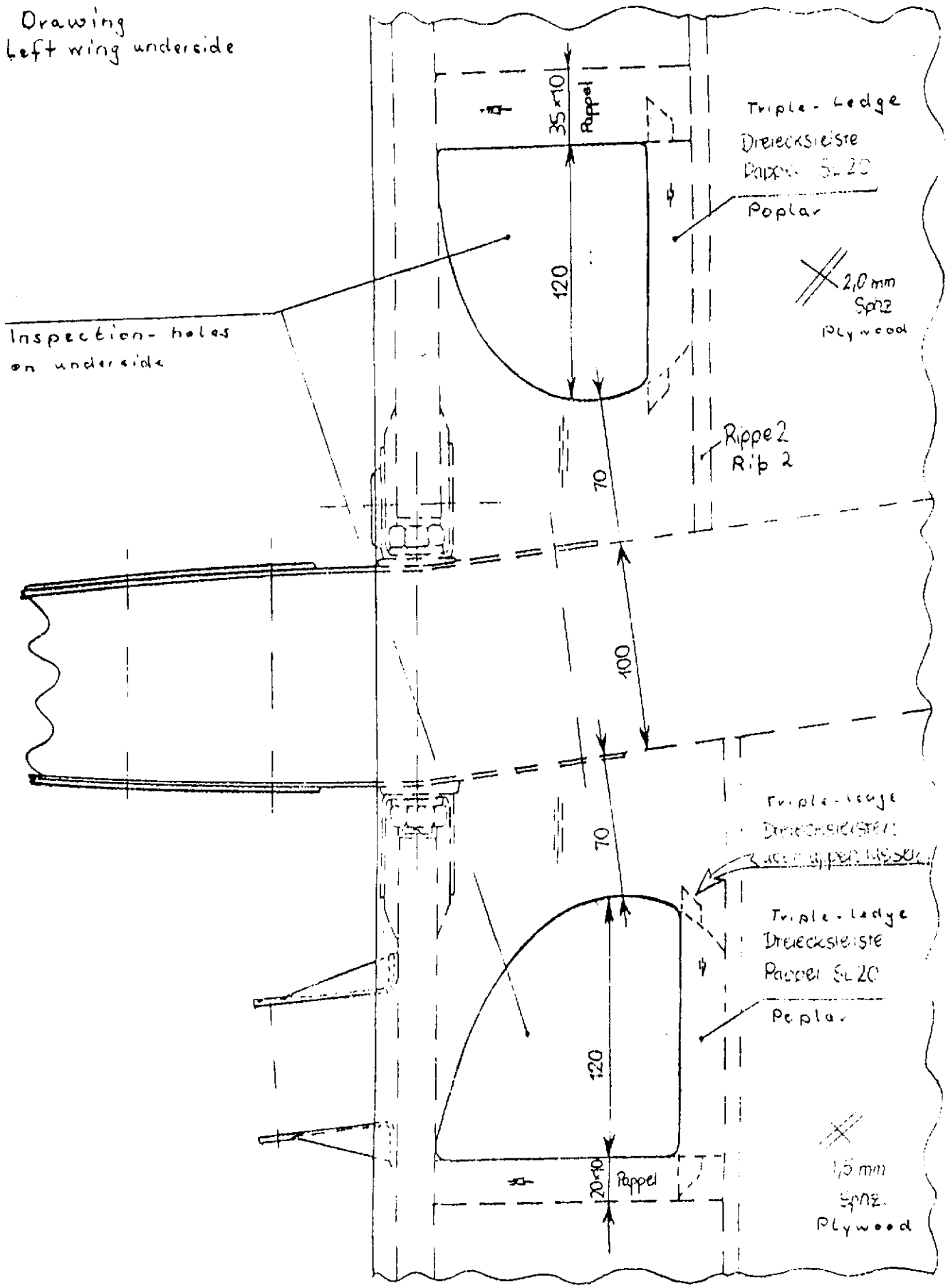
S P O R T F L U G Z E U G B A U
J U B I G M B H

The German Original of this Service Bulletin has been approved by the LBA on January 11, 1991 and is signed by Mr. Skov. The translation into English has been done by best knowledge and judgement.
In any case of doubt the German Original is authoritative.

AS - K 13
Service Bulletin
No. 13

SPORTFLUGZEUGBAU
JUBI GMBH
ROBERT-KRONFELD-STR. 2
4811 OERLINGHAUSEN
TEL. (05202) 72446

Drawing
Left wing underside

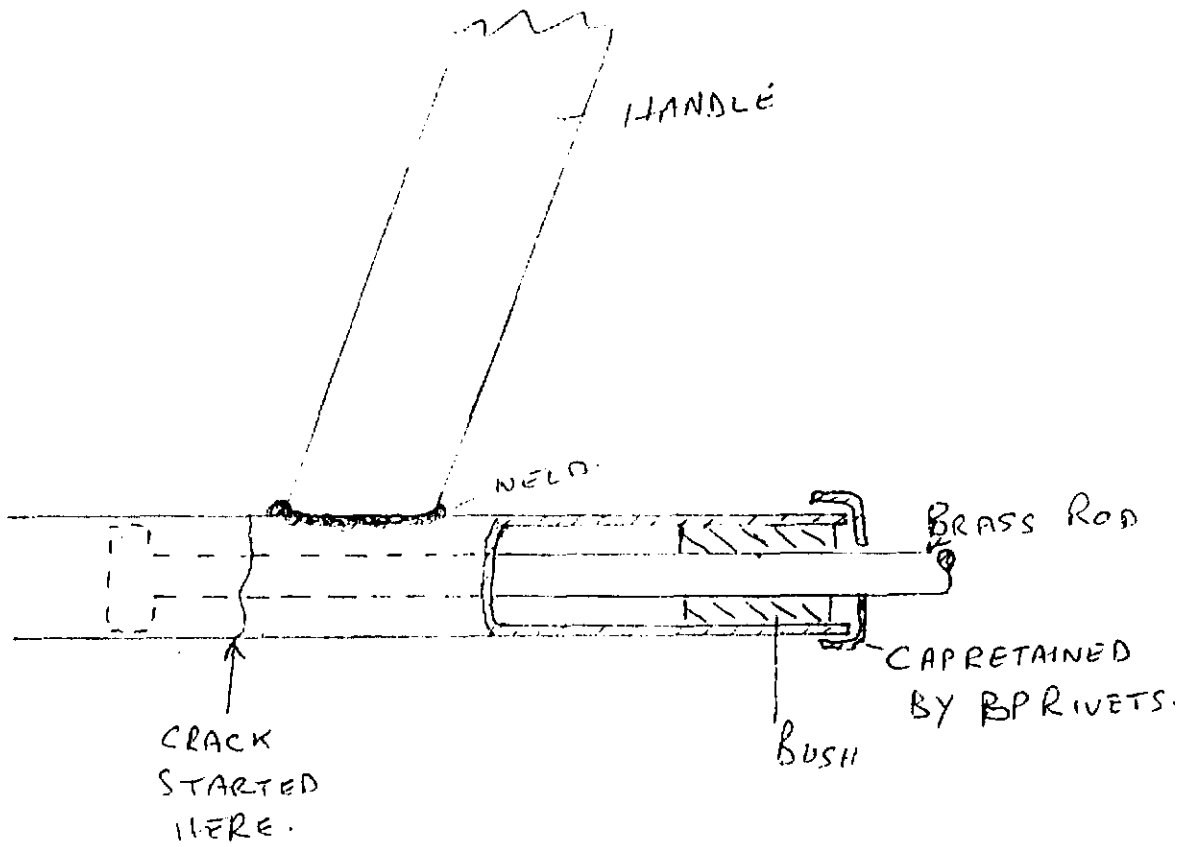


Sf.

TN-111/12/91

K23 Found with air/wheel brake operating rod fractured just aft of the handle, after a field landing. Had this happened before the landing the pilot could have been left with airbrakes fully deployed and unable to retract them.

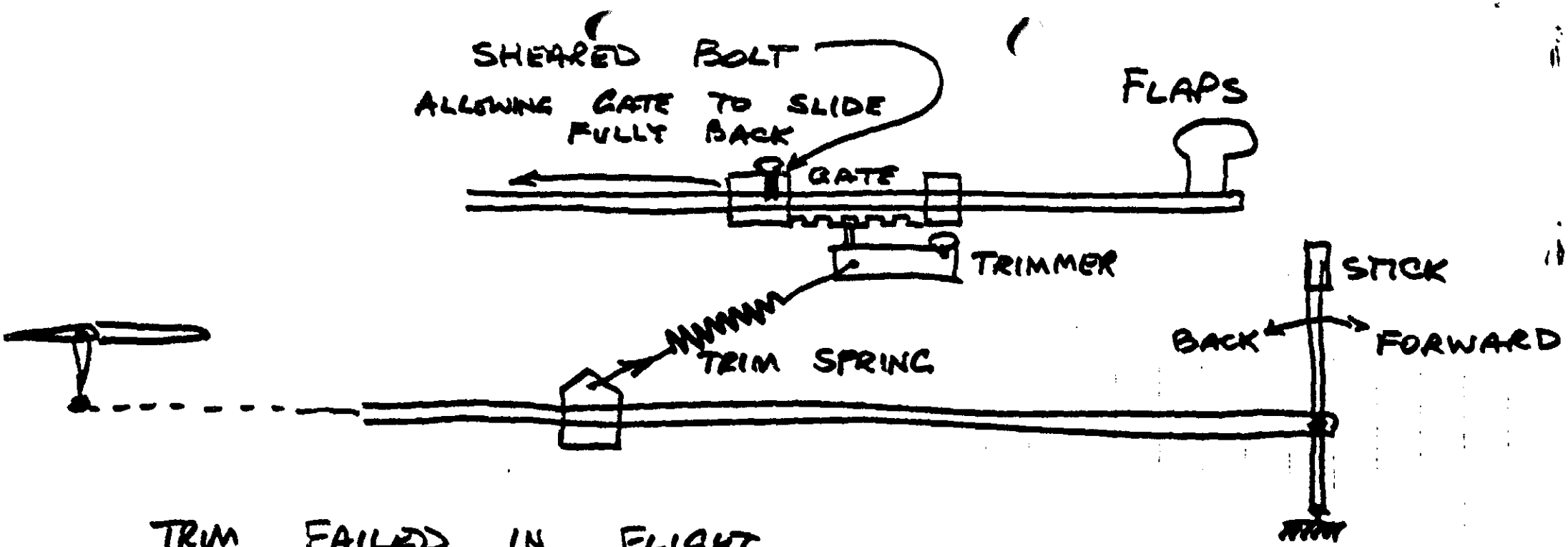
KA. 23



Previously, half a dozen flights before, the pilot on D.I. had complained the brake operation had suddenly become stiff. A little oil on the brass rod restored a normal feel, but the fatigue crack was continuing apace.

R C Hawkins

MIDLAND G C



TRIM FAILED IN FLIGHT

NIMBUS 2 2491. 20.8.91.

WORKS No 181

Incident report attached.

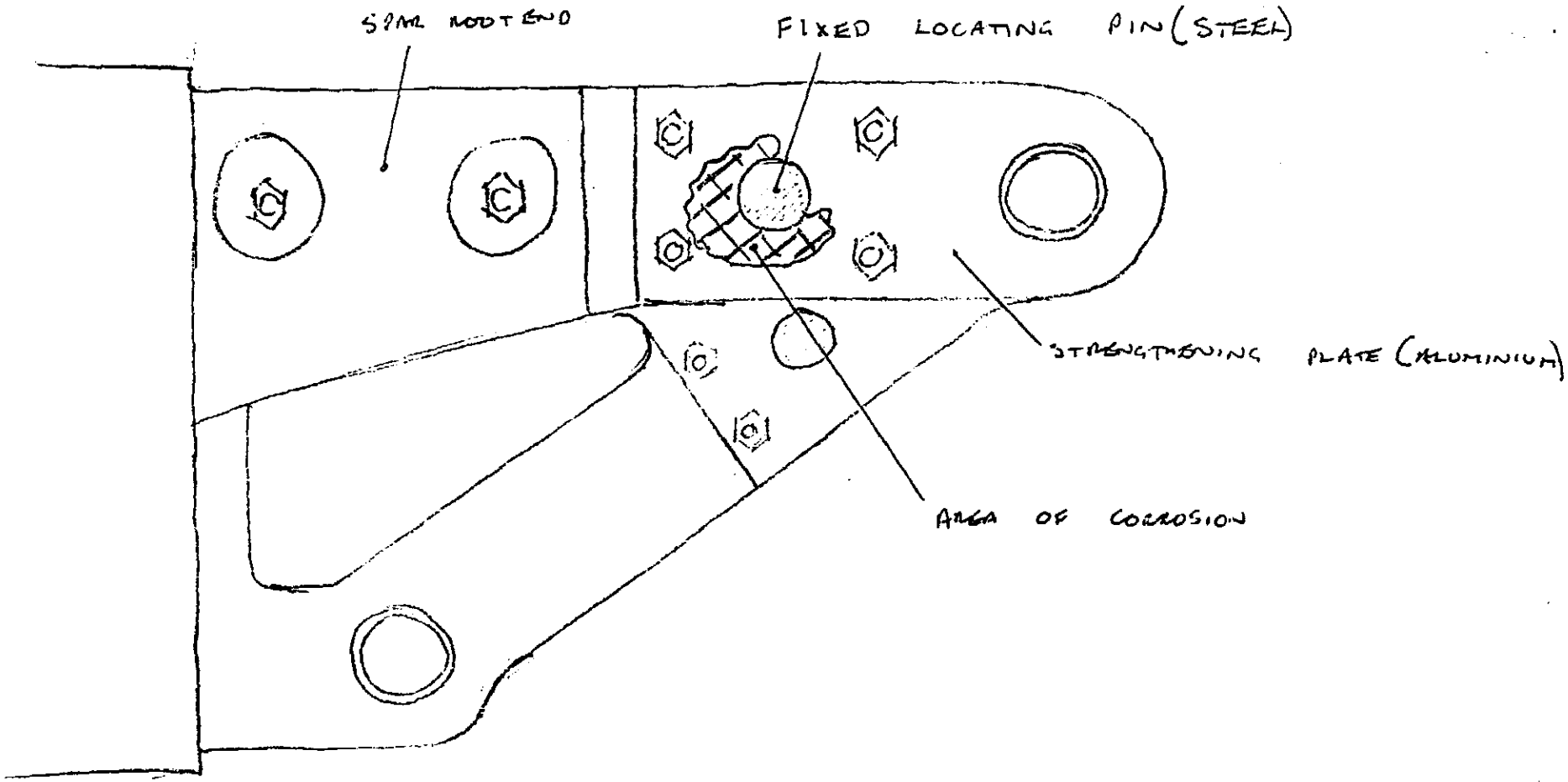
A Pickles.

A. PICKLES

LASHAM. NIMBUS 2C

TAS 11/12/91

DART 15 PORT WING ROOT FITTINGS



BGA ADVISORY. TNS 11/12/91

GLIDING FEDERATION OF AUSTRALIA

AD 177
GENERAL 4
(ISSUE 4)

AIRWORTHINESS DIRECTIVE

SUBJECT: Inspection, replacement and maintenance of l'Hotillier couplings.

TYPE AFFECTED: All gliders, powered sailplanes and power assisted sailplanes fitted with l'Hotellier type ball joint quick disconnects in flight control systems.

BACKGROUND: Since 1980 we have had a steady run of incidents and accidents both in Australia and Overseas attributed to one or the other of the following aspects of l'Hotellier ball couplings:

(A) Incorrect assembly during rigging, either not connected at all or only partly engaged resulting in SEPARATION in flight.

(B) Fracture of the ball coupling at the top of the threaded section.

(C) Fracture of the ball coupling at the neck immediately under the ball.

(D) In flight disconnection of flight controls due to NON USE of SAFETY PINS. (This caused at least 1 fatal accident in Germany during 1988)

ISSUE 2 24-5-83

Issue 2 combined all known inspection, replacement and maintenance actions required to ensure safe operations from l'Hotellier couplings.

ISSUE 3 18-4-90

Issue 3 represents the experience generated since 1983 from the application of issue 2 requirements.

(A) Correct lubrication prevents ball wear. Correct installation will help to prevent fracturing of the threaded part of the ball.

(B) Excessive pilot effort to lock/unlock divebrake systems is a major contributor to ball wear and ball stem/thread fracture. When rigging a divebrake system the glider manufacturer's recommended procedure must be followed.

SIGNED: P. Lunney CHIEF TECHNICAL OFFICER AIRWORTHINESS	For and on behalf of: **THE GLIDING FEDERATION OF AUSTRALIA**

Pilot hand effort to lock/unlock exceeding 10 kg will eventually cause system damage.

(C) Lack of proper OUT TRAVEL STOPS, close to the pilot in divebrake systems can cause ball stems to bend and crack when the divebrake is fully functioned during pre-flight cockpit checks.

(D) balls with threaded shanks LARGER THAN 6 mm diameter need not be replaced at intervals less than 3000 hours. As recommended by the l'Hotellier coupling manufacturer.

ISSUE 4 30-10-91

Issue 4 adds an additional check on the condition of the springs.

DOCUMENTATION: Earlier issues of AD 177.

Gaser-Dirks Technical note No. 826/24

ACTION REQUIRED: 1. RIGGING AND DAILY INSPECTION

The correct and incorrect assembly of the couplings must be pointed out by Daily Inspector Examiners and understood by Daily Inspectors and is shown in figure 1.

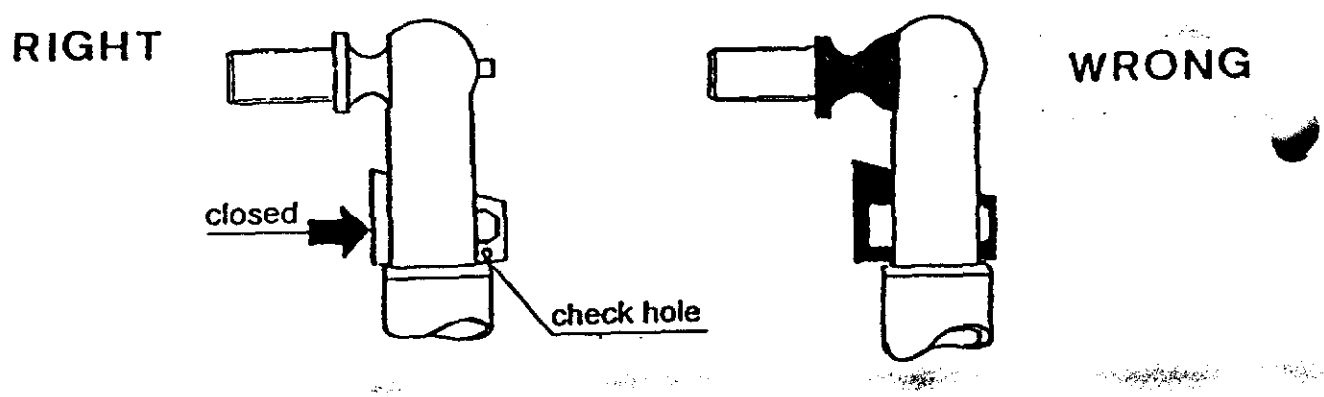


Figure 1.

2. RIGGING SAFETY PINS

COMPLIANCE BY 30 NOVEMBER, 1983

After the above date all l'Hotellier couplings having a check hole must be fitted with a 1 mm diameter SAFETY pin. This pin must be checked at each Daily inspection.

It is recommended that each SAFETY pin be tied to part of the fitting by thin nylon chord or similar to avoid loss.

Safety pins may be any of the types shown in figure 2.

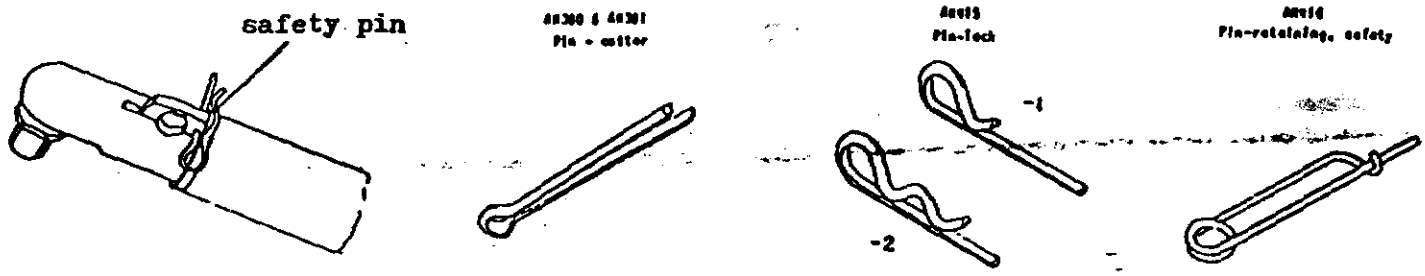


Figure 2.

Each SAFETY pin installation must be checked for clearance through the full travel of each control system.

3. LUBRICATION

3.1 A high quality grease may be used for flight in non icing conditions. Flight in icing conditions (such as wave) requires the use of low temperature aviation greases such as Mobil 28 and Aeroshell.

3.2 Balls to be lubricated at 50 hour intervals, 6 month intervals, during Form 2 inspection and during each rigging. Whichever comes first.

4. BALL WEAR

All balls to be checked for wear, as per figure4. sketch 1 and 4, at 100 hour intervals and during Form 2 Inspections.

5. FITTING CLEARANCES AND WEAR

All fittings to be checked during Form 2 Inspections in accordance with figure 4 sketch 1 and 2.

Some glider types are fitted with alloy fittings. These must be checked at each Form 2 for socket wear and when replaced, replaced with a steel assembly.

6. BALL REPLACEMENT

6.1 Balls with threaded shanks 6 mm diameter or less, fitted into divebrake or flap control systems must be replaced at intervals not exceeding 1000 hours flight time.

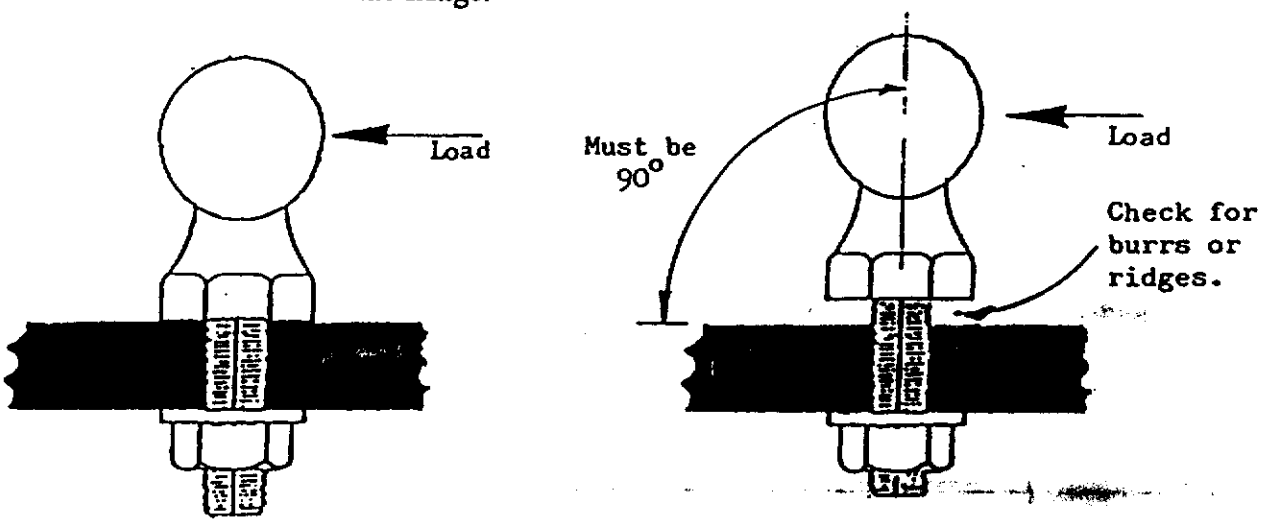
6.2 All other balls must be replaced at intervals not exceeding 3000 hours.

6.3 Balls removed previously under AD 177 are not to be reinstalled.

6.4 Balls removed must be damaged to prevent further use.

7. BALL INSTALLATION

Daily and Form 2 Inspectors must look for looseness of balls, i.e. loose nuts, broken tab washers, worn threads etc. Any of these defects will allow them to wind out or loosen. Any looseness can cause bending failure and cracking of the shank at the underside of the flange.



RIGHT

Shoulder firmly in contact prevents the threaded section bending.

WRONG

Any gap under the shoulder causes bending/loosening of the thread.

Figure 3.

8. SPRING CHECKING

At each Form 2 clean the coupling and measure the force required to initially move the sliding latch (preload) and the maximum force just before the latch reaches its natural stop.

The preload should be approximately 600 g and the force when the latch is fully out is approximately 1000 g.

Faulty latches have been measured with zero preload and a maximum load of 300 g.

9. MAINTENANCE RELEASE ENDORSEMENTS

Part one of affected Maintenance Releases must be endorsed with:

9.1 Time/date lubrication due for Action 3.

9.2 Time due for wear inspection for Action 4.

9.3 Time due for ball replacement Action 6.

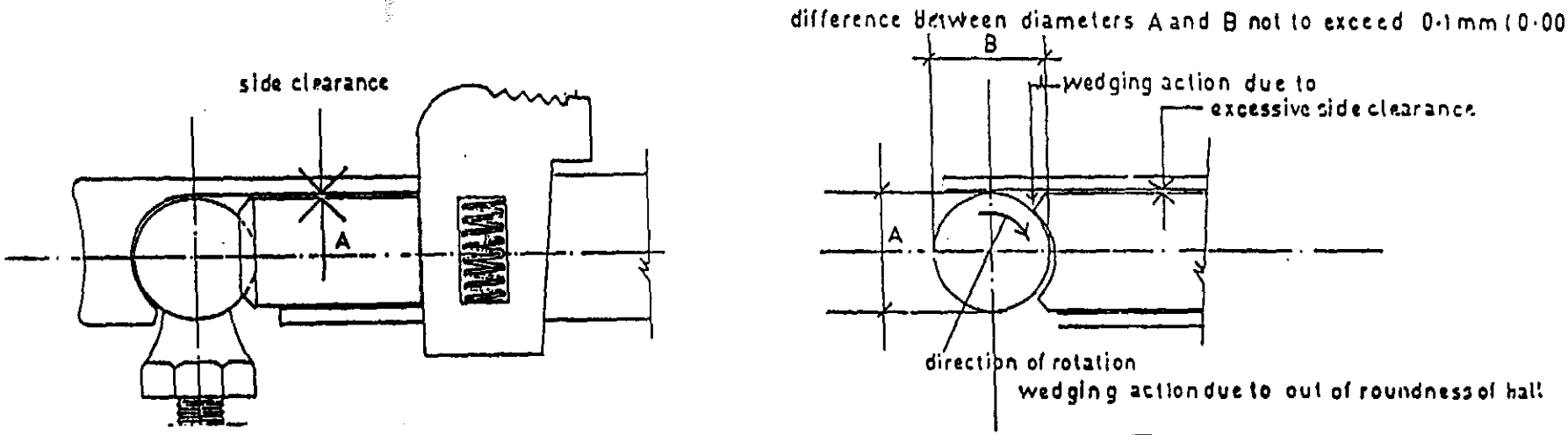
IMPLEMENTATION: 1. Fitting SAFETY pins and lubrication are Daily Inspector functions.

2. Replacing balls and inspecting for ball wear, fitting wear and spring deterioration are must be done by persons endorsed "Inspection for Issue of Certificated of Airworthiness" any type.

WEIGHT AND BALANCE: No effect.

COMPLIANCE: The requirements of this Airworthiness Directive are mandatory. This Directive is issued pursuant to the Australian Civil aviation Regulations under the delegated authority of the Civil Aviation Authority (CEO42/90).

SKETCH 1



SKETCH 2

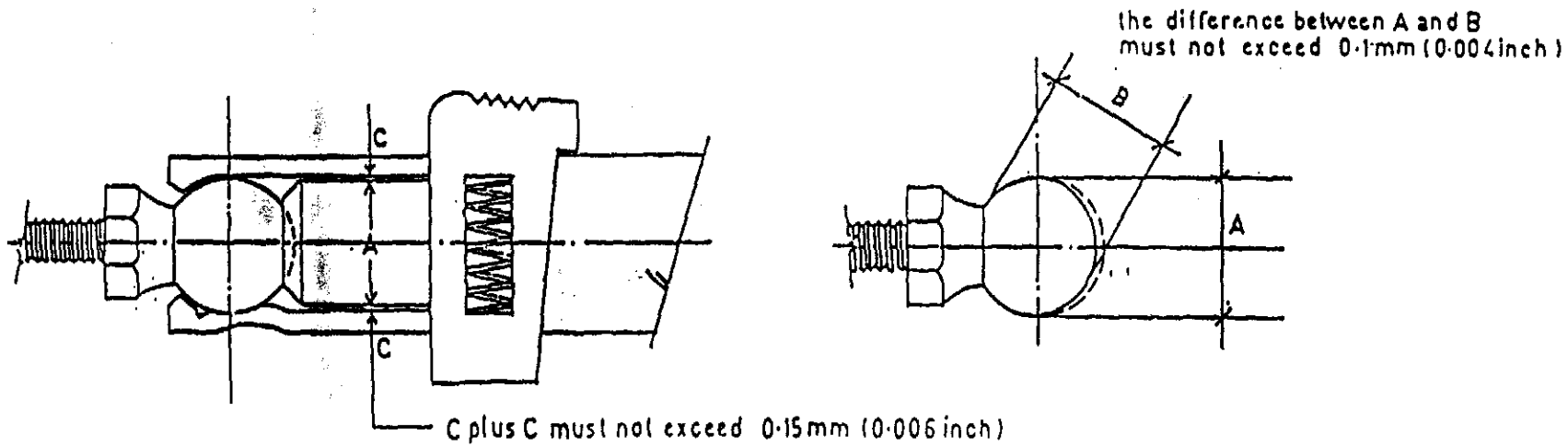


Figure 4.

Issue 7
October 1991

GLASER-DIRKS DG–400 SERIES MOTOR GLIDER

PART 1 – LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
83–171	Flexible wing fuel tanks.	Applicable to DG–400 Serial Nos. as detailed in Airworthiness Directive. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/3 also refers.
84–155	Rotax 505 engine, canopy jettison device, DEI, towing cable release mechanism.	Applicable to DG–400 Serial Nos. 4–1 to 4–87. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/6 also refers.
84–157	Power plant, vibration cracks.	Applicable to DG–400 all Serial Nos. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/11 also refers.
85–219	Replacement of fuel shut off valve gaskets.	Applicable to DG–400 Serial Nos. 4–1 to 4–140. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/14 also refers.
85–223	Powerplant – cable guides – inspection to prevent possible fouling of engine extension.	Applicable to DG–400 Serial Nos. 4–1 to 4–140. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/15 also refers.
86–138	Improved marking of canopy emergency release and re-location of ventilation placard.	Applicable to DG–400 Serial Nos. 4–1 to 4–176. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/16 also refers.
87–108	Inspection/Modification of engine extension/ retraction drive.	Applicable to DG–400 Serial Nos. 4–1 to 4–188. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/18 also refers.

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
87-109	Inspection/Modification of engine wiring.	Applicable to DG-400 Serial Nos. 4-1 to 4-178. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/19 also refers.
88-99	Empty weight CG range, plugged piece of hose at the pneumatic fuel pump, manual revisions and locking pins on wing tips.	Applicable to DG-400 Serial Nos. 4-1 to 4-228. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/20 also refers.
90-43	Modification of powerplant.	Applicable to DG-400 Serial Nos. through 4-249. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Note 826/22 also refers.
91-149	Modification of powerplant.	Applicable to DG-400 Serial Nos. 4-1 and subsequent. Compliance required as detailed in Airworthiness Directive. Glaser-Dirks Technical Notes 826/24 and 826/25 also refer.

KA 13. TNS 1 11/12/c

AIRWORTHINESS DIRECTIVE

91-173 Schleicher

Date of issue:
October 24, 1991

Affected airplane:
German Type Certificate No. 267
AS-K 13
A) Serial no.s 13000 thru 13689 including;
B) All serial no.s.

Subject:
Inspecting the bearing brackets and the toggle force of the airbrake control circuit.

Reasons:
On some gliders of the model AS-K 13 the bearing brackets of the airbrake control circui have broken at the wing root rib. The failure was caused by too high toggle forces whic resulted from a wrong adjustment of the toggle in the airbrake control circuit.

Actions and compliance:
Action to be accomplished in accordance with Technical Note No. 14

A) with the next annual CofA inspection, but before or on March 31, 1992, at the latest

B) repeat action as part of each future annual CofA inspection (see item 4 of the TN).

Technical publication of the manufacturer:
Schleicher ASK 13 Technical Note No. 14 of September 27, 1991
which becomes herewith part of this AD and may be obtained from Messrs.

Alexander Schleicher GmbH & Co.
Segelflugzeugbau
W-6416 Poppenhausen
Federal Republic of Germany

Accomplishment and log book entry:
Action to be accomplished by a skilled person and to be checked and entered in th sailplane's log by a licensed inspector.

LS7.

TNS 9/10/91
TNS 11/12/91

AIRWORTHINESS DIRECTIVE

91-172 Rolladen-Schneider

Date of issue:
23. OKT. 1991

Affected sailplane:
German Type Certificate No. 375
LS 7
all serial numbers

Subject:
Deflector at fuselage aileron automatic connectors

Reason:
In one case the deflector was bent to the rear during careless rigging of the wings, that the aileron movement was blocked.

Action and compliance:
Action to be accomplished in accordance with Technical Bulletin TM No. 7004 before the next flight after the effective date of this AD, unless already accomplished.

1. Check deflector for straightness. If bent, parts must be exchanged.

2. Enlarge fuselage cutout in connector region to upper rear according to included drawing 4I-86 to prevent jamming in case of inadvertently bent deflectors.

Technical publication of the manufacturer:
Rolladen-Schneider Technical Bulletin No. 7004 of September 23, 1991,
which becomes herewith part of this AD and may be obtained from Messrs.

Rolladen-Schneider
Flugzeugbau GmbH
Mühlstraße 10
W-6073 Egelsbach
Federal Republic of Germany

Accomplishment and log book entry:
Action to be accomplished by a skilled person and to be checked and entered in the sailplane's log by a licensed inspector.