BGA TECHNICAL COMMITTEE

TECHNICAL NEWSHEET 3/4/97

PART 1 Airworthiness "AGGRO" Please add to the 1997 Red Pages.

1.1. KA8B - Lower Rudder Hinge found cracked; Remove paint and inspect a.s.a.p. (Reported by Derek Phillips - Stratford-on-Avon G.C.).

1.2. BOCIAN - Failure of the Elevator Trim-Tab drive caused flutter. Inspect and renew drive system at the tab, as required. TNS 04/89 also refers. (Reported by T.P. Fisher - Mendips G.C.).

1.3. M.T. PROPELLERS - Hub crack inspection required as indicated in A/D 97-006 and SB12.

1.4. LIMBACH ENGINES. Starter Shaft Support Case. L2000EA engines. A/D 97-003 and LIMBACH T.B. 52 refer.

1.5. STEMME 10 - Propeller Blade Suspension Fork - exchange and inspect. A/D 95-1772/2 and SB A31-10-18 refer.

1.6. GLASER - DIRKS DG400. A/D 97-011 and Tech Notes 301/18, 323/9 and 826/34 refer to Airbrake Torque Tube and Airbrakes in the wings. (TNS 1/2/97 also refers).

1.7. LIBELLE (STD) H.201. Elevator control restricted by interference between the wheel brake cable and the undercarriage system when retracted - (Sketch herewith from R. Baines - Burn G.C.).

1.8. WASSAMER WA26. Rudder cables found WORN on CofA inspection. Replaced at rudder pedals with cables made-up using NICRO PRESS system, with Shackles and Clevis Pins to match. (Reported by North Yorkshire Sailplanes).

1.9. SKYLARK 3B - Elevator Misconnected. See sketch. (Reported by D. Godfrey - Enstone Eagles G.C).

1.10 KA13 - Speed Brake Drive System Failure at torque tube behind the seat. Material failure adjacent to the lug to which the pilots control tube is connected. Inspect for signs of material failure close to the weld. (Reported by RAFGSA Bicester).

1.11 Rotax 912 Series Engines - hardness of camshafts. A/D No 92 (herewith) refers.

1.12 KA8 - LBA A/D 96-005 - Fuselage Corrosion Inspection. (TNS 04/96). Radiographic technique is available if required, as notified by ATC Ltd Lasham. (Copy herewith).

1.13 PA-25 PAWNEE - Wing Root A/D 95-12-01. An improved design, eliminating the bi-annual A/D, is available - see attached document.

1.14 DG400/800 - UNLEADED MOGAS will damage your fuel tank. See advice from DG.

1.15 CAMSHAFT WEAR - (all engines) - insidious loss of performance may be due to WORN Camshaft lobes - Extract from GASIL refers.

1.16 OLYMPIA 460 SERIES - Spar Inspections. Progress Report.

So far 29 BGA Inspection Reports have been received and analysed. Of these 11 have been found to be damaged by disbonding, 17 are thought to be "clean". On 25th February 1997 a meeting was held between the BGA OLY 460 Team and the CAA. A re-enforcing modification may be viable for the "clean" samples. This modification has been developed at Lasham and submitted to CAA. For the "damaged" samples, no immediate repair schemes can be foreseen. Such a repair scheme, if possible, will require CAA approval. Ideas will be welcomed. We will communicate with OWNERS in due course.

1.17 ASW 20 F/101/201 Sailplanes A/D 97-048(A) herewith, requires action on L'Hotellier Connectors!

1.18 KA8 Elevator Rod Failure - Sketch from John Edwards identifies the problem.

PART TWO GENERAL MATTERS

Winches can Damage your cable at £300 per Roll! Rollers and pay-on gear wheels become worn, and also cease to rotate! We have seen some catastrophic samples. Why not initiate a winch-gear purge and save yourselves some cash on cable, and some revenue loosing fumbles on the airfield?

Dick Stratton
Chief Technical Officer

SAFETY REGULATION GROUP

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CIVIL AVIATION AUTHORITY

Our ref 9/97/CtAw/241

10 March 1997

AUSTRO CONTROL AIRWORTHINESS DIRECTIVE NO 92
ROTAX 912 A SERIES ENGINES
INSPECTION OF CAM-SHAFT

This letter transmits a copy of the above referenced Airworthiness Directive for your attention.

The provisions of Article 9(7) of the Air Navigation Order (1995) as amended, are such that a Certificate of Airworthiness in respect of an aircraft registered in the United Kingdom will cease to be in force until any modification or inspection, being a modification or inspection required by the CAA is completed.

In accordance with Article 9(7) and Airworthiness Notice No. 36 the modification or inspection required by this Airworthiness Directive is mandatory for applicable aircraft on the UK Register.

IT IS RECOMMENDED THAT YOU FORWARD A COPY OF THIS AIRWORTHINESS DIRECTIVE TO THE ORGANISATION THAT MAINTAINS YOUR AIRCRAFT.

R J TEW
Applications and Certification Section

Airworthiness Directive Nr. 92

Rotax 912 A-Series
Rotax 912 UL-Series

1. Affected Engine:
   a) Rotax 912 A-Series, S/N 4,380.661 up to S/N 4,380.701
   b) Rotax 912 UL-Series, S/N 4,153.383 up to S/N 4,153.500 and S/N 4,400.001 up to S/N 4,400.031

2. Subject: Inspection of cam-shaft

3. Reason: The hardness of the cam-shaft could be beyond the designated values

4. Action: All affected Rotax 912 A-Series and Rotax 912 UL-Series must comply with the actions required by Bombardier Rotax Technical Bulletin Nr. 912-18 issued 28. February 1997, which becomes herewith part of this AD.

5. Compliance:
   Part I: before next flight
   Part II: latest at the next 100-hours inspection
   Part III: latest at 600 total hours in service

6. Accomplishment: The required action has to be accomplished by the manufacturer, or through an approved service center or by a licensed/qualified person. An entry into the aircraft/engine Log has to be done.

R.Baines
The Rhyddings
West Lane
Burn
Selby YO8 8LR
27-Feb-97

Mr R.B.Stratton
British Gliding Association
Kimberley House
Vaughan Way
Leicester
LE1 4SE

Dear Mr Stratton

Standard Libelle H201 - BGA 1662

I am writing to advise you of a technical problem during flight relating to the undercarriage of our syndicated Libelle 201. This is in addition to a separate incident report submitted to our safety officer by the pilot.

The glider is operated from Burn airfield. It was being flown for the second time by a new syndicate member. During this flight, he retracted the u/c for the first time, but found it difficult to move the lever through the final part of the travel.

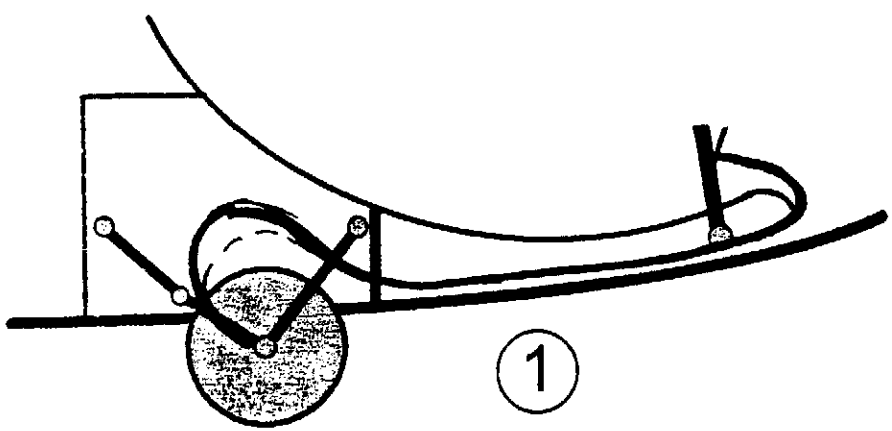
Once the u/c was fully retracted, he found the glider nose was 'pulled down' and the speed increased rapidly. Although he pulled the control column back to what he though was 'full travel', the nose did not rise. After several attempt to control the glider attitude, and with the speed approaching 75 knots, he lowered the u/c. Control returned to normal and he returned to the airfield and landed without further incident.

The glider had been flown by me the same day, shortly before this flight. The u/c was retracted and lowered during the flight without any problem. I have been a part owner of the glider for about 20 years. Neither I or any of my earlier syndicate partners have experienced any problems relating to u/c operation. I checked, then test flew the glider, finding the same problem, but not for every retraction

The glider was subsequently inspected by removing the floor pan and the u/c wheel box cover. It was seen that the wheel brake cable could foul on the port leg of the u/c structure during the latter stages of retraction. The foul was self induced, positive and self locking at the knuckle. By simple manipulation, it was also possible to trap the cable behind the knuckle pivot nut/bolt. In either case, the fouling and subsequent retraction gave the same 'stick pulled forward' result as noted in flight. When retraction was complete, the control column would not travel back beyond the central position. The u/c leg was marked and the cable kinked at the position of the foul. Enclosed are photographs showing the position of the cable during retraction as noted at the time of the inspection

As a result of the investigation I believe the sequence of events was:

- Undercarriage retraction, lever travel at about 75%
- Cable sheath fouls on leg end face or nut at knuckle of main u/c port leg



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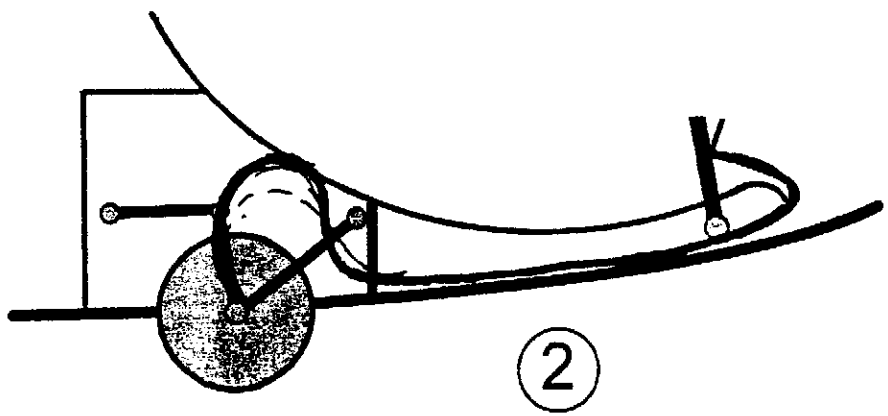
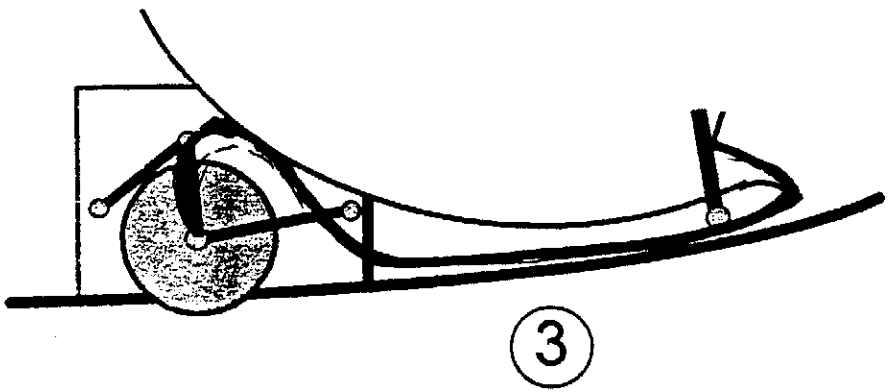


2

— CABLE RUN.

– – – CHANGE TO RUN.



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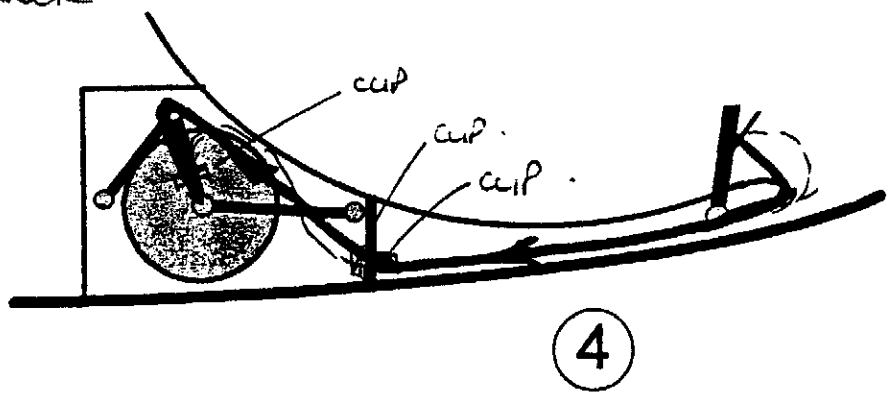


4

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
97-011	Airbrake torque tube in the fuselage and airbrakes in the wings.	Applicable to all DG-400. Compliance required as detailed in Airworthiness Directive. DG Flugzeugbau Technical Notes 301/18, 323/9 and 826/34 also refer.

Issue 6
February 1997

STEMME S10 SERIES MOTOR GLIDERS

PART 1 – LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
92–197	Replacement of the front O-ring at the mounting part of the pitot tube.	Applicable to S10 serial numbers up to 35. Compliance is required as detailed in AD. Stemme Technical Bulletin No. 31–10–003 also refers.
94–260	Flight Controls – Inspection of the turn buckle eye bolt in the rudder control cable system.	Applicable to S10 serial numbers 10–03 to 10–58. Compliance is required as detailed in AD. Stemme Service Bulletin No. A31–10–018 also refers.
95–177/2	Exchange, Inspection and Modification of the propeller blade suspension fork – Cancellation of propeller TBO (100h time of service).	Applicable to S10–V aircraft serial numbers 14–002 up to 14–026 including all conversions 14–003M up to 14–063M. Compliance required as detailed in AD. Stemme Service Bulletin No. A31–10–020 also refers.
95–273	Inspection of the engine and fuel filters and amendment to the flight manual.	Applicable to S10 aircraft serial numbers 10–12 to 10–60 and S10–V aircraft serial numbers 14–002 to 14–022 and converted aircraft serial numbers 14–012M to 14–060M. Compliance required as detailed in AD. Stemme Service Bulletin No. A31–10–021 and Limbach Service Bulletin No. 47 also refer.
96–300	Cracks in horizontal stabilizer fitting.	Applicable to S10 aircraft serial numbers 10–03 up to and including 10–63 and S10–V aircraft serial numbers 14–002 up to and including 14–026 and transformed aircraft 14–012M up to and including 14–063M. Compliance required as detailed in AD. Stemme Service Bulletin A31–10–022 also refers.

Issue 6
February 1997

MT PROPELLERS

PART 1 – LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
90–214 Issue 2	Possible loss of a propeller blade.	Applicable to MTV–1–( ) propellers serial nos. up to 89048 and MTV–6–C propellers serial nos. up to 90023. Compliance required as detailed in AD. MT-Propeller Service Bulletin TM No. 4A also refers.
92–367	Change of emergency procedures for powered gliders.	Applicable to MTV-Propellers which have the automatic control unit P–120–A or P–120–U installed. Compliance required as detailed in AD. MT-Propeller Service Bulletin TM No. 6 also refers.
93–088/2	Replacement of the electric motor of the propeller servo.	Applicable to MTV–1–( ), –7–( ), –10–( ), –17–( ), –18–( ), and –20–( ) propellers. Compliance required as detailed in AD. MT-Propeller Service Bulletin TM No. 7 also refers.
94–098	Replacement of PU erosion strip to avoid sudden loss of metal erosion sheet.	Applicable to MT and MTV Series propellers as detailed in AD. Compliance required as detailed in AD. MT–Propeller Service Bulletin No 8 also refers.
97–006	Hub, crack inspection and rework of the propeller-flange and hub transition area.	Applicable to MTV–3–B, version MTV–3–B–C equipped with propeller blades L250–21. Compliance required as detailed in AD. MT-Propeller Service Bulletin No. 12 also refers.

Issue 5
February 1997

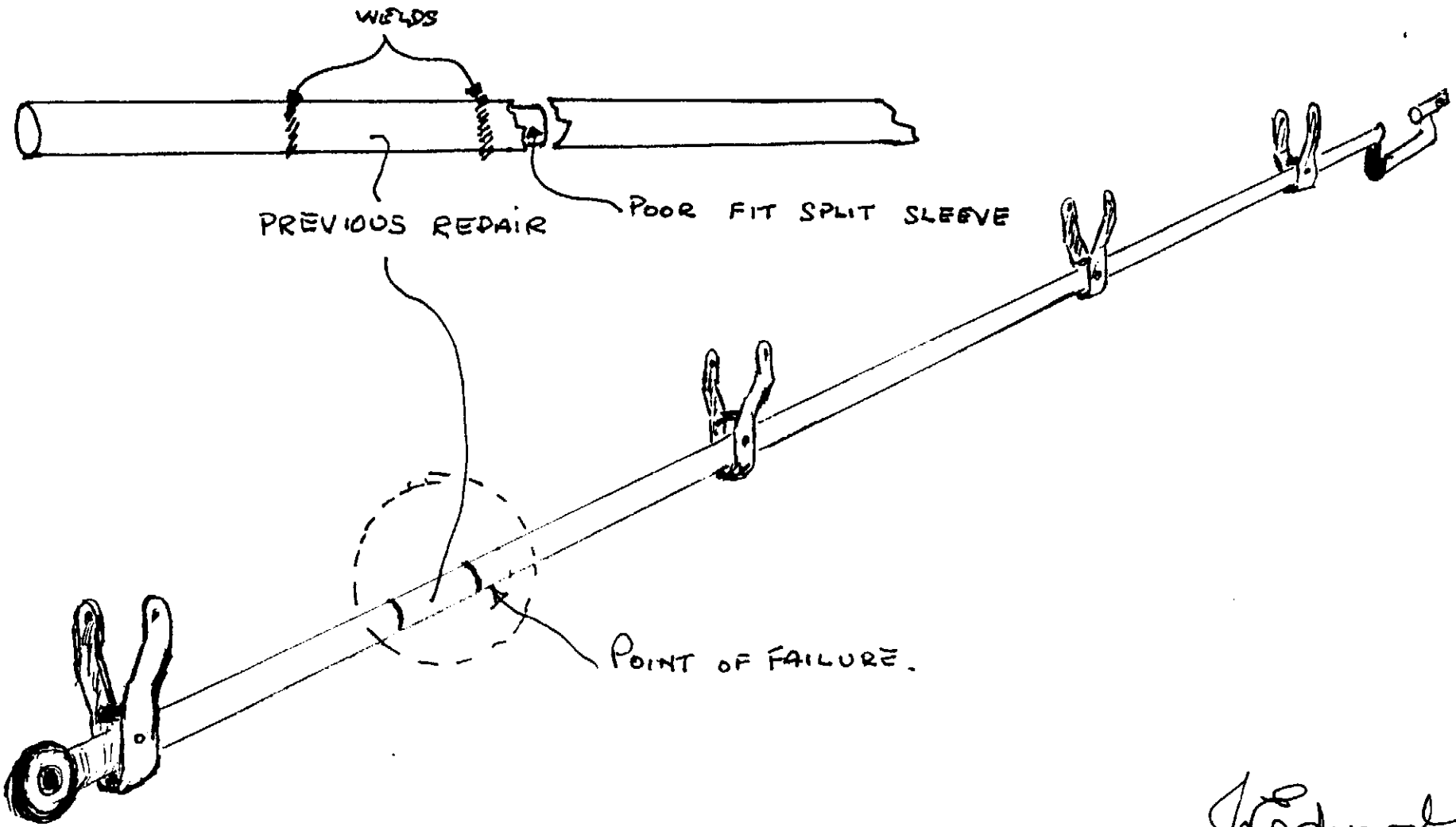
LIMBACH SERIES ENGINES

PART 1 –LUFTFAHRT-BUNDESAMT AIRWORTHINESS DIRECTIVES

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
76–283	Mixture Control – Rubber diaphragm of the governor piston.	Applicable to Limbach SL1700E, 1700EA, 1700EB and 1700EC, equipped with Stromberg-Zenith carburettor 150CD and 150CD–3. Compliance and requirement as detailed in AD. Limbach Technical Bulletin No. 12 also refers.
97–003	Starter shaft support case of electric starter.	Applicable to Limbach L2000EA engines equipped with electric starter SJCE 0.9 kW P/N 202.143.020.000. Compliance required as detailed in AD. Limbach Technical Bulletin No. 52 also refers.

K8 ELEVATOR ROD FAILURE. ON D.I. POSITIVE CHECK

NORFOLK GLIDING CLUB.



J C Edwards
1/A/159.
MARCH 97.

LBA AD No.	*Description*	*Applicability – Compliance – Requirement*
94–026	Maintenance Manual amendment and Service Life extension.	Applicable to ASK 21 sailplanes Serial Nos. as detailed in AD. Compliance required as detailed in AD. Schleicher Technical Note No. 24 also refers.
96–005	Complete Inspection of fuselage tube skeleton and of all control linkages.	Applicable to K8, K8B and K8C sailplanes all Serial Nos. Compliance required as detailed in AD. Schleicher Technical Note No. 24 also refers.
97–009	Engine internal air cooling.	Applicable to ASH 26E sailplanes all Serial Nos. Compliance required as detailed in AD. Schleicher Technical Note No. 1 also refers.
97–010	Amendment of the maintenance manual – Inspection programme to increase the service life.	Applicable to ASW 19 sailplanes all Serial Nos. Compliance required as detailed in AD. Schleicher Technical Note No. 25 also refers.

ATC Lasham Ltd.

RADIOGRAPHIC INSPECTION TECHNIQUE SHEET

Glider Schleicher KA8	Sheet 1 of 3 No. ATCL-RAD-3

Component to be inspected: Keel tubes and elevator control linkage tubes

Part No.	Material	Associated Documents SB's etc.
	Steel	L.B.A. AD 96-005 Schleicher KA8

Area of Inspection: Entire length of keel tubes and elevator control linkage tubes

Purpose of Inspection: To detect internal corrosion

Acceptance Standard: No corrosion permitted
Refer to L.B.A. AD 96-005 Schleicher KA8 Tech Note 24

Density Range	Radiographic Sensitivity
1.8-- 2.5	2%

Equipment Used	Radiation Type	Source Size
Andrex 150 kV directional portable x-ray generator	X	Eff. f/spot 1.5x1.5mm

Preparation Required: Cockpit seat and canopy removed to facilitate x-ray inspection of keel beam tube forward of wheel

Film Type & Classification	Sizes	Quantity	Screens
Class II Agfa D7 or equivalent	35x43 cm 10x48cm	14 8	nil nil

Film Processing: Standard development

Technique Prepared by	Approved by	Date
C G Kempster & A G Stent		1st May 1996

Amendments	Date	Reason	Approved by
			LBA Insp 2491 ASI-B1 Sheet from 30.8.96

G S A C

AIRWORTHINESS DIRECTIVE

released by DIRECTION GENERALE DE L'AVIATION CIVILE

Inspection and/or modifications described below are mandatory. No person may operate a product to which this Airworthiness Directive applies except in accordance with the requirements of this Airworthiness Directive

Translation of 'Consigne de Navigabilité'
ref.: 97-048(A)
In case of any difficulty, reference should be made to the French original issue.

CENTRAIR

ASW 20 F, 101 and 201 Sailplanes

Swivel joints and ball joints controls

This Airworthiness Directive concerns, ASW 20 F, and 201 sailplanes, all models, all serial number and 101 non equipped with automatic connection.

In order to avoid a possible sticking or a bad branching, at the effective date of this AD, following measures are made mandatory :

1) Within the next three month check if no damage, in accordance with the instructions of L'HOTELLIER technical sheet IM 10.01 ed. C and SB CENTRAIR 20-19, 101-18 and 201-15 as applicable.

2) Repeat these checks each annual inspection and major inspection.

This Airworthiness Directive must be inserted in the maintenance scheduled of each sailplane.

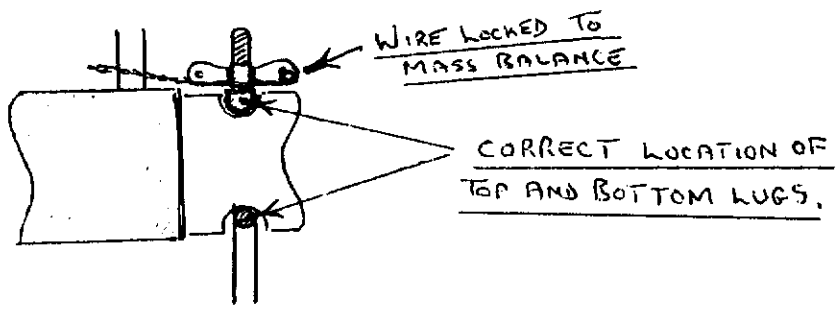
Record the application of this AD on the Sailplane logbook.

Ref. : SB CENTRAIR 20-19, 101-18 and 201-15

EFFECTIVE DATE : MARCH 08, 1997

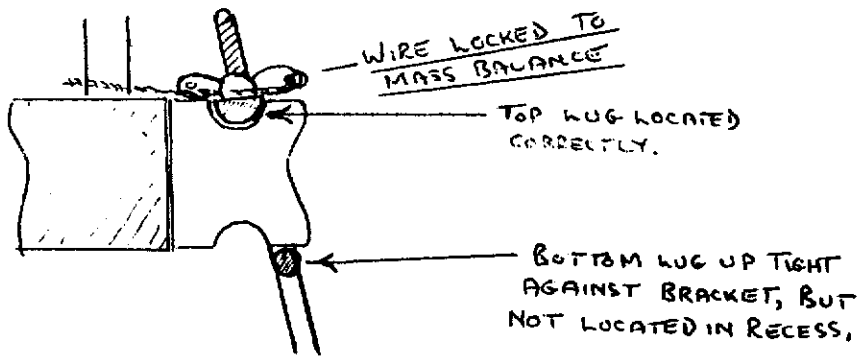
v/.IR

(1.)



SKYLARK. 3. B. (ELEVATOR).

(2.) I BELIEVE THIS IS WHAT MAY HAVE HAPPENED.



E4. WORN CAM

Aircraft type : Piper Cherokee 180
Date : September 1996
Engine type : Lycoming O-360

The pilot reported that the engine was down on power and running roughly. Engineers carried out a compression check which seemed to be satisfactory and then checked the movements of the valves. It was soon found that all of the valves could be moved normally using levers, however rotation of the propeller did not cause one of the valves to open.

Ultimately, the engine was removed and the camshaft removed for inspection. The photograph shows the excessive wear exhibited on one of the camshaft lobes.

The engine had in excess of 2000 hours, it was therefore decided that a complete overhaul of the engine was the most appropriate course of action.

E5. DE-ICING PROBLEMS

Aircraft type : Britten Norman Islander
Date : November 1996

The airframe de-icing failed to operate in moderate icing conditions; two circuits of prop de-icing system also failed causing vibration due to uneven shedding of ice. There was a considerable loss of airspeed due to weight of ice and uneven running of propellers. A safe landing was made with large amounts of ice still on the airframe. The de-icing systems operated correctly on the ground. Engineering investigation found that the left-hand solenoid valve and shuttle valve were both stuck. After the valves and prop de-ice brush block had been removed, cleaned and refitted, the system tested satisfactorily.

A PIPER PAWNEE FIX

About A Supplemental Type Certificate To Replace The Fuselage Forward Wing Spar Attach Fitting, Cluster And Carry-Through Tube, Permanently Satisfying Airworthiness Directive 95-12-01

by Stephen Garner

1. INTRODUCTION

Almost everybody loves the ugly, old Piper Pawnee. A relatively low cost tow plane, its ready availability, plenty of towing power, and ease of maintenance all contribute to making the Pawnee popular with both tow pilots and the glider pilots who follow them. And they are fun to fly. As a result, the Pawnee has become nearly ubiquitous in American soaring.

With so many Pawnees around, it's natural that any Airworthiness Directive can have a big impact on soaring, both to club and commercial operations. AD 95-12-01, affecting the main wing spar attach points, has costly and repetitive requirements: you pay to inspect the airframe, and then you pay every two years. This led the Harris Hill Soaring Corporation (HHSC) and the Schweizer Soaring School, both heavily dependent on Pawnees for towing, to try to develop a one-time modification that would eliminate the costly repeat inspections required by the AD.

After reading the AD, Clarence See of HHSC talked with Les Schweizer (Schweizer). Both felt it should be easy and cost-effective to provide a permanent fix to the Pawnees. Schweizer offered to provide the engineering services of Schweizer Aircraft Company (Schweizer Aircraft) as a gift to the soaring community, and See agreed to undertake the repairs to the first aircraft.

2. REVIEW OF AIRWORTHINESS DIRECTIVE 95-12-01

AD 95-12-01 applies to all Piper Pawnee models PA-25, PA-25-235 and PA-25-260, and requires the removal of the wings of the Pawnee. The wing main spar attach cluster and carry-through tube then must be inspected by eye, by dye penetrant tests, and by ultrasound procedures. If any corrosion past stated limits or any cracks are found, the forward spar fuselage tubular attach clusters and/or carry-through tube must be replaced. This inspection has to be done every two years.

If the clusters and carry-through tube have been replaced, the first inspection is not required for five years. The AD also allows replacement of the clusters within the confines of the original design every five years to fulfill its requirements. It is my understanding that the Soaring Society of America's input during the comment period resulted in the inclusion of the last two items. The result of the inspection, if any, must be sent to the FAA per paragraph (i) of the AD.

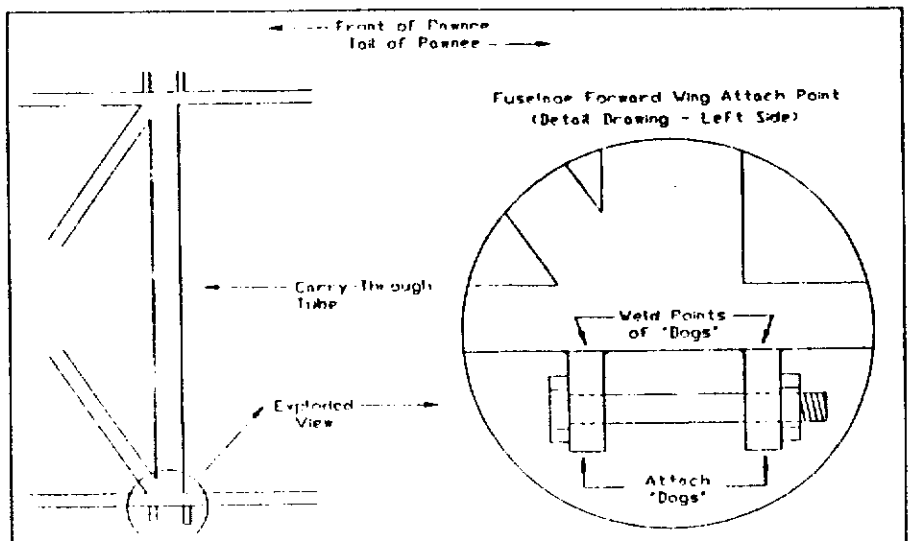


FIGURE 1. Simplified top view of original Pawnee forward wing attach points.

Obviously, this inspection is going to be expensive for any soaring operation. Both Clarence See and Les Schweizer felt that a permanent fix could be accomplished for less than the cost of two complete inspections.

A significant contributing factor in cost of the inspection is found in paragraph (d) (2), which details the requirements of the ultrasound inspector. The paragraph reads;

The inspection procedures in the Appendix of this AD, except for the dye penetrant inspection procedures, must be accomplished by a Level 2 inspector certified using the guidelines established by the American Society for Non-Destructive Testing, or MIL-STD-410. A mechanic with at least an Airframe license may perform the dye penetrant inspection. [Emphasis added.]

After searching all over the USA, Schweizer could find only a few ultrasound inspectors who met these requirements. Obviously, they would expect to be well compensated for their inspection efforts, and would likely require travel expenses to the inspection site. See and Schweizer decided the best solution to the problem of high cost of fulfilling the requirements of AD 95-12-01 would be to develop a replacement design of the forward fuselage spar carry-through tube and clusters, and submit it for approval under paragraph (k) of the AD.

3. ORIGINAL CLUSTER /CARRY-THROUGH DESIGN

See removed the wings of one HHSC Pawnee, and inspected the forward wing attach points, finding several interesting items. Although the carry-through tube had been sealed with epoxy, there was a small amount of corrosion between the two attach fittings. The wing and landing gear attach fittings ("dogs") were welded to the cluster and not continuous into, much less past, the cluster [See Figure 1]. When the wing and landing gear attach bolts are tightened, a side load is put on the "dogs." Also, any load produced by either the wing or landing gear must

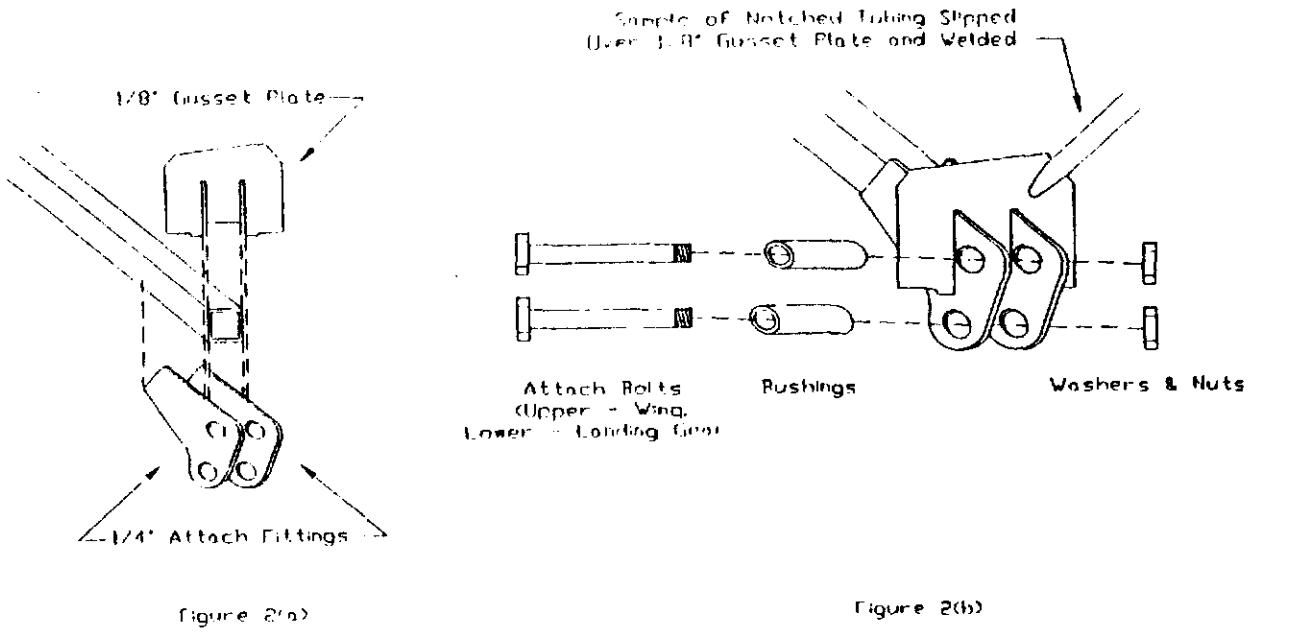


FIGURE 2. Simplified assembly drawings of STC's new cluster design: (a) Fitting before welding; (b) Assembly of bolts, nuts, and bushing (wing forward spar, landing gear and fuselage tubing not shown.)

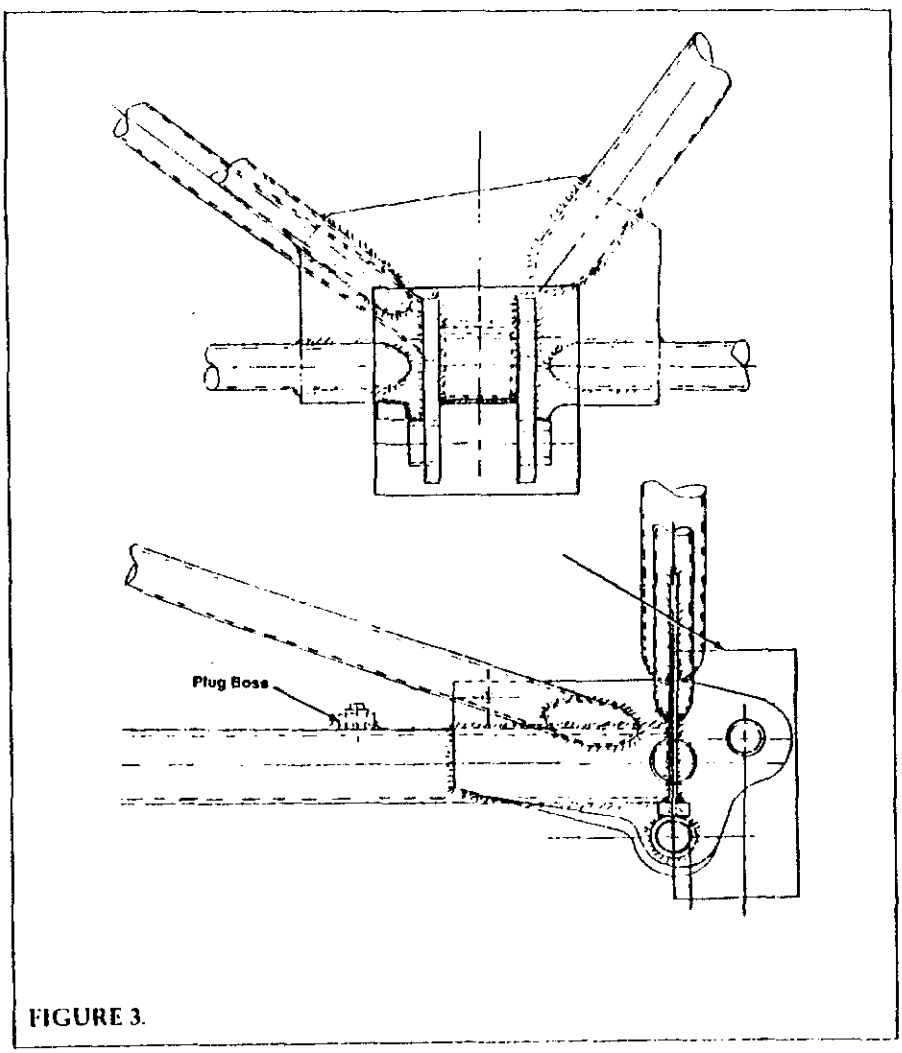


FIGURE 3.

travel through the weld that attaches each 'dog' to the airplane's tubular structure. See and Schweizer felt that any replacement design should address these points of potential weakness. Also, given that the FAA had issued an AD for this area of the airplane structure, they felt that the replacement parts and analysis should be substantially stronger than the original design.

4. DESIGN OF REPLACEMENT CLUSTER/SPAR CARRY-THROUGH

To avoid concentrating stress in welds and to provide overall strength, the attach fittings for both the landing gear and the wings were consolidated in one piece [See Figure 2]. These pieces of 1/4" thick chrome-molybdenum steel extend past the plane of the fuselage side and are welded along the carry-through tube, also chrome-moly steel approximately 1/8" in wall thickness. This arrangement transfers the loads produced by the wing and landing gear to the carry-through tube and provides a longer weld between the tube and the attach fittings.

The 1/8" gusset plate is notched to fit over the two attach plates and is welded to both the attach plates and the carry-through tube. The tubes that form the side of the fuselage are slotted and the gusset plate fits into these slots. Once again, a longer weld than the original one carries the load, reducing the stress in the weld. [See Figure 3.]

To avoid binding the attach plates

when torquing the landing gear and wing attach bolts, See and Schweizer specified a bushing. Any force produced by the tightening of the bolt/nut combination is borne by the bushing and provides no side load on the attach plates.

5. OVERVIEW OF STC NO. SA01073AT

STC No. SA01073AT covers the Pawnees with 1/2i forward wing attach bolts. Another STC has been submitted for approval for those Pawnees with 7/16i bolts.

Sales of the STCs are through Clarence See. Current cost is $1450 per kit. Installation of the STC requires an experienced aircraft welder using appropriate Tungsten Inert Gas welding equipment.

STC NO. SA01073AT adds 6 pounds of weight to the aircraft at 87.25" aft of datum.

An overview of the steps required to install the STC follows:

1. Completely remove all fuel from the aircraft.

2. Remove wings, cowling and all panels from nose to trailing edge of wing.

3. Build two fixtures from materials in the List of Materials Not Furnished. These fixtures attach to the fuselage at the forward and rear spar attach points and the fuselage strut attach point, one fixture per fuselage side. They support the fuselage structure the original cluster and carry-through tube are removed.

4. After preparatory work, lift the aircraft fuselage and remove the landing gear. The STC currently suggests that the aircraft be lifted by the engine lift ring. I recommend lifting the aircraft by the engine mounts if a hoist is used. See is in the process of adding this method to future STC instructions. I see no reason that the fuselage can not be appropriately supported in some other manner.

5. Install the fixtures and cut out the carry-through tube and fuselage wing attach points.

6. Install the new carry-through piece.

7. Paint the repair with a light color automotive enamel to help detect cracks and stresses in the repair area by cracks in the enamel.

8. Reinstall the landing gear and wings.

9. Fill the new carry-through tube with linseed oil.

10. Appropriately complete FAA Form 337, and record the installation/major repair in the airframe logbook. The Instructions for Continued Airworthiness become part of the Airplane Flight Manual, Inspection Guidelines Section and are attached to the Piper Aircraft Inspection Report Form.

The Instructions for Continued Airworthiness require visual inspection and removal of any corrosion of the new assembly every 100 hours. At the annual inspection, the same inspection is required. In addition, the linseed oil level must be checked and replenished if need be, and the wing attach bolts, bushings and bolt holes inspected for wear and condition. At every sixth annual, the attach fittings must be inspected by dye penetrants. If the aircraft is used in an agricultural or corrosive environment, this must be done every third annual inspection. If any cracks are found, Schweizer Aircraft must be contacted.

6. REVIEW AND COMMENTS

Anecdotal experience has told us that the ultrasound inspection is not always accurate, and may produce erroneous readings. See knows of one aircraft that failed the ultrasound inspection, but when the carry-through tube was cut from the aircraft and inspected, no corrosion, damage or weakness in the structure could be found.

Generally, it seems that the STC can be installed in about 40 hours of work, but this will vary from aircraft to aircraft.

After removing the wings, it would be good practice to check that the forward wing and landing gear attach fittings are in the same place. Also, check that the rear fittings are in the same place. Some installers have encountered previous repairs in these areas that have distorted the position of the fittings.

Originally, the replacement carry-through tube was to have a square cross-section with 0.095i wall thickness, which would have provided 50% greater strength than the original material. However, due to the lack of available materials, the kit has a square-sectioned tube of 0.120i wall thickness. This led to an increase in strength of 80% over the original Piper design.

The FAA required a static test of the carry-through modification kit, with a required load of approximately 19,500 pounds. The test specimen failed at 29,300 pounds, 50% beyond the FAA requirement.

Clarence See has an economic interest in the two STCs. He sells the kits and provides as much technical support as possible to the installation. He has donated one kit to the US Team heading to St. Auban, France, in 1997. Les Schweizer has donated his time and Schweizer Aircraft's engineering and test facility capabilities. Stephen Garner has no economic interest in this process.

Harris Hill Soaring Corporation donated the use of a Pawnee as a testbed aircraft. The necessary original Form 337 was filed and approved for this aircraft.

7. TOOLING REQUIRED

The following tools are required.

1. Lifting device.
2. 1/4i electric or air drill motor.
3. 1/8i or #30 drill bit.
4. Electric or air die grinder.
5. 1-1/4i X 1/16i grinding discs (Northern Hydraulics order #913306 or equivalent)
6. 1i or 2i Wide #80 grit emery cloth
7. Milwaukee Sawsall and/or band hack saw
8. 4-1/2i disc grinder
9. Oxy-acetylene welding outfit
10. Miller Syncrowave 250 TIG welder or equivalent

8. CONTACT

For information and sales of STC No. SA01073AT, please contact Clarence See; PO Box 737 Tiffany Road; Whitney Point, NY 13862; 607/692-4582 (voice). The FAA contact person for AD 95-12-01 is Christina Marsh, Aerospace Engineer; FAA, Atlanta Aircraft Certification Office, Campus Building; 1701 Columbia Avenue, Suite 2-160; College Park, Georgia 30337-2748; 404/305-7362 (voice) 404/305-7348 (fax). Stephen Garner can be reached at PO Box 321, Big Flats, NY 14814.

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AVGAS, super petrol, leaded or unleaded?

Due to lack of demand, petrol stations increasingly have no leaded petrol to offer. so that the principally recommended fuel for our DG 400 and DG 800 may not be available in the near future.

For the usage of a two-stroke-engine the lead addition is completely unnecessary, as it is used to seal up the valves in older engines. But there are no valves in a two-stroke-engine. The problem is not the engine nor the fuel pipes. The problem is found in the tank, knowingly made of Epoxi-resin. Unfortunately the stuff used in unleaded petrol for the anti-knock also is a very good dissolver for synthetics.

The easiest and safest recommendation is to use AVGAS in future. In the sense of enviromental awreness of the engine it would be a giant step backwards, and very expensive too.

We launched a special investigation, to find out in a laboratory test whether in future it will be possible to use unleaded petrol, such as Euro-Super for example.

We will keep you informed about the awaited results. Until then it generally should be possible to be supplied with leaded petrol.

-w-dirks-