BGA TECHNICAL COMMITTEE

TECHNICAL NEWSHEET 1/2/97

PART 1 Airworthiness "AGGRO"

1.1. Herewith the BGA 1997 "Red Pages". Compendium of Airworthiness Directives, Mandatory Modifications, Special Instructions and Check List of Defects. Reference must be made to this document at the time of C.of.A renewals.

Tim Macfadyen has kindly revised this document, and would welcome corrections and suggestions. Contact him on 01453 872740 or Fax 0117 9790681.

1.2. DIAMANT Rear Rudder Pedal support (steel box section), failed in flight, where it meets the GRP foam sandwich; and changes to a 3 sided section. Inspect a.s.a.p. (Reported by Derek Taylor - North Yorkshire Sailplanes).

1.3. DART BONDED Spar Inspection. TI 58 is revised herewith at the request of SLINGSBY's. A borescope inspection is an approved method of compliance.

1.4. DG 100/200/400 Airbrake Torque Tube in the fuselage. Action in accordance with T/Notes 301/18, 323/9 and 326/34 herewith.

1.5. WASSAMER WA26 and WA28 Sailplanes. Inspect Rudder Cables as per A/D 96-286(A) - herewith.

1.6. PIPER PA-25 (Pawnee). A/D 95/12/01 - Bi-annual Inspection of Wing/Fuselage attachments.

BGA negotiations with the FAA Airworthiness Engineer in Atlanta City continue, to whom your NDT reports have been sent. So far no changes in the frequency of the NDT inspection have been granted.

1.7. OLY 460 - 463 - 465 Wing Spar Inspection procedures have been sent to all registered owners. Some further corroded samples have been discovered.

1.8. ASH 26E. LBA A/D 97-009 (attached) requires action to modify the Mid-West Aero Engines cooling system.

1.9. MAGNETO Leads Extract from GASIL 6/96 is self explanatory.

1.10 TOST WEAK LINKS. A Statement from the Technical Committee is attached.

1.11 ASW 19 Extention of Service Life to 12000 Hrs LBA.A/D 97-010 (herewith) refers.

PART TWO GENERAL MATTERS

2.1. Health & Safety at Work Act - Private Clubs.

The HSC Policy Statement is repeated for information. How safe is your operation?

2.2. Aviation Fuel at Aerodromes. Article 101 of the ANO is for the information of all concerned. How clean is your fuel?

2.3. C.A.A. Changes for C.of.A. Renewals. (Tugs & SLMG's) increase from £54 per 500 Kgs to £56 with effect 1st April 1997. (x 3 years = £336).

HAPPY NEW YEAR!

Dick Stratton
Chief Technical Officer

TN 1 1 2 97

DG-Flugzeugbau GmbH
Im Schollengarten 20
D-76646 Bruchsal

Technical Note
No. 301/18
No. 323/9
No. 826/34

Subject: Airbrake torque tube in the fuselage, airbrakes in the wings

Effectivity: All types and serial numbers: DG-100, DG-200, DG-400

Accomplishment: Instructions 1,2 and 5: Prior to next flight
Instruction 3: If necessary prior to next flight
Instruction 4: If necessary latest until 31.03.97

Reason: Due to free play between bellcrank and airbrake plate the airbrake cap might not flush with the wing surface at the outboard end. If this is corrected by increasing the locking forces the airbrake control system might be overloaded. This can result in failure at the operating lever of the airbrake torque tube in the fuselage.

Instructions:

1: Inspection of the airbrake torque tube in the fuselage according to working instruction no.2 for this TN.
2: Inspection of the airbrakes according to working instructions No. 1 for this TN.
3: Reinforcement of the welded joint between torque tube and lever according to working instructions No. 2 for this TN.
4: Modification of airbrake plates according to working instruction no.1 for this TN.
5: Manual amendments (dated oct. 1996):

DG-100:	„Flight handbook DG-100", page 2; „Service manual DG-100", page 23a
DG-100 G:	„Flight handbook DG-100 G", page 2; „Service manual DG-100 G", page 23a
DG-200:	„ DG-200 Manual", page 1 „Maintenance manual DG-200", page 0, 7c
DG-200/17:	„DG-200/17 Manual", page 17/1 „Maintenance manual DG-200/17", page 0, 7c
DG-200/17C:	„DG-200/17C Manual", page 1 „Maintenance manual DG-200/17C", page 0, 7c
DG-400:	„Maintenance manual DG-400", page 0.2, 1, 2, 2a, 26b

Material: Working instructions No.1 and No.2 for this TN

For instruction 3: If necessary:	1 pcs. Sheet steel 1St12/2, material 1.7734.4
	Welding wire material 1.7734.2
For instruction 4: If necessary:	2 pcs. U-bracket 1F12/2
	8 pcs. Pop-rivets Fero Ø 3×6,5 AlMg5, steel pin
	2 pcs. Self-locking nuts M6 DIN 985-8 zn

For instruction 5: Manual pages dated oct. 1996, see instruction 5

Weight and Balance: Influence neglibile

Remarks: Instructions No.1, 2, 4, 5 can be executed by the owner or another experienced person. Instruction 3 is to be executed only by a licensed workshop.
Accomplishment of all instructions must be entered into the aircraft logs by a licensed inspector.
Inspections according to instruction 1 and instruction 2 must be accomplished on every annual inspection.

Bruchsal, 04.11.96

Author: S. Lehner Sven Lehner

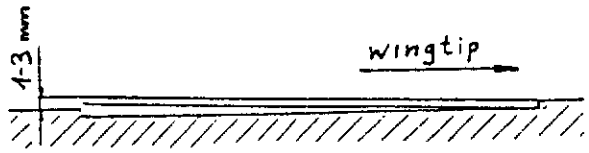
Type certification inspector: W. Dirks W. Dirks

LBA-approved:
The German original of this TN has been approved by the LBA under the date of 11. Nov. 1996
and is signed by Mr. Fendt. The translation into English has been done by best knowledge and judgement. In any case of doubt the German original is authoritative.

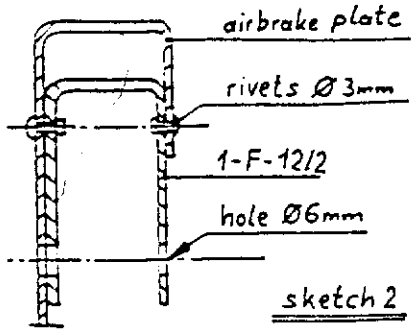
DG-Flugzeugbau GmbH
Im Schollengarten 20
D-76646 Bruchsal 4

Inspection and repair of the airbrakes (DG-100, DG-200, DG-400)

The airbrakes must retract at their outboard end first. When the airbrake cap is flush with the wing surface at the outboard end, the inboard end must be 1-3mm (0.039-0.118in) above the wing surface (s. sketch 1).



sketch 1

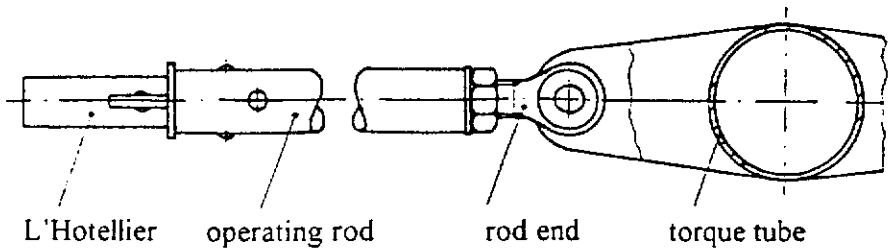


sketch 2

If not, modify as follows. With the modification a value of 1-3mm shall be adjusted.

1. Remove the bolt fixing the airbrake plate to the outboard bellcrank.
2. Drill out the 4 rivets which fasten the U-bracket 1F12/2 to the airbrake plate and remove bracket (s. sketch 2). Use a Ø3mm (0.118 in) drill.
3. Enlarge the Ø6mm hole at which the outboard bellrank was screwed to the airbrake plate to Ø7mm (0.276in).
4. Insert a new bracket 1F12/2 into the airbrake plate and screw it together with the airbrake plate and the bellcrank. Press bracket and bellcrank outboard when tightening the screw.
5. Retract the airbrake and measure the distance of the inboad edge of the airbrake cap to the wing surface. If the desired value of 1-3mm is not reached, you must repeat items 3 and 4. Enlarge the hole in steps from Ø7mm to max. Ø8mm (0.314in).
6. Drill rivet holes Ø3mm (0.118in) through the existing holes in the airbrake plate into new bracket 1F12/2. Fasten 1F12/2 with 4 aluminium poprivets type Fero Ø3×6.5mm AlMg5 with steel pin to the airbrake plate.
7. Screw together airbrake plate and outboard bellcrank using new self locking nuts M6 DIN 985-8 zn.
8. Now finally check if the airbrakes retract simultaneously. To measure retract the airbrakes so far, that the first cap is flush with the wing surface at the outboard end. Hold the airbrake handle in this position and measure how high the outboard end of the other airbrake is above the wing surface. Allowance 2mm (0.078in).
9. Also check handle forces to unlock the airbrakes (min.15daN, max.20daN resp. min.33lbs, max.44lbs). If handle force is below allowance elongate the operating rod of the airbrake retracting last by adjusting the rod end (s. sketch 3 below). If handle force is above allowance shorten the operating rod of the airbrake retracting first by adjusting the rod end. When adjustment of the airbrakes is finished don't forget to safety rod ends again by tightening the counter nut.

sketch 3:



Bruchsal, den 04.11.96

Author: S. Lehner

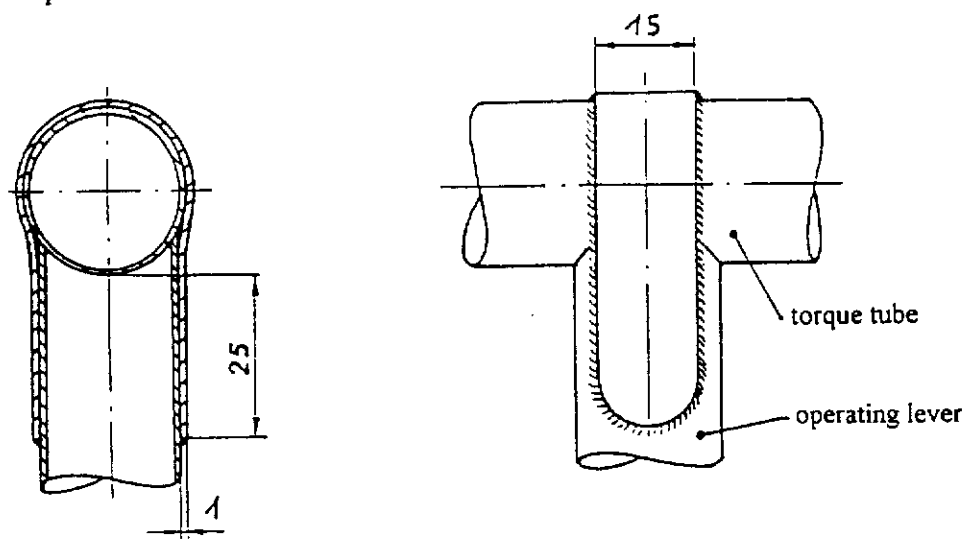
DG-Flugzeugbau GmbH
Im Schollengarten 20
D-76646 Bruchsal 4

Working instructions No.2 for
Technical Notes
No. 301/18, 323/9, 826/34

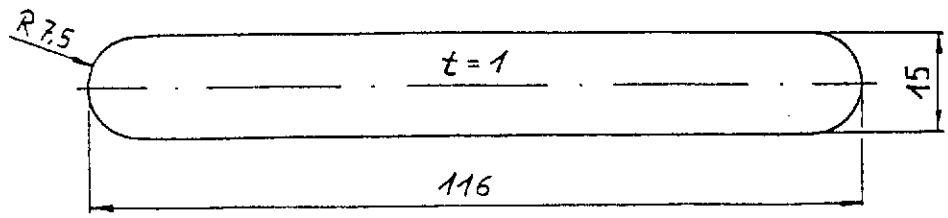
Inspection and reinforcement of the airbrake torque tube (DG-100, DG-200, DG-400)

Prior to the next flight the airbrake torque tube in the fuselage must be inspected. Check the welded joint to the operating lever on cracks or deformation when locking and unlocking the airbrakes on the rigged airplane. The airbrake torque tube can be reached through the inspection hole in the fuselage. For inspection of the welding joint use a mirror and a magnifying glass (magnification min. 5×). In case of doubt remove torque tube for closer inspection.
If there are no defects flying operation can be continued until next inspection. If there is even a minor damage suspected instructions 3 must be accomplished prior to next flight.

If necessary the welded joint of torque tube and operating lever must be reinforced by welding an additional steel sheet 1-St-12/2 made of material 1.7734.4 (s. sketch). Visible cracks or other defects of the original joint must be repaired first. All welding must be done with the TIG-welding system (tungsten inert gas) using welding wire 1.7734.2. Where welding is to be done cadmium plating or painting must be removed first by sandblasting.
If the torque tube is damaged by deep cracks and due to this corrosion inside the torque tube or the lever is suspected, the complete part 1St12 must be exchanged.
After welding all metal surfaces must be protected against corrosion. This can be done by painting with suitable primer and paint.



Sheet metal 1St12/2
Thickness: 1mm
Material: 1.7734.4



Bruchsal, den 04.11.96

Author: S. Lehner

TNS 11/2/97

GSAC

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.: 96-286(A)
In case of any difficulty, reference should be made to the French original issue.

ISSOIRE AVIATION

WASSMER WA 26 and WA 28 Sailplanes

Rudder control

This Airworthiness Directive concerns WA 26 P, WA 26 CM, WA 28 sailplanes, all serial numbers.

In some cases, the rudder control was damaged. In order to prevent failure of the cable resulting in possible loss of control of the sailplane, following measures are made mandatory at the effective date of this Airworthiness Directive :

- At the next scheduled visit, inspect the rudder control cables P/N WA 26 P.27-96 as a whole, specially in the areas where the cable enter into the sheathing :

  All worn cable must be return with its sheathing to ISSOIRE AVIATION for overhaul.

- Repeat this inspection each 500 flight hours or at each major visit, whichever occurs first.

- Record the application of this Airworthiness Directive on the aircraft log book.

Ref. : ISSOIRE AVIATION SB N° 39

EFFECTIVE DATE : DECEMBER 14, 1996

v/JB

Airworthiness Directive
97-010

Luftfahrt-Bundesamt
Airworthiness Directive Section
Lilienthalplatz 6
38108 Braunschweig
Federal Republic of Germany

Schleicher

Effective Date: January 30, 1997

Affected:

Kind of aeronautical product:	Sailplane
Manufacturer:	Schleicher, Poppenhausen, Germany
Type:	ASW 19
Models affected:	all
Serial numbers affected:	all
German Type Certificate No.:	308

Subject:
a) Amendment- of the Maintenance Manual
b) Inspection Program to increase the service life

Reason:
The results of fatigue tests on fiber composite wings and wing spars have demonstrated that a service life of 12000 hours can be reached for these structural components. As the fatigue tests did not cover the entire (fiber composite) glider, the service life of 12000 hours can be granted only it the airworthiness of each individual glider (beyond the obligatory annual C of a Inspections) is demonstrated in a special multi-step inspection program for the purpose of increasing the service life.

Action:
Exchange of some pages into the AFM.

Compliance:
a) Prior at the next annual inspection, but not later than March 31, 1997
b) Prior to reaching a total service life of 3000 flight hours and 6000 flight hours respecttively

Technical publication of the manufacturer:
Alexander Schleicher ASW 19 Technical Note No. 25 dated October 21, 1996 which becomes herewith part of this AD and must be obtained from Messrs.:

Alexander Schleicher GmbH & Co.
Segelflugzeugbau

D-36163 Poppenhausen

Federal Republik of Germany

Accomplishment and log book entry:
Action to be accomplished by an approved service station and to be checked and entered in the log book by a licensed inspector.

Enquiries regarding this Airworthiness Directive should be referred to Mr. Olaf Schnelder, Airworthiness Directive Section at the above address, fax-no. 0049 531/2355-254. Please note, that in case of any difficulty, reference should be made to the German issue!

Airworthiness Directive
97-009

Luftfahrt-Bundesamt
Airworthiness Directive Section
Lilienthalplatz 6
38108 Braunschweig
Federal Republic of Germany

Schleicher

Effective Date: January 30, 1997

Affected:

Kind of aeronautical product:	Powered Sailplane
Manufacturer:	Schleicher, Poppenhausen, Germany
Type:	ASH 26 E
Models affected:	ASH 26 E
Serial numbers affected:	all
German Type Certificate No.:	883

Subject:
Engine, engine internal air cooling

Reason:
Performance loss in the case of some few engine units has shown that the fan performance of the engine internal air cooling may be adersely affected under certain conditions. If a temperature alarm by the ILEC-engine control unit is not regarded or is not given because of a defective sensor (no temperature indication) as a possible consequence the engine will be operated at higher temperatures than possible and may become damaged gardually. For this reason there must be at once a better check of the cooling air temperature. In order to solve this problem generally the fan of the engine internal air cooling must be exchanged for an upgraded unit.

Action:
a) Checking the cooling air temperature in flight and inspection of further engine unit parts.
b) Improvement and change of the fan of the engine internal air cooling and exchange of the temperature sensor of the internal air cooling.

Compliance:
a) Before the next flight.
b) At the earliest possible date; immediately in case of increased cooling air temperature - but at latest during the next annual inspection.

Technical publication of the manufacturer:
Schleicher ASH 26 E Technical Note No. 1 dated November 12, 1996 which becomes herewith part of this AD and must be obtained from Messrs.:

Alexander Schleicher
Segelflugzeugbau

D-36163 Poppenhausen
Federal Republik of Germany

Accomplishment and log book entry:
Action to be accomplished by an approved service station and to be checked and entered in the log book by a licensed inspector.

SLINGSBY
AVIATION LTD

Kirkbymoorside, York YO6 6EZ, England
Telephone (01751) 432474
Telex 57911 SELG Telefax (01751) 431173

INS 9/10/96

DART

23/12/96

BM/PMS

24th December 1996

Mr D Stratton
British Gliding Association
Kimberley House
Vaughan Way
Leicester.

Dear Dick

As a consequence of a glider main spar failure on an Olympia 460, I believe that the CAA asked Slingsby's to investigate whether we had any gliders with similar construction. It appears that the T51 Dart may well have some versions with the wood/metal combination and adhesive used on the Olympia. We unearthed a TI No.58 dated May 1973 which appears to be directly relevant and defines the Darts with all wood spars which are not of concern but the rest should be checked.

As we no longer have any records of Dart owners, would you please promulgate the information from the TI by your Newsletter to ensure all owners are aware of the potential problem

Yours sincerely,

B Mellers
Chief Designer
for Slingsby Aviation Ltd

cc A Bevan - CAA Gatwick
M J Rutter

SLINGSBY SAILPLANES, KIRKBYMOORSIDE, YORK, YO6 6EZ, ENGLAND

May 1973
Issue 1

TECHNICAL INSTRUCTION NO. 58

Inspection of T51 Dart Main Spars

This instruction applies to all Dart aircraft fitted with metal reinforced spars. It is not applicable to aircraft with all wood spars; a list of those aircraft originally supplied with all wood spars is given at the end of this instruction.

This inspection has been made mandatory by the Civil Airworthiness Authority and must be carried out as soon as possible, but in any case aircraft may not be flown after 13th July 1973 unless this inspection has been carried out.

This inspection follows the discovery of severe metal corrosion in the spar of a Dart. Although the aircraft was clearly not in a good overall condition, there is no documented evidence of any severe environment being encountered.

Inspection Procedure

1. Mark the hole centres as shown on the diagram, drill ½" dia. hole in the ply and gradually open up the holes to 3" - 4" square.
2. Thoroughly inspect the metal portion of the spar paying particular attention to bolted joints and rib attachment points.
3. If any significant corrosion exists, that is more than 0.007" in depth the aircraft will require repair action.
4. The holes in the wing should be repaired in accordance with standard practice and the results of the inspection sent to Slingsby Sailplanes.
5. After the results of the inspection have been analysed by Slingsby Sailplanes further action may be required on an annual basis.

List of Dart T51 Aircraft Originally Supplied with Wooden Spars

Works Number	Type
1405	15m. wood
1421	" "
1423	" "
1424	15m. wood - later 17m. wood
1425	15m. wood
1429	" "
1430	" "
1431	" "
1434	" "
1435	" "
1437	" "
1438	" "
1439	" "
1440	" "
1441	" "
1446	" "
1459	" "
1445	15/17m. wood - later 17m. metal

BGA Technical Committee's view of the TOST Double weak link system

The BGA Technical Committee views the TOST double weak link system as being safe if properly used with one of the weak link elements having a proprietary slotted element. This arrangement has the attendant advantage of protecting against the inappropriate failure of a weak link "weakened" by use - one that perhaps has not been replaced after 200 launches as recommended by TOST. The double system was introduced to minimise the number of winch launch failures likely to occur in order to prevent, where possible, exposing pilots to unnecessary "emergencies" with which they may then fail to cope.

The double weak link system does however have an operational problem which needs to be addressed if it is to remain in continued use in the UK. This concerns the fact that two identical weak links are sometimes being mistakenly fitted in the double arrangement, thereby doubling the weak link strength . Once assembled it is not possible to visually check to determine whether or not the correct arrangement has been used. One viable solution would be to mark the edge of the end of the slotted element with a "notch" or "flat" so that its presence in the assembly can be visually confirmed at a glance. (Fortunately there is sufficient material available at this point for this to be done without adversely effecting the link.) Unless this problem is resolved in such a way so that we can be sure that all double weak links are correctly assembled, the use of single weak links should be adopted universally with regular replacement every 200 launches (or less!!)

As it is clearly difficult to keep track of weak link usage and in view of the relatively low cost of these elements, it would be sensible if clubs adopted the practise of replacing links at regular intervals which reflect the usage rates and the 200 usage limit.

Mike Woollard

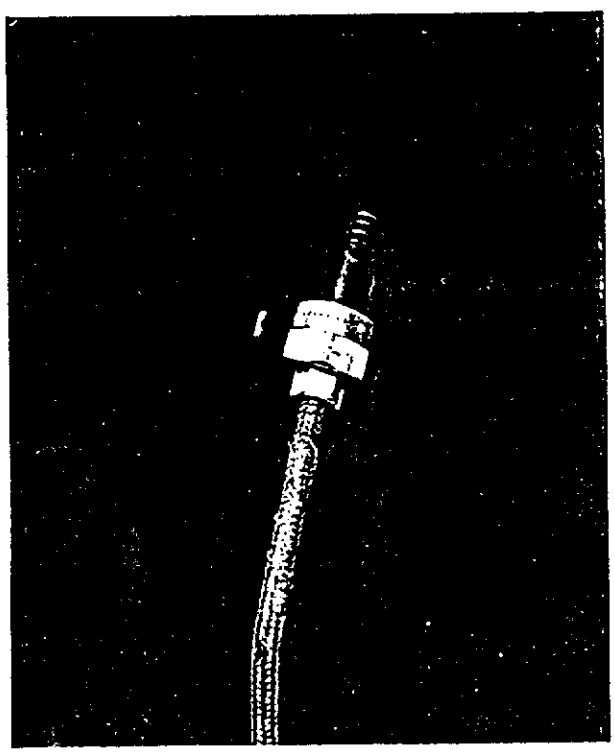
CASIL 6/96

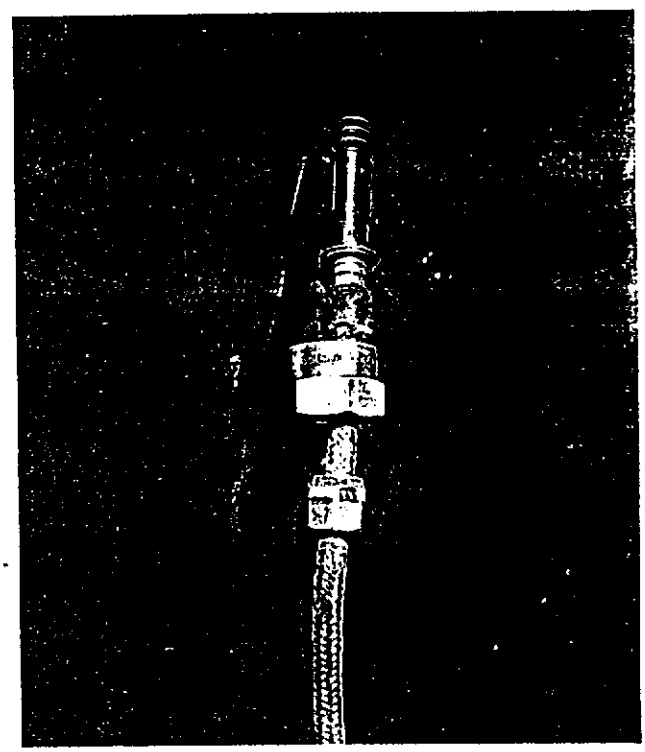
E1. MAGNETO LEADS

Aircraft type	:	Cessna 172
Date	:	September 1996
Engine type	:	Lycoming O320-E2D

The pilot had commented that the engine was subject to a very occasional misfire which would clear itself as mysteriously as it would appear.

After several reports, it was decided to resolve this problem once and for all. Finally, removal of the magneto lead from the number 4 cylinder revealed the problem. As the first photograph on the left shows, it appears that the lead end is quite normal. However, upon tugging the lead, it can be seen that the smaller ferrule, which is clamped in place by the large nut, had in fact failed and the clamping was non-existent. This allowed the outer sleeve of the plug lead to make only intermittent contact. A careful check of the entire harness found three other leads to be in similar condition. A new ignition harness solved the problem once and for all.





CAA
CIVIL AVIATION AUTHORITY

Aviation fuel at aerodromes

101 (1) Subject to paragraph (2), a person who has the management of any aviation fuel installation on an aerodrome in the United Kingdom shall not cause or permit any fuel to be delivered to that installation or from it to an aircraft unless:

(a) when the aviation fuel is delivered into the installation he is satisfied that:

(i) the installation is capable of storing and dispensing the fuel so as not to render it unfit for use in aircraft;

(ii) the installation is marked in a manner appropriate to the grade of fuel stored or if different grades are stored in different parts each part is so marked; and

(iii) in the case of delivery into the installation or part thereof from a vehicle or vessel, the fuel has been sampled and is of a grade appropriate to that installation or that part of the installation as the case may be and is fit for use in aircraft;

(b) when any aviation fuel is dispensed from the installation he is satisfied as the result of sampling that the fuel is fit for use in aircraft.

(2) Paragraph (1) shall not apply in respect of fuel which has been removed from an aircraft and is intended for use in another aircraft operated by the same operator as the aircraft from which it has been removed.

(3) A person to whom paragraph (1) applies shall keep a written record in respect of each installation of which he has the management, which record shall include:

(a) particulars of the grade and quantity of aviation fuel delivered and the date of delivery;

(b) particulars of all samples taken of the aviation fuel and of the results of tests of those samples; and

(c) particulars of the maintenance and cleaning of the installation;

and he shall preserve the written record for a period of 12 months or such longer period as the Authority may in a particular case direct and shall, within a reasonable time after being requested to do so by an authorised person, produce such record to that person.

(4) (a) A person shall not cause or permit any aviation fuel to be dispensed for use in an aircraft if he knows or has reason to believe that the aviation fuel is not fit for use in aircraft.

(b) If it appears to the Authority or an authorised person that any aviation fuel is intended or likely to be delivered in contravention of any provision of this article, the Authority or that authorised person may direct the person having the management of the installation not to permit aviation fuel to be dispensed from that installation until the direction has been revoked by the Authority or by an authorised person.

(5) For the purpose of this article:

'aviation fuel' means fuel intended for use in aircraft;

'aviation fuel installation' means any apparatus or container, including a vehicle, designed, manufactured or adapted for the storage of aviation fuel or for the delivery of such fuel to an aircraft.

HSC
Health & Safety Commission

Reference no: HSC(G)1

Commission date: 11/1/1995

HEALTH AND SAFETY AT WORK ETC ACT 1974: APPLICATION TO PRIVATE CLUBS

Introduction

1 This guidance gives advice on the application of the Health and Safety at Work etc Act 1974 (HSWA) to private clubs; and sets out the view of the Health and Safety Commission on the approach which should be taken to enforcement.

2 There is no statutory definition of a private club. This guidance applies to private clubs, such as sailing clubs, where there is activity or recreation by subscribing members making regular use of the facilities.

3 It will usually be possible to draw a distinction between a private club and an activity centre for the public, run on commercial lines. This guidance applies only to the former.

Application of the Act

4 Many private clubs provide employment, either in connection with their main activities or as a sideline. Others are run by members, on a voluntary basis. Where there is employment, Sections 2 and 3 of the HSWA place duties on the employer to ensure, so far as is reasonably practicable, the health and safety of his employees and other persons who may be affected by the undertaking.

5 Section 4 protects those who are not employees in certain specified circumstances. It places duties on persons in control of non-domestic premises where those premises are made available to people as a place of work or where people may use plant or substances provided there for their use. Reasonable measures must be taken by those in control to ensure, so far as is reasonably practicable, that the premises and any plant or substance in the premises, or provided for use there, are safe and without risks to health.

Role of Governing Bodies

6 Sporting activities recognised as potentially dangerous - eg diving, sailing, horse-riding - are often subject to governing bodies which regulate safety in the sport. The Commission recognises the important role these bodies play in self-regulation. HSE often works with them at national level to develop guidance on the approach to risks likely to affect employees or members of the public, including club members. However, since it is the governing bodies which issue the guidance, in some cases it may go beyond what is required to comply with the law.

7 Enforcing authorities should take account of any advice guidance available from the governing body responsible for sport before deciding on enforcement action in connection with risks to health and safety which arise from participatio that sport.

Approach to Enforcement

8 The Health and Safety at Work etc Act 1974 (HSWA) should not be used to cut across the freedom of individuals voluntarily to take risks outside their working environment Where there is no employment, there should be no intervention by an enforcing authority in the sporting or ot activities of private clubs as described in paragraph 2 above except in reaction to serious incidents or follow-up of complaints.

9 Where there are known to be employed or self-emplo persons working in a private club, plans for any preventive inspection should be based solely on the risks arising from employment activities, eg in the restaurant of a sailing club premises or work undertaken by instructors; and should n take account of other risks club members or their invited guests choose to take, eg in racing dinghies on the open se

10 The general principles set out above need to be c where members of the public who are not club members described in paragraph 2), or their invited guests, are put risk by the club's activities. For example, some ostensibly private clubs offer their facilities for use by non-members under short-term membership arrangements. Some have 'open days' where large numbers of the public are admitte view the facilities or as spectators of club competitions, e considering whether preventive inspection under the HSV appropriate in the circumstances, an enforcing authority s take account of the nature and extent of the risks and the degree of control which the club can be expected to exer and whether there is any other legislation which offers a appropriate basis for enforcement.

Enquiries

11 Enquiries on this guidance may be raised with The Lo Authority Unit, HSE (0171 717 6442).