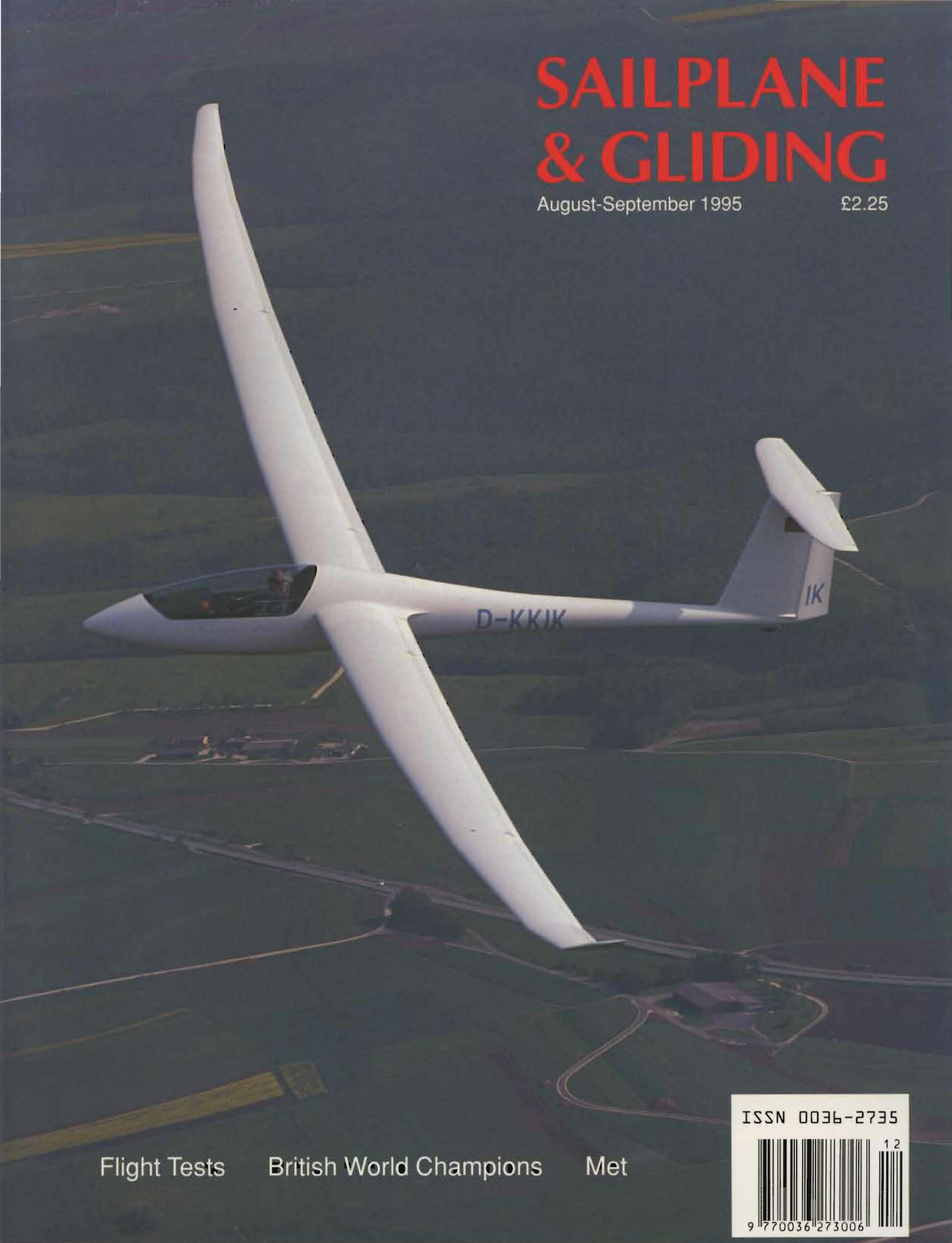
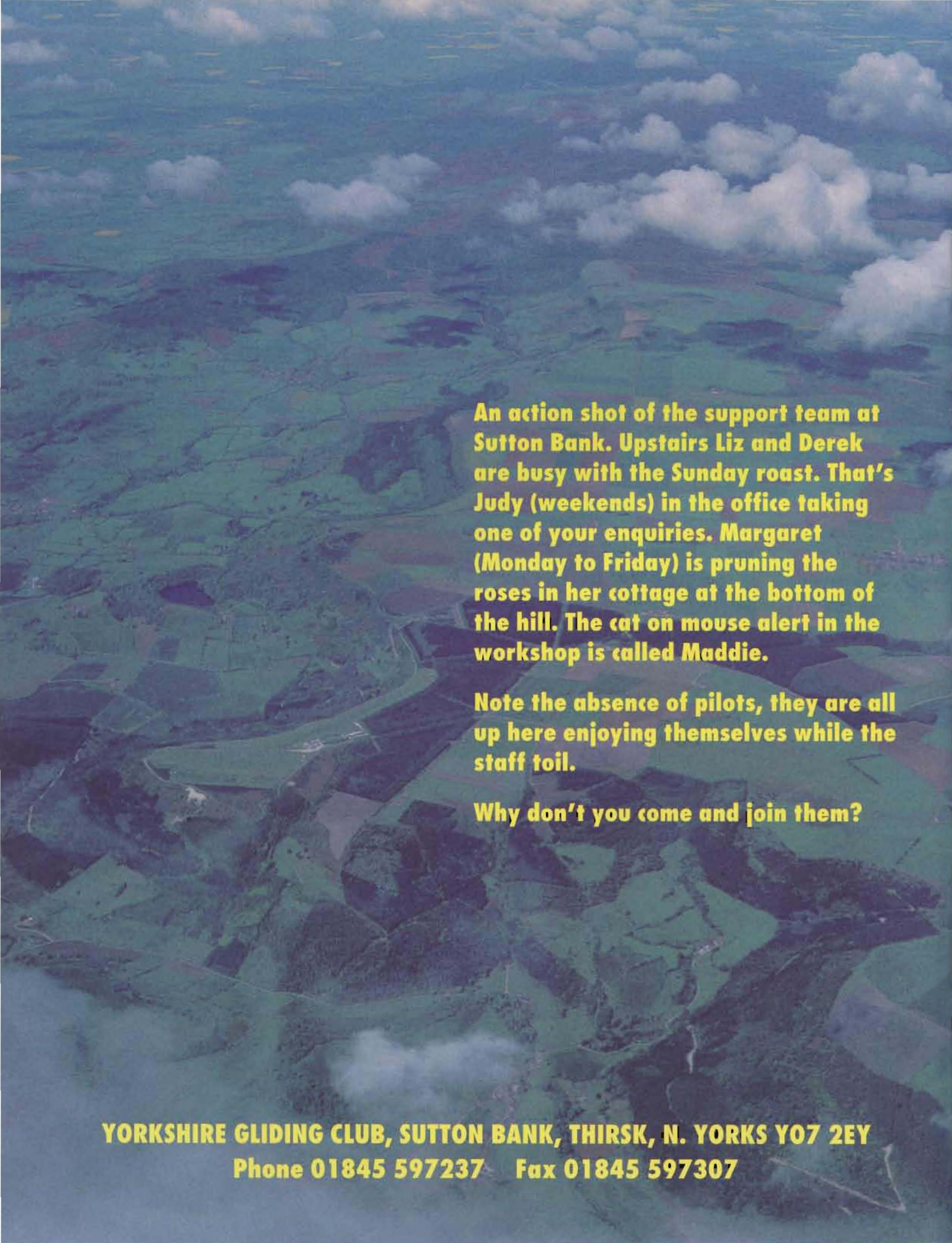


SAILPLANE & GLIDING

August-September 1995 £2.25

Flight Tests British World Champions Met

ISSN 0036-2735



An action shot of the support team at Sutton Bank. Upstairs Liz and Derek are busy with the Sunday roast. That's Judy (weekends) in the office taking one of your enquiries. Margaret (Monday to Friday) is pruning the roses in her cottage at the bottom of the hill. The cat on mouse alert in the workshop is called Maddie.

Note the absence of pilots, they are all up here enjoying themselves while the staff toil.

Why don't you come and join them?

YORKSHIRE GLIDING CLUB, SUTTON BANK, THIRSK, N. YORKS YO7 2EY
Phone 01845 597237 Fax 01845 597307

Magazine of the
British Gliding Association

August-September 1995
Volume XLVI No. 4

EDITOR
Gillian Bryce-Smith
281 Queen Edith's Way
Cambridge, CB1 4NH
Tel 01223 247725
Fax 01223 413793

ADVERTISING
Debbie Carr
BGA Office
Tel 0116 2531051
Fax 0116 2515939

SUBSCRIPTIONS
Bev Russell
BGA Office
Tel 0116 2531051
Fax 0116 2515939

COMMITTEE
A. W. F. Edwards (Chairman), M. Bird
M. F. Cuming, B. Rolfe, B. F. R. Smyth

Deadline dates – October-November. The main deadline for editorial copy is July 28 with clubs news and letters accepted up to August 15. The deadline for display advertisements is August 21 and classified advertisements September 4.

***S&G* Annual Subscription:** Send £15.50 to the BGA.

PUBLISHER
British Gliding Association
(Barry Rolfe, BGA Administrator)
Kimberley House
Vaughan Way, Leicester, LE1 4SE
Tel 0116 2531051
Fax No 0116 2515939

TELEPHONE CALLS
Do make sure you have the correct number - a lot of you are wasting calls by 'phoning S&G when you want the BGA and vice versa.



Cover: Jochen Ewald's photograph of the Ventus 2cT. See his flight tests, p206.

SAILPLANE & GLIDING

195 YOUR LETTERS
A. H. G. St Pierre, R. J. Ellis, H. D. Colton, P. J. Holloway, W. B. Carmody, G. J. White, M. C. Usherwood, D. Copeland, P. Disdale, Maureen Weaver, A. McHutchon, J. A. C. Kirsch, G. E. Lawrence

200 BRITISH WORLD CHAMPIONS
Natasha Spreckley

202 OMARAMA AND THE MORAL DILEMMA
T. J. Wills

204 TAIL FEATHERS
Platypus

205 OVERSEAS NEWS
BOOK REVIEWS
A. Knight, Keitha Bryce-Smith
A FERRY TALE
J. Kenny

206 FLIGHT TESTS OF TWO OF THE LATEST GLIDERS
J. Ewald

210 AERO '95
J. West

211 COMMENTS ON THE PW5
R. Sutherland

213 ARE YOU BEING INTERFERED WITH?
D. V. Foster

214 LATERAL TUG UPSETS
D. Starer

215 BRAKES CLOSED AND LOCKED?
Mary Meagher

216 AEROBATIC CORNER
M. G. Woollard

218 GROWTH AND DECAY OF CUMULUS
T. A. M. Bradbury

221 PILOTS BEWARE
R. A. Pollett, Gwendolyn Heygate

222 TRAVELLERS' TALES
R. Robinson, A. M. Wilson, Josie Briggs

224 BGA & GENERAL NEWS

225 GLIDING CERTIFICATES

230 CLUB NEWS

244 WAY OFF TRACK

Member of the
Royal Aero Club and the
Fédération Aéronautique
Internationale

Leicester Printers Ltd, Leicester.

GLOBAL POSITIONING SYSTEMS

SKYFORCE SKYMAP VER. 3.00 (NEW VERSION) **£949**
SKYFORCE TRACKER VER. 3.00 (NEW VERSION) **£449**
SKYFORCE LOCATOR II **£259**
SKYFORCE LOCATOR **£125**
SKYFORCE LOGGER **£165**

GARMIN GPS 55 .....**£339**
GARMIN GPS 55 AVD **£389**
GARMIN GPS 95 XL **£599**
GARMIN GPS 100 .....**£845**
GARMIN GPS 90 (NEW) **£499**
GARMIN GPS 40 .....**£269**
GARMIN GPS 150 .....**£1349**
(all other **GARMIN** models & accessories available)

MAGELLAN SKYBLAZER **£449**

II MORROW APOLLO 920+ **£699**
NEW II MORROW APOLLO 360
(3.5 INCH PANEL MOUNTED GPS) **£1290**

HARRY MENDELSSOHN
DISCOUNT
SALES

HARRY MENDELSSOHN DISCOUNT SALES
49-51 COLINTON ROAD • EDINBURGH EH10 5DH
HOURS: MON-FRI 9.00am - 5.30pm
0131 447 7777
FAX LINE: 0131 452 9004
ADD £3.20 DELIVERY TO ALL ORDERS (U.K. MAINLAND ONLY)
NEXT DAY DELIVERY TO U.K. & EUROPE (available on request)
WE ACCEPT VISA, ACCESS, SWITCH, MASTERCARD & EUROCARD

VISA · Access · SWITCH · MasterCard · E

ADD 17½% VAT TO ALL PRICES

TRANCEIVERS & RECEIVERS

WIN 108 receiver **£108**
NETSET PRO 44 receiver **£125**
ICOM A200 panel mount transceiver **£729**
ICOM IC-A3 transceiver.....**£359**
ICOM IC-A22 MKII transceiver.....**£389**
WIN 747 transceiver with Charger and Nicad Battery, Alkaline Battery Case, VOR and Scanning Facility **£285**
KING KX-99 transceiver **£389**
NARCO AVIONICS .....**P.O.A.**

WATCHES

SEIKO MOD WATCH ON STRAP **£155**
SEIKO MOD WATCH ON BRACELET **£165**

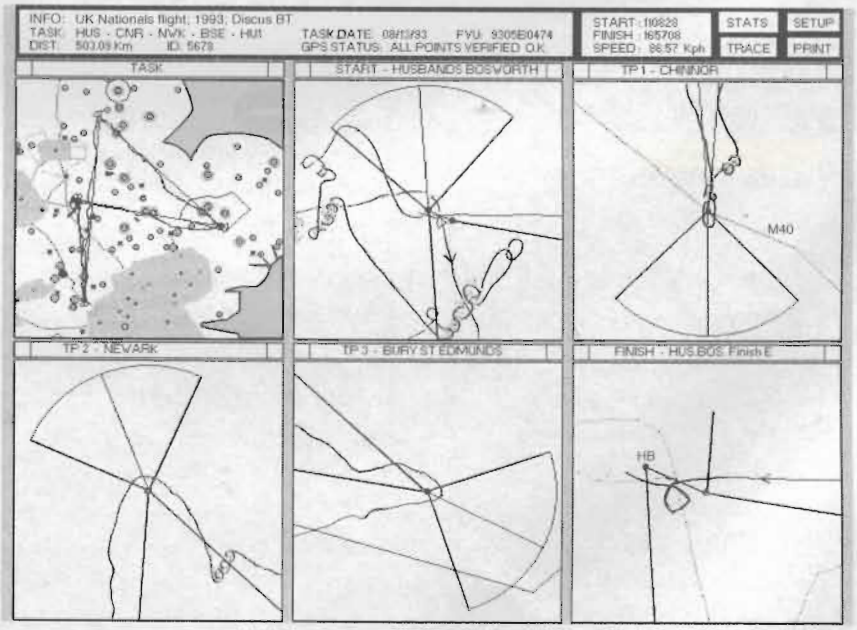
AVOCET VERTECH PILOT WATCH
features include: barometer, altimeter, thermometer, 12/24 hour time function, alarm, timer **£99**
SOLD OUT

PLEASE PHONE TO PLACE YOUR ORDER OR FOR FREE CATALOGUE

NEW! TaskNAV version 4.01 from £27.50

Whatever your gliding goals for 1995 – for Task Planning, analysis of your Height Traces or verification of your GPS tasks, this outstanding package has it all. Runs on DOS, Windows, SoftWindows, SoftPC and OS/2 Warp. Uses DAT file exports from EW, Skyforce or Cambridge; and has conversion software for Filser LX400s. Support for IGC new data format coming soon.

- **NEW! Advanced GPS flight verification. Mathematical and visual verification of your flight. Single step mode, wide zoom levels, statistics and much more. The 500Km task graphic opposite shows a foolscap printout from the PC screen. Optional BGA penalty zone graphics for competitions – sample flights included.**
- **Improved** mouse-driven height trace analysis – now with up to 10x zoom. Click on trace to get speed; thermal positions – e.g. 7.5 miles SW Gainsborough; 5 Km W of Sisteron, etc.
- **TPs** – BGA 1995; French; S Alpine; Fuentemilanos etc; closed circuit or distance tasks.
- **Instant as-you-go task size readout** as the mouse is moved across the screen. Draw immediately the task you want, positioned to avoid 'no-go' airspace. A few mouse clicks later and your flight plan and declaration are printed.
- **Task Library** mini 'database'; single mouse click task & graphics retrieval.
- **Brilliant Task Search facility.** Locates to order: O & Rs, 28% or 25/45% triangles, or 3 TP tasks; search direction; search arc; min & max size; by TP category & more.
- **Unique Graphical 'slideshow'** play-back of task-search results using on-screen maps. Mouse click to save best tasks to task library, and print flight plans or declarations.



Single user price: (a) Task Planning system £27.50 (b) Task Planning plus GPS and "EW" Programs £37.50 (c) Upgrade from version 3, £15.50
From 20% discount for syndicate orders; call for details (d) UK post and packing, please add £2.00 – Overseas orders POA.
Recommended min. 386SX IBM PC or 100% compatibles: DOS 5/6; 1Mb free memory; IBM or MS compatible mouse; VGA Graphics.
No quibble money back if not satisfied!

D J Robertson, 20 Duffield Lane, Stoke Poges, Bucks SL2 4AB • Tel: 01753-643534 Fax: 01753-645218



BEST FACILITIES

- 7 day a week flying
- superb thermal soaring
- year-round hill soaring
- modern all glass fleet
- choice of winch or aerotow
- in-house weather forecasting
- cross-country tasks & briefings every day in season
- heated accommodation
- caravan and camping sites
- bar - restaurant

BEST TRAINING

AB INITIO
Instruction 7 days a week for Members. Holiday Courses, Trial Lessons.

POST SOLO
Bronze C Ground School (training for written exams). Bronze C Complete (Flying & Theory).

CROSS COUNTRY
Preparing Cross Country Met (Ground School). Cross Country Theory (Ground School). Field Landing Training. Bronze to Silver (Basic cross-country). Advanced Cross Country Techniques. BGA Soaring Courses.

INSTRUCTOR TRAINING
AEI Courses. Assistant Rating Courses. Completion Courses. Full Rating Preparation.

Write, phone, fax or use coupon to get details of the programme that's right for you:

The London Gliding Club, Dunstable Downs, Tring Road, Bedfordshire LU6 2JP
Tel: 01582 663419
Fax: 01582 665744



To: The London Gliding Club, Dunstable Downs, Tring Road, Bedfordshire LU6 2JP Tel: 01582 663419 Fax: 01582 665744

Please send me more information. I'm interested in: Membership ☐ Ab Initio ☐ Post Solo ☐ Cross Country ☐ Instructor Training ☐

Name.....

Address.....

.....Post Code.....

McLEAN AVIATION

THE AERODROME
RUFFORTH, YORK YO2 3QA
TELEPHONE: 01904 738 653 FAX: 01904 738 146 MOBILE: 0850 817 265

Factory trained and approved repairers for Glaser-Dirks Sailplanes

- ★ Major repair work carried out in Glass Fibre, carbon, Kevlar, steel tube and wood. Including recovering and refinishing work.
- ★ Stockists of Neogene adhesives, dopes and paints.
- ★ Spare parts for Slingsby Vega, Kestrel, T61, etc.

MAIL ORDER SERVICE AVAILABLE – CREDIT CARDS ACCEPTED

GLASER-DIRKS UK

TELEPHONE: BOB McLEAN 01904 738 653 JOHN ELLIS 01765 689 431

SOLE UK AGENTS FOR GLASER-DIRKS SAILPLANES AND SPARES

PLEASE ASK FOR DETAILS OF THE COMPLETE RANGE

Ximango UK



Ximango UK are pleased to announce that the Super Ximango Motorglider has arrived and has received its full British Certificate of Airworthiness. Here are some of the features of this highly sophisticated development of the RF10:

- ★ Comfortable 2 seats, side by side with a 539lb useful load.
- ★ 17.47mtr wing (folds to 10.15mtr) producing a measured 31:1 Glide Ratio.
- ★ Wide, safe retractable undercarriage.
- ★ Powered by the Rotax 912 with 3 position Hoffman propeller geared to 2.27:1 (we are really impressed with this combination)
- ★ Cruising at 125mph, it burns 3.28 gals per hour giving a range of well in excess of 700 miles.

Our demonstrator G-RF10 is based at McLean Aviation, Rufforth and is available for inspection (by arrangement). We can provide more detailed data on request.

Oh! Ximango (shi-mahn-go) **is Portuguese for a "Falcon".**

Telephone us on 01904 738 653 or Fax 01423 505 635 or Fax 01904 738 146

AVIATION INSURANCE



FOR ALL TYPES OF AIRCRAFT & GLIDERS,
NEW OR OLD...

AVAILABLE FROM

CENTRELINE SERVICES

* SPECIAL RATES FOR PILOTS WITH CLEAN RECORDS

* PROGRESIVE NO CLAIMS BONUS STRUCTURE

* COMPETITIVE RATES FOR GLIDERS WITH HIGHER VALUES

* EASY PREMIUM PAYMENT FACILITIES

* EXPERTISE FROM A TEAM WHO UNDERSTAND YOUR NEEDS

CALL OUR AVIATION DEPARTMENT TODAY FOR YOUR NO OBLIGATION QUOTATION.

TEL: 01489 885998 OR FAX 01489 885889

CENTRELINE SERVICES
PO BOX 100
SARISBURY GREEN
SOUTHAMPTON
ENGLAND SO31 7HJ

Wycombe Air Park

Anglo-Polish SAILPLANES LTD.



Complete S.Z.D. glider range from training to competition.
Delivery guaranteed for this season, at affordable prices.

S.Z.D. Acro

The best of Soaring and Aerobatics at a remarkably low price.

The S.Z.D. Acro is a dual-purpose single-seat all composite sailplane.
A Standard class sailplane with a 40:1 glide angle, or detach the tips and have a virtually unlimited aerobatic glider.

Price Ex-works 39,680 German Marks

Also available the remarkable SK 94 parachute. Price £465. Exclusive of VAT.

For further information write to:
Anglo Polish Sailplanes, 22 Woodhurst South, Ray Mead Road, Maidenhead, Berks. SL6 8NZ
Telephone/fax 01628 39690
Zenon Marczynski 0181 755 4157

YOUR LETTERS

AIRWAY CROSSING EXEMPTION

Dear Editor,

I refer to the letter sent out by Bill Scull in May (see BGA News, p224). I cannot agree with paragraph four. These proposals represent a very significant loss to gliding freedom so far as the new Airway B5 from Newcastle to the Scottish TMA is concerned.

The free airspace east of the Pennines has been used by many pilots, particularly from clubs in the Midlands, the Vale of York and NE England for long distance flights in wave. I made two O/Rs from Dishforth to the Edinburgh region way back in the 1960s and have gone as far as Wooler on several occasions since then - and I have spent the last 18 years working abroad or no doubt I'd have done many more. I know of several other long flights in the area and there must be many I don't know about.

Until now, with freedom to cross BI east of Doncaster and Edinburgh/Aberdeen Airways VMC at typical wave levels, this area has presented the only realistic possibility of a UK home grown 1000km dog leg or O/R. There is a bit of a squeeze between Newcastle and the Otterburn ranges, and the Edinburgh CTA and the sea, but that tends to be where the best wave lies any way.

Elsewhere we have had the freedom to follow the primary wave. B5 put a barrier right across the middle - to go east of Newcastle is not on. Wave slots tend not to exist that far downwind from the hills and above 8/8 over the sea isn't funny. No doubt, just to prove me wrong, someone will do a 1000km in thermals this summer, but my money goes on the wave option.

So why should we lie back and accept this new restriction? We've been using that bit of airspace since long before the bucket and spade holiday charters began. We may be flying for pleasure, but so are they. I'd like to know just how much commercial traffic there is on that route and what percentage of it is used by real business passengers? What justification is there for excluding gliders, other than members of SGU, Deeside or Borders, for record flights? Don't pilots from Yorkshire, Clevelands, Wolds, York, Burn, Derby & Lancs GCs and The Soaring Centre, *et al*, also have ambitions?

Above all, why has early information on the proposed changes been restricted to CFIs of certain clubs? Don't we all have the right to scream loud and long? If these proposals become fact, I'm wondering whether an action for compensation might be an option - they seem to give legal aid (and compensation) for almost anything these days!

SAM ST PIERRE, *Bedale, North Yorks*

MICROLIGHT TUG

Dear Editor,

I saw in the April issue, p97, that the Italian Silent used a microlight tug. We were thinking along the same lines when we towed the Kenilworth Me7 (see December, p327) with a Pegasus microlight on March 15 in 15-20kt winds.

The exercise was completely normal from the back end. The take-off run was marginally longer than the Pawnee and the climb rate slightly less at 500ft/min. After settling into the climb, we gently tried some of the out of position exercises, careful not to pull this microscopic tug out of the sky. However, with the tow rope coupled almost on to the tug's C of G it proved almost impossible to yaw or pitch the Pegasus. As confidence grew I was able to come alongside the tug and get back into position with ease. The mid-line parachute helped. It is intended to prevent a cable break from springing the tow rope into the prop, but seems to help considerably as a damper in the cable to stop the sudden jerk often associated with out of position exercises.



The Me7 with two Kenilworth directors, Roger Ellis (in the cockpit) and Robert Bull.

Our tow was cut short at 3000ft by an approaching cu-nim, so I pulled off and did a few aerobatics to lose height. The tug pilot reported no problems and said it was much easier than towing a hang glider because they cause more drag than the Me7 and frequently break the weak links. A 150kg link was used for the test but this will be reduced to 75kg as used for the hang gliders. It also proved the durability of the tug for all weather operations. This is no fair weather machine!

Incidentally, we have made great progress with the Me7. The first 350km was flown in April and there is now the option of a glider recovery parachute system, nose wheel, epoxy paint finish, galvanised covered trailer and an upgraded interior. We are hoping to start work soon on a 15m variant and improvements.

ROGER J. ELLIS, *Bangor, Co Down*

GLIDING, A SPECTATOR SPORT

Dear Editor,

With GPS being used for World Championships we have an opportunity to change gliding from a minority pastime into a fascinating spectator sport.

By fitting a device the size of a paperback book containing a radio modem, miniature transceiver and power supply into each competitor's glider, its position can be tracked from the ground. A personal computer connected to a similar device at base would show the position and height of every contestant. This can be displayed on a computer screen showing a map overlaid with the daily task. The position of each glider could be updated on the screen.

Numerous amateur radio operators are using this technology to automatically track vehicles and balloons. The hardware and software are available and if a glider has a GPS, the additional equipment is in the order of $700 installed and the equipment is easily moved from glider to glider.

The technical limitations of sending data over the air are far less than those involved with voice communications. Any glider out of direct radio control with the base computer would have its data relayed through another contestant within range, unbeknown to that contestant. Or a digital repeater could be sited on a mountain top or in an aircraft.

The equipment conveniently doubles as a locater for outlandings and could realistically replace emergency locater transmitter (ELT) equipment. Current ELTs rely on a satellite and the final location must be found by radio direction finding equipment, whereas GPS data gives an instant position fix. Once proven to be reliable this set up could replace all need for barographs, cameras, GPS data records, ELTs etc. The information could also be recorded for badge flights.

Recently an American sports TV channel had contestants in a wilderness trekking event monitored by these units and it was a great success. For a soaring contest the commentator would know where each contestant was and, with the help of simple software at base, such details as the time taken, speeds achieved and distances flown. This could be shown on the TV.

There are also miniature TV cameras which can be fitted to a glider and activated from the ground. This would almost put the viewer in the glider. A new TV entertainment is about to be created. If the gliding fraternity misses this opportunity, gliding will continue to struggle to get media coverage and even lose out to other sports which make use of technology to share the thrills with viewers and spectators.

No doubt purists are about to burst a blood vessel reading all this heresy, but the facts of life are that when people can feel part of an event they come and support it, watch it on TV ➡

The wrong choice!



Is something we all make at one time or another.

It can be very frustrating when you've committed yourself to whatever chore is top of the list, to find you have chosen the best day of the year (as everyone at the club will be delighted to tell you later!).

When it comes to glider insurance, it's fortunately much simpler, just contact Flight Insurance.

Always the *right* choice!

Contact Carol Taylor on
Thirsk (01845) 522777 — 24hr. Ansaphone Service

Or write to:

FLIGHT INSURANCE
48A Market Place, Thirsk, North Yorkshire YO7 1LH
In association with Lowndes Lambert Aviation Ltd. Fax: (01845) 526203

EB80 –

The Investment of your Life!



A Parachute designed to provide a safe exit and low speed descent to even the heaviest of pilots yet occupying minimum cockpit space and providing long duration comfort. Your life is too valuable to trust to an inferior design.

PERFORMANCE DATA

Max. operational height: 10,000ft
Max. deployment speed: 150 knots
Operational life now extended to 15 years.
Weight of assembly: 14lb
Rate of descent at 255lb: 17.7ft/s

Irvin Great Britain Ltd
Icknield Way, Letchworth, Hertfordshire
Great Britain, SG6 1EU
Telephone: Letchworth (01462) 482000
Facsimile: 01462-482007

HUNTING PLC

The Ultimate Self-Launch Two-Seater



1. Unfold your wings single-handed, then taxi out and take-off unaided.
2. Climb at 7kts and cruise at 122kts to clear airspace or reach good weather. Range at 122kts is over 600 miles (at 80 knots, 53 mpg: range >1000 miles)
3. Switch-off, retract the nose over the folded prop. and – What a Glider!
   - Phenomenal high-speed 50:1 glide (eg. 1012 km @ 149kph, Spain June '92).
   - Unrivalled handling, docile stall and thermal control for its 23 metre span.
   - Side-by-side seats so comfortable you hadn't even noticed!
4. Re-start with negligible height loss *(Safety is the S10's Ace of Trumps)* then cruise back home to base.

➤ **Syndicate Partners Wanted** ◄

For information please contact:
Mike Jefferyes,
Tanglewood, Fingrith Hall Road,
Blackmore, Nr. Ingatestone,
Essex CM4 0RU
Phone & Auto Fax: 01277 823066



and are far more enthusiastic about trying the sport themselves.

Should any readers need more information please feel free to contact me. I have no commercial interest in any of the equipment, just a desire to see gliding prosper and succeed by bringing the thrills of free flight to everyone.

HUGH D.COLTON, *831 Smoke House Court, Alpharetta GA 30201, USA*

REFLECTIONS

Dear Editor,

When a friend and valued club member loses his life pursuing the sport we all love, there naturally follows a period of quiet reflection. The younger element vows to be doubly careful, while those who have been flying for some years wonder whether they are as sharp as they used to be.

The statistics published by the Sports Council indicate activities which are far more dangerous than gliding. Why then does a flying accident figure so prominently in the media?

One reason may be that it is often spectacular. Or perhaps because it is comparatively rare. Lessons are learned from every fatality and no doubt the loss of John Hawkins from Southdown GC will be no exception.

Whatever the outcome there will always be some risk in being a glider pilot and it would be much safer watching the World Cup Rugby on TV. I doubt if there is an experienced pilot who hasn't wished that he had done exactly that on occasions. But in the last resort, without risks there can be no adventures.

Cardinal Newman had it exactly right when he said, "We are so constituted that if we insist upon being as sure as is conceivable in every step of our course, we must be content to creep along the ground, and can never soar."

PETER J. HOLLOWAY, *Brighton, Sussex*

PLAT'S GRAND OPERA

Dear Editor,

Platypus has finally motivated me to write to the editor. Plat's plan to welcome the new millennium with a grand opera on a gliding theme must be the funniest Plat item ever put into print. (See the June issue, p86.) Well done, Plat. Splice the mainbrace.

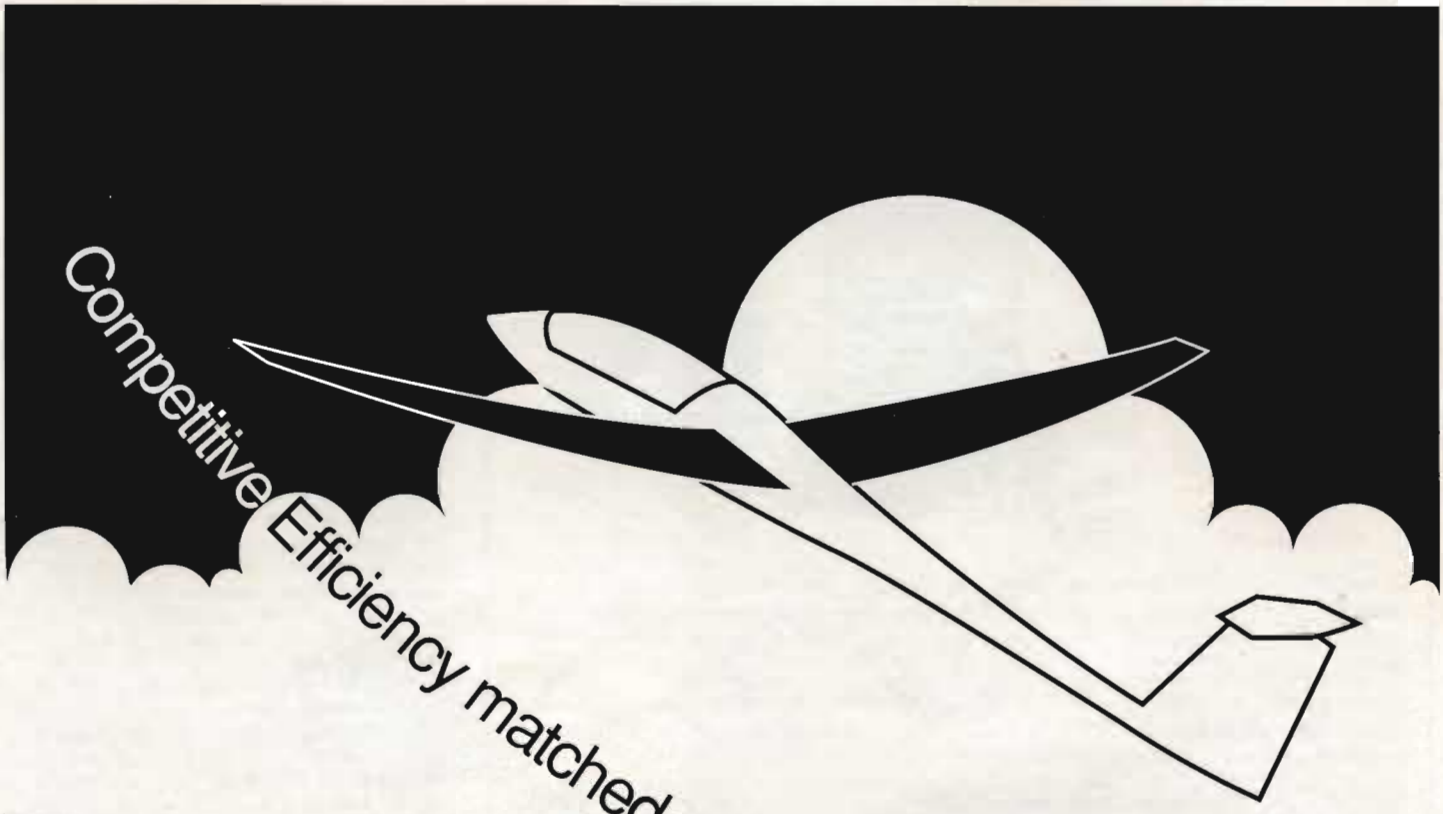
There probably won't be any royalty in the new millennium to justify a royal performance of the new opera. However, no harm done. The Federal Republic of Britain will need a harmless president anyway to accept PMs' resignations. The president of the FRB could attend the gala premiere instead. I nominate Citizen Plat for the job. The salary could consist of unlimited free tows with jump-the-queue rights.

WILLIAM B.CARMODY, *New Jersey, USA*

Dear Editor,

Further to the proposal for a grand opera about gliding, I suggest a further scenario - The Flying Britman.

Caught up in a powerful thermal generated over the House of Commons during a particularly pointless political debate, The Flying Britman soars to such a height he is forced to land in the Elysium Fields. For this effrontery he is punished by the gods by being condemned to soar endlessly in wave, except that for one day ➡



Competitive Efficiency matched with Experience & Reliability

Insurance Advisers to the British Gliding Association

Contact: James Ketteringham or David Grainger on 01603 207685

Sedgwick

Sedgwick Aviation Limited

Victoria House, Queens Road, Norwich NR1 3QQ

Telephone 01603-660202. Telex 882131. Facsimile 01603-207547

A Lloyd's Broker acting as agent of SG Services Limited

in every seven years he is allowed to land on Earth in the hope of finding a woman who truly loves him and thus break the endless cycle.

For countless years he soars the skies and on each seven year landing encounters nothing but frivolous women who love him more for his glider than himself. Then one day, landing at a well known club in the Midlands whose members are famous for their beauty, wit, sympathetic natures and ability to retain their sense of humour even when potential lift turns out to be sink, he finds a woman who - well I think by now we can see the parallel with a certain airborne Netherlander of legend, can't we?

Incidental to the main plot we have the appearance of Daedalus, god of glider pilots and the first man to exploit lift sufficiently to get within conflagration distance of the Sun; also The Flying Britman's encounter with the ghosts of the over bold glider pilots who disappeared without trace during a thunderstorm over Germany in the 1930s - they attempt to seize his machine to return to Earth themselves and it is only by the intervention of a squadron of two metre cherubs that The Flying Britman is saved from the shades of Valhalla.

I suggest the first performance might be by the Glideborne Opera company.
GEOFF J.WHITE, *Coundon, Coventry*

AN APPEAL FOR PHOTOGRAPHS

Dear Editor,

The Yorkshire Air Museum (Allied Air Forces Memorial) at Halifax Way, Elvington, York YO4 5AU, is trying to build up a collection of photographs of old Slingsby gliders as part of a display in the museum. If any readers have any of old, especially pre-war, gliders we would be most grateful if we could copy them.

Every care will be taken and photographs will be returned as soon as possible.
MIKE C.USHERWOOD

LOST GLIDER PILOTS

Dear Editor,

If I see one more letter from GPS equipped pilots complaining about how hard done by they are at TPs (see the April issue, p69), I shall throw up!

They seem to forget about the advantages gained during the rest of the flight from simplified navigation and from the extra distances that non-GPS users have to fly into the TP zones to take their photographs.

Although I accept that GPS has some legitimate uses, such as allowing wave cross-countries above cloud, I feel that its widespread use will cause the traditional map and compass technique of navigation to wither on the vine. Thus we will produce a generation of glider pilots who will tend to become instantly lost should their GPS units fail.

There is also the consideration that as GPS users do not have to frequently consult their maps in flight, they may inadvertently infringe controlled airspace that lies close to, or above, their intended track.

In order to demonstrate a pilot's ability to navigate by traditional means, may I suggest that GPS should not be allowed on early cross-country flights, such as Silver distance and the UK cross-country diploma. This proposed rule could be enforced by the official observer overseeing this flight.
DEREK COPELAND, *Rickmansworth, Herts*

DOWNMANSHIP!

Dear Editor,

Whilst I am sure that Ralph Jones' gauntlet (last issue, p133) will be picked up by one (or more) of your intrepid correspondents, the reason for this reply is rather more pedantic.

Should not this be a case of ONE *DOWN*-MANSHIP?
PETE DISDALE, *Wokingham, Berks*

Dear Editor,

I would like to offer my congratulations to Ralph Jones for his shrewdness in using the letter pages for free advertising for his glider repair company, while at the same time providing himself with work for years to come mending the gliders of those pilots who attempt to imitate him in "getting away from 75ft".
MAUREEN WEAVER, *Cardiff*

NO THANK YOU TO CET

Dear Editor,

I wish to disagree with Derek Copeland in the last issue, p131, about changing to Central European Time (CET). Has he ever experienced a northern British winter and does he have children of school age?

CET is based on longitude 30° east making it the natural daylight time for eastern cities such as Kiev and Odessa so should really be called Eastern European Time.

The length of daylight is determined by factors beyond our control with shorter days in winter and longer in summer. Obviously the variation becomes more severe at high latitude.

Fiddling with the clocks is dishonest. British Summer Time (BST) makes midday become 1pm in London and later in the west. British astronomers and explorers were responsible for adopting Greenwich Meridian as the datum for the world's maps. Greenwich Mean Time (GMT) remains the reference point for international navigation so it is peculiar that it is disliked by the British.

BST was a political ploy many decades ago to try and increase industrial productivity. Unfortunately working times were set to cancel the **asymmetry** imposed by BST which may explain why standard business hours are 9am to 5pm.

When "permanent BST" was tried in the late 1960s there was an increase in child road accidents in the winter in Scotland and northern England. CET would be even worse. Most schools in my home region have sensible start and finish times so there is almost equal daylight at either end of the school day.

Conventional working hours must be changed. This would be the honest way of obtaining useful daylight for summer evening recreational activities. I propose that we either retain the status quo or adopt permanent GMT.
ANDREW McHUTCHON, *Newcastle upon Tyne*

Dear Editor,

I would like to suggest that Derek's problem could be solved by setting his alarm clock an hour earlier and this would also have the benefit of making him avoid the rush hour on the way to the airfield by starting an hour earlier.
JOHN KIRSCH, *Salisbury*

NOT FOR AMERICAN READERS!

Dear Editor,

What a pity that an otherwise humourous item (see Penguin in the last issue, p182) should revolve around the oft mistaken belief that Americans speak, or even write, English.

In American speak it would be normal practice for a female to address a group of unisex (either gender) with "Hi Guys".

The remark is not sex or gender based, merely the poor usage of a once great language.
GRAHAM E. LAWRENCE, *Glasgow*



ZULU GLASSTEK LTD

★ High quality repairs completed on time
★ General maintenance, wax polishing, hard sealing and instrument installation
★ We supply Garmin 100 mounts, tyres & tubes, hard seals, battery boxes, instrument accessories, tail skids & tip rubbers

Pete Wells
Home & Fax 01844 201028
Workshop 01844 208157
Mobile 0831 273792

And remember, a Discus BT is for life, not just for Christmas!



BRITISH WORLD CHAMPIONS

Natasha continues her popular series by focusing on Brian Spreckley, 15 Metre Class Champion in 1987 at the Benalla Championships, 2nd this year at Omarama in the Standard Class and 3rd in the Open Class at Borlänge in 1993

Gliding is not just a weekend pastime for Brian - it is a way of life. Working professionally in gliding for just over 20 years, he has just about been there, seen that and got the T-shirt (if not the medal) in all areas of gliding.

An extremely dynamic and motivated person, he set up Buckminster GC in 1972. Years later, in 1987, he moved to France and started the European Soaring Club which now operates from sites all over Europe and South Africa. He has been a BGA national coach, flown with Barron Hilton at his ranch and become a publisher of an international gliding magazine, *The European Gliding News*.

During his time as a BGA coach, Brian saw the need to bring gliding as a sport to all levels of pilots. His solution to this was the Inter-Club League, which he both developed and organised. More than 40 British GCs are now involved with this league with many European clubs following suit, particularly in Germany and France.

But these achievements are typical of Brian. He is constantly thinking of new ideas and exploring new possibilities in gliding, above all because gliding to him is an adventure; probably even more so now than when he went solo in 1964 at the age of 16.

Brian learned to glide with the Air Cadets at Kirton Lindsey in Lincolnshire. Later he joined the Lincolnshire GC and spent two years instructing in a T-31 with two others. The one advantage of instructing was that he was able to fly for nothing.

That was a big incentive for him to continue flying, particularly as it left him more money for the evening activities where he was introduced to the Four Counties bar. "I learned that the RAFGSA are animals and it was great fun."

It was at RAF Spitalgate that Brian flew his first competition in his Skylark 3F.The result wasn't bad considering a) it was his first competitions; b) the weather was terrible and c) his navigation wasn't at competition standard.

"On the first real soaring day" he recalls "the task was a goal race to Swanton Morley *via* Ely Cathedral. I got lost after about an hour and decided to take a picture of a large church I thought was Ely. As I kept flying in the direction of what I guessed was Swanton Morley the churches kept looking bigger and more cathedral-like, so I kept taking pictures of them, feeling sure that one had to be Ely.

"I then set off on what I thought was a final glide to Swanton when I came across a K-6E climbing in a thermal. It was Albert Johnson. I joined him and whilst I was climbing looked down and saw the biggest church I had seen that day. Of course it had to be Ely. I took another photo (luckily I hadn't run out of film) and followed Albert to Swanton Morley as I knew he had flown from there before and would probably be able to find it!"

Flying at Four Counties was definitely a good learning ground for a young pilot, particularly as the membership list included people like George Lee and Harry Orme. And Brian found it encouraging to talk to them about cross-country flying.

However, instructing gave very little opportunity to fly solo and during these formative years he never flew cross-country. Frustrated with flying at a club that was not soaring orientated, he started Buckminster GC at Saltby airfield.



A photograph of Brian from our files.

Saltby began with one two-seater, no money and plenty of determination and enthusiasm. Brian's motivation and organisational skills secured the club with a 30 year lease on the runway. Ten pilots then put up £25 each as a deposit on an Eagle. Within two years they had 120 members and were able to put up a hangar and workshops. Saltby is now the base for many young and enthusiastic cross-country and competition pilots.

In 1974 Brian became a BGA national coach. The job involved running courses at Booker and it was here he began to fly with a group of pilots including Dave Watt and Chris Rollings. At the same time Brian was competing against George Lee and Bernie Fitchett in Euroglide and the Nationals. He remembers Bernie was a significant inspiration. "Bernie knew then what I know now - you need a feel for it, a flair for it and a lot of luck."

But while he recognises their influence on his gliding, Brian maintains that pilots must develop their own technique and style. "Gliding is such an individualistic sport that each person has to find their character within it. I hope that if I influence pilots in any way it is that they think of gliding as fun and not a serious business."

Indeed, it is great pilots such as Bernie, Helmut Reichmann, Kees Musters and Doug Jacobs who inspired Brian with their simple and enjoyable approach to gliding. "They are the pilots I most enjoyed being with during competitions. You can tell when you are flying with someone who is enjoying themselves and making their own decisions."

Enjoyment has to be Brian's main premise when competition flying. Before each competition he sets out "to fly as well as I can and to enjoy the competition. If it's a Regionals with conditions I am not familiar with, I would also like to learn as much as possible. I sometimes don't have expectations of finishing in a high position overall, but this doesn't detract from enjoyment."

Brian emphasises this point by adding "I don't think about whether I will win. I only think about whether I will be able to compete well and will enjoy the competition."

Well when you have won as many competitions as Brian it is probably easy to take this philosophical attitude. He has to admit though that there was a time when winning was a priority. Particularly when first competing at World Class level.

It was at Paderborn that Brian realised he could win a World Championships. He spent his time there quietly watching other pilots and assessing what characteristics were needed to take first place. For instance, from watching winning pilots he could see that those from overseas had a much more philosophical approach. The fact is "you can't fly any better than your basic skills allow and with the exception of a lucky break you will probably be beaten by a pilot who is more skillful than you."

With this viewpoint, Brian believes a pilot should approach competition flying with as relaxed a manner as possible and not be over-anxious about the result but concentrate on the means.

One way he achieves this is to mentally rehearse situations after a competition. "I try to analyse all the factors that could contribute to my winning. I try to think as much as possible about the likely conditions and prepare myself for some of the more difficult decisions. I will imagine situations that I know are likely to break my concentration, prepare solutions to the problem and try to condition myself not to be upset by them."

In addition to this, he is aware that in any competition ignoring the performance of fellow competitors is almost impossible. He does, however, try to follow a system to cope with this pressure.

"It can be difficult not think about your position, but I try to do the same thing each flight, to make decisions as I see them. If I find myself thinking about other pilots I try to remind myself that they have just as many problems as I have and if I am leading, they have one more - less points already."

YEAR	COMPETITION	GLIDER	POS
1973	Inter-Services Regionals, RAF Spitalgate	Skylark 3	14
1975	Inter-Services Regionals, RAF Cosford	Kestrel 19	4
1976	Open Class Nationals, Lasham	Kestrel 19	5
1977	Open Class Nationals, Dunstable	Kestrel 19	12
	Euroglide, Open Class, Husbands Bosworth	Kestrel 19	3
1978	15 Metre Class Nationals, Lasham	Mosquito	3
1979	15 Metre Class Nationals, Dunstable	ASW-20	6
	Lasham Regionals	Mosquito	4
	Euroglide, 15 Metre Class, Husbands Bosworth	ASW-20	1
1980	15 Metre Nationals, Dunstable	ASW-20	1
	South African Nationals, Vryburg	Ventus	2
1981	World Championships, 15 Metre Class, Paderborn	ASW-20	6
	15 Metre Class Nationals, Dunstable	ASW-20	3
1982	15 Metre Class Nationals, Dunstable	ASW-20	16
	Standard Class Nationals, Booker	ASW-19	12
1983	Standard Class Nationals, Husbands Bosworth	Pegasus	1
1984	15 Metre Class Nationals, Dunstable	ASW-20	15
1985	Open Class Nationals, Lasham	ASW-17	6
	Standard Class Nationals, Husbands Bosworth	LS-4	2
1986	15 Metre Class Nationals, Nympsfield	LS-6	1
1987	World Championships, 15 Metre Class, Benalla	LS-6	1
	Hitachi Masters of Soaring, USA	Ventus B	2
	Booker Regionals	Marianne	2
1989	World Championships, 15 Metre Class, Werner Neustadt	LS-6	22
1990	Open Class Nationals, Lasham	ASH-25	9
1991	15 Metre Class Nationals, Lasham	LS-6	1
1993	World Championships, Open Class, Borlänge	ASH-25	3
1994	Open Class Nationals, Enstone	ASH-26	7
	Brian came 1st in the handicapped results		
1995	World Championships, Standard Class, Omarama	LS-8	2

The above results do not include all the competitions Brian competed in. They do, however, indicate his performance as a competition pilot since he began competing over 20 years ago. All results taken from S&G.

It was during Paderborn that Brian also developed a mature attitude to risk taking and the inevitability that he would make mistakes. He used this knowledge to improve his performance at the next Worlds in Australia.

"I knew the scoring system in Benalla would have a high speed factor and that would mean flying flat out every day. Most of all it was going to be a competition allowing plenty of scope for good pilots to fall down, which created a dilemma - to push too hard meant too great a risk, to fly too conservatively meant no chance of 1st place.

"I concluded that no pilot was going to get it completely right and that it was important to carry one's mistakes with the minimum of effect on the final results."

Brian flew as he had intended to at Benalla on all but two days. On one, one mistake led to another and very rapidly the flight was slipping out of control. Luckily Brian recognised his situation was poor and regained his concentration, preventing a dreadful day becoming a complete disaster.

"This experience reaffirmed my belief that coping with the minor mistakes during the flight is one of the most important aspects of competition success," he says.

Another important aspect of competition flying, and perhaps the hardest thing to deal with, is "suppressing one's natural competitiveness and allowing yourself to concentrate on using the energy and good decision making."

While mentally rehearsed situations are the key to his preparation for competition, physical preparation is secondary.

"I tried to come down to Standard Class weight for New Zealand but it was a waste of time. Being fit is important but I think that natural stamina - physical and mental - is the most important thing. If your normal way of life doesn't include physical exercise I think it is a waste of time to start training for a competition. This in itself will create an unnecessary pressure."

Omarama was Brian's most enjoyable World Championships. This, he reasons, was because "it had the most interesting and demanding conditions and because I didn't expect to do well. Also, there were no little decisions in New Zealand. That is what made it so exciting. A real sudden death competition."

More than that, it was the ultimate competition as it both confirmed his experience of competition flying and gave him the greatest rewards.

Brian explains: "Gliding is a fickle business and you mustn't have preconceived ideas about how to do it. The real competition is between you and your ability to use the energy in the sky. The rewards are satisfaction and some beautiful views."

Indeed, New Zealand offered some of the most beautiful views Brian has ever seen, the most distinctive and memorable of which must be ridge soaring Mt Cook.

"I decided I couldn't visit New Zealand without flying Mt Cook. The opportunity arose during the practice period. With a west wind and weak wave I managed to arrive about 1000ft below the top and on the west side of the mountain. From this height and position I was able to spend some time flying on the snow slopes and looking out across the Tasman sea to take in the whole of the west coast of New Zealand with its inlets and glaciers. It was a wonderful moment to contemplate the privilege that glider pilots and mountaineers have, that we can witness such beauty of snow, blue skies and rocky crags. I lingered there for a few moments soaking up the solitude, after which I was ready for the rigours of the coming competition."

The 24th Championships were Brian's fifth but he hopes not his last. He would like to compete at St Auban in 1997 and has already begun organising training there for the British team. As the European Soaring Club fly from St Auban each year, Brian can begin to give the British team the opportunity to practise flying competitively from this site, and also give them some local and invaluable knowledge of the area.

Also, through team training, Brian wants to help young pilots come to the forefront of the British team so that when they are selected they will have every chance of flying to their full potential in their first Worlds.

If Brian flies at St Auban he thinks it will be his last World Championships. This is mainly because he now has further ambitions for himself and for British glider pilots. In particular, he wants to be more committed to team training and training in mountain flying.

"St Auban may be my last WGC. This is because I would like to do some crazy flights and spend more time training with young competition pilots. But I doubt that we will ever be able to overcome the prejudice in our system to be able to give meaningful help to up and coming pilots," he adds.

Once a young pilot himself, Brian is fully aware of the problems they face. He regrets the source of the problem and despairs for the future of British gliding.

"One of the great shames of all sports is that its administration often falls to people who haven't experienced the enormous elation and despair that is the stuff of competition. There is in the minds of these people a deep suspicion of the competitors and a great reluctance to listen to them or allow them to have a significant influence on the organisation of our sport."

Despite drawbacks of this kind, Brian's advice to all young pilots is "Learn to enjoy your flying and fly with people who also see the real beauty of the sky. Then you will find the motivation to really start learning." He concludes: "But no matter how good you become, or no matter how good you are, you can always improve."

JSW SOARING

'Aquarius' (Dual Weight) Calculators.....£13.50
Wind Component Resolvers.....£6.50
'Gemini' Calculators
(Resolver on Reverse Side) £13.50
Flight Planning Rulers £4.50
Protective Wallets for Calculators & Rulers are now included
'Dolphin' vario Conversions from.....£40.00

SAE for Product Details to:
34 CASWELL DRIVE, SWANSEA
W. GLAM SA3 4RJ

JUSTIN WILLS

OMARAMA AND THE MORAL DILEMMA

Justin says that while the last World Championships was organised and run as smoothly and competently as any World contest to date, many competitors have major reservations about the way international gliding competitions are going. "Perhaps, he writes, "it was the excellence of the organisation that enabled pilots to focus on the difference between the substance and the form"

Omarama proved conclusively that the ingredients for success in international competition now include not only skilled pilots, but also substantial financial backing, experience in local conditions (the home advantage) and a large integrated team, providing an effective network both air to air and ground to air. Team flying is nothing new in competition gliding; the Poles have demonstrated its benefits for years, but the advent of GPS and its associated information have made it far more effective.

Future developments of GPS related systems will increase this further. Significantly, for the first time in competitive gliding, following the introduction of GPS at Borlänge there was a tie for 1st place in the 15 Metre Class by the French and at the 1994 European contest the German team managed triple joint winners in the Standard Class. At Omarama the German Open Class pair were leading after seven contest days by just 3pts - at the end they were 2nd and 3rd overall, 11pts apart.

Omarama undoubtedly emphasised the benefits of external aid, due to lift from slopes or wave remaining constant over long periods making relayed information particularly valuable. Furthermore the tasks for all three Classes overlapped extensively each day. Thus the clear competitive advantage of large teams posed many European entrants with an awkward choice: given the high cost of competing in New Zealand (around £8750 per entry) they had either to send a large team or accept they were unlikely to do well.

The organisers contributed to this situation by allowing teams of up to nine pilots per country, and inviting further suitably qualified pilots to compete as individuals, but no doubt they needed additional entrants to help their finances. The outcome was evident from the entry list: whilst 91 competitors from 23 countries looked superficially impressive, over 40% came from just four countries and over 60% from seven countries.

A number, including Belgium and all the former eastern block with the exception of Poland and Czechia, decided not to be represented. Other leading countries such as the Netherlands and Italy sent only two pilots each. The results would appear to have vindicated their decision; of the nine medals, only one went to a team of less than six pilots. Milos Dedera, the immensely talented sole entry from Czechia, came 22nd.

Looking ahead, the major beneficiaries of this shift of emphasis from the individual to the whole team approach will be those countries with good funding and the facilities to train pilots intensively as a team, notably France and Germany - the hosts for the next two World Championships! Losers will include the USA whose geographical spread of pilots and their strongly individualistic approach, reinforced by their local contest rules, renders the skills of team flying using external aid an anathema. Likewise smaller countries with few pilots of the necessary calibre will find it almost impossible to be successful.

Many competitors at Omarama felt profound disquiet at this prospect. The switch from "may the best man win" to "the best financed and organised team will produce the winners" seems unfair (whatever that means), distasteful and inappropriate; one of the principal attractions of gliding is the quality of individual self determination, and this is reflected right up to national level. What justification can there be for a different approach in international competition?

Part of the answer (or excuse) is money. With the cost of competing internationally so high nearly all competitors receive external financial support. The pressure to produce results to encourage continuation of this support is undoubtedly a spur to producing a good team by whatever means possible. The introduction of the World Cup team prize further emphasises this. Other facts include maintenance of the status quo. Given the special skills required to fly in international contests it is increasingly difficult for newcomers to enter the arena successfully.

Many of the contestants at Omarama (including over 50% of the British team) have been flying in World contests for over ten years. Only ten pilots at Omarama were under 30 years-old.

Enjoying a significant competitive advantage

Herein lies the moral dilemma: the majority of pilots were members of teams of six pilots or more, enjoying a significant competitive advantage over the rest. Everyone enjoys flying in a World Championships with its privileges and financial support. Thus there is a strong temptation to follow the Victorian mother's advice to her daughter when faced with inevitable rape: lie back and enjoy it. But this seems an unworthy epitaph for such a magnificent sport as international competitive gliding. And it is not inevitable - pilots at Omarama produced a string of ideas.

The problem of limiting in-flight external information could be solved at present by simply locking all competitors' radios on to a single frequency to be used only for safety and communications with the organisers. The necessary policing procedures would need to be established, but given the element of widespread collusion required to break the rule to advantage violations should be very rare.

Pilots would still be able to fly in visual contact with others, but this would not provide an unequal competitive advantage. The reversion to competitors competing as individuals (incidentally as specified in the rules) may also lead to an improvement in international camaraderie.

Reduction of costs has been the object of lip service from time immemorial. However, the high costs incurred at Omarama produced a new spate of suggestions. First, out of 24 World Championships four had been held in the southern hemisphere, which contains less than 10% of the world's gliding population. The implication is that for at least the next 20 years the contests should be held in the northern hemisphere.

Secondly, whilst a lot of attention is paid to the entry fee and cost of aerotows (around £15.50 at Omarama) the real focus should be on the total cost incurred by the various competitors. Thus World Championships should be held in places where there is an adequate supply of competitive gliders available for those coming from afar, and the entry fee structure should be graduated according to the distance competitors have to travel.

Thirdly, reducing the scale of world contests would make them safer (for the first time in ten years the 1995 WGC, with its reduced entry, suffered no mid air collisions) and limiting the size of national teams would reduce the advantage of those able to send larger contingents.

Smaller contests should also be cheaper and simpler to run. It was reported that over 3000 volunteers were involved in the administration at Omarama compared with 75 at Wiener Neustadt in 1989. This numerical progression is obviously unsustainable and needs to be reversed.

Finally, major savings might be achieved if World Championships took place on a regular circuit. The present system of one off venues has produced little evidence of long term benefit to the host countries in terms of membership, funding, publicity or airspace concessions.

The investment required has to be recouped from the single event and the expertise gained is lost. By returning to regular venues there should be substantial savings in costs and enhanced prospects of sponsorship. Sites discussed included Rieti, Chateauroux, Leszno and Uvalde. Repeated visits to these venues would reduce the home advantage as the local conditions would become well known internationally.

Although these topics were keenly debated at Omarama, all were unanimous on one point - it will prove exceptionally difficult to persuade the various governing bodies of our sport to alter the present system.

This gulf between competitors and organising

bodies is no stranger to our sport. Look at tennis and motor racing. Competitors want to concentrate on what they do best, the sport itself, and usually make inept politicians (a comment they would regard as a compliment!). So the real dilemma that confronts our sport is that which besets the western world; with a gliding philosophy as imprecise as "Liberty and Equality" how can government attract the appropriate governors and the approval of the individuals concerned?

Failure to do so is reflected in countries crammed with talented and skilled populations ranging from the USA to Italy. International governing bodies suffer from the additional Swiss Lover Syndrome as recounted by an Italian - the proposition that asserts the European ideal as English policemen, French cooks, German mechanics, Italian lovers and Swiss organisers, whilst political reality produces English cooks, French mechanics, German policeman, Italian organisers and Swiss lovers - a view based not on cynicism but on historical realism. Those of more extreme political or religious views ascribe the dilemma to western decadence.

If one rejects that view then either the system must be made to work or we must acquiesce like the Victorian daughter. Which is it to be? ■



Wild South, a well respected producer of natural history documentaries for TV New Zealand, is making a programme on gliding, comparing the soaring skills of man and the albatross. The film, Wind Spirits, includes a training sequence (the albatross chick goes solo on its first flight), extensive footage of the Omarama World Championships and a long final sequence of two gliders flying down the South Alps from Mt Cook to Fiordland. Exceptional weather made it possible to film in areas never previously exploited by gliders. The photograph above, crossing the Gertrude Saddle with Milford South ahead, was taken by Gillian Wills who was with the film crew in the helicopter. The 90hrs of film should be edited by August and may well be seen in the UK.

ODD SHOTS

- two unusual and eye catching photographs. On the left Ian Gutsell, flying Burn GC's K-13, photographed Ian Atherton in their Pawnee tug near the Eggbrough power station. Mary Meeks took the picture on the right when towing a Puchacz at Aston Down.





TAIL FEATHERS

Plat makes the desert bloom

When in March this year I cast the dust of Europe, or rather the mud, from my feet and headed for the USA with my big ship, I listed in this column all the sunny countries (Spain, France, Poland etc) where I had trailed the beast in the hopes of man-sized thermals but which turned into rain-soaked quagmires as soon as I appeared. The conclusion that I hauled wet weather behind me wherever I went with my glider, and that I might have to be paid to stay away, was jokingly aired.

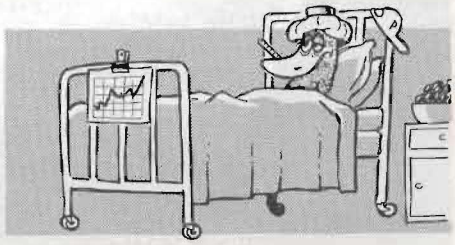
The joking can stop right now. In 1995 the USA is having one of its wettest springs on record, and everywhere from Miami to Minden has been waterlogged. The Orlando, Florida



Competition in March.

competition in March had only three contest days and the Chester, South Carolina competition in April had four, well below their norms. Driving north to the famed Pennsylvania ridges, scene of half of all the 1000km flights in the USA, we arrived to see a Scottish landscape wreathed in low cloud and gentle drizzle. We snatched two days' flying, then the rain set in again and we started the trans-continental journey to Nevada, where I have flown battered rented ships in amazing conditions during the past four years, and where the seven-year drought would surely continue.

Missouri was mainly under water: we saw cows clinging to small patches of dry land on inundated farms, while canoes disconsolately navigated among mobile homes, which looked on the point of getting mobile again and floating off to New Orleans. As we crossed Utah, with probably the lowest rainfall in the country, the heavens opened and the desert grasses, shrubs and flowers broke out in a variety of colours that would delight anyone but a glider pilot. Crossing into Nevada, the ASH-25 trailer and I can, I believe, take credit for single-handedly ending their long drought, as dry lakes turned into wet lakes



Was grounded for 15 days.

removing at a stroke half of the best outlanding places in the state. On arrival at Minden, deservedly renowned as possibly the best gliding site in the world, I promptly got severe bronchitis, threatening pneumonia, and was grounded for 15 days. On one or two days during this period, normal service was resumed and other pilots did 800km flights while Plat languished indoors, stuffed with antibiotics. I pulled the blinds, not wishing to see the cloud streets. Rain then returned and on June 6 and 7 it snowed in the valley here.

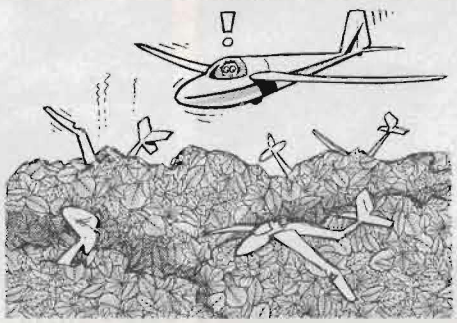
Gliding through the greenery

There used to be a parody song in the States

I think that I shall never see
A billboard lovely as a tree
In fact, unless the billboards fall,
I'll never see a tree at all.

That is a slight exaggeration, despite the hideous rash of advertising hoardings that deface what would otherwise be attractively landscaped roads. There are a heck of a lot of trees in South Carolina, and billions more in Pennsylvania. The sheer size and density of woods makes England look denuded - which it is, most of the trees having gone to build ships for the King's navy - I think the chief denuder was Charles II, he of the roving eye.

My first reaction as we climbed out on tow before the Comp at Chester, South Carolina, was "Help! Where does anyone land?" Trees stretched to the horizon on all sides, and landmarks were scarce. I asked a local, what happened with older gliders in the days of 28:1 and no GPS? "Oh, they piled into the woods all the



Piled into the woods.

time." There are a lot of people in Britain with a nostalgia for 28:1, and even more yearn for 15:1, the first principle of nostalgia being that anything that works well cannot be lovable, the corollary being that love is expended in inverse proportion to efficiency.

The Diamond mine - the good news and the less good news

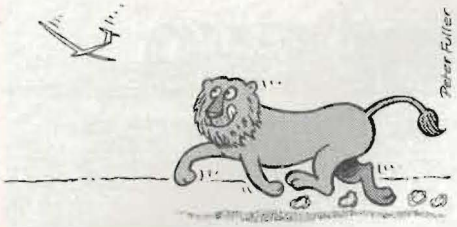
After South Carolina, a long drive to Pennsylvania, where a little window opened in the weather and permitted a 700km O/R, much of which was conducted at or slightly higher than tree top height. The secret of this splendid first flight from Bald Eagle ridge (but slow, so slow at only 125km/h without ballast) was of course to have a local expert in the back, namely John Good. John had won his place in last year's Barron Hilton cup (see the February issue, p20) with a distance flight along the mountains of this region which extends hundreds of miles southwest into Virginia. Tom Knauff, owner of Keystone Gliderport, said "So you did the local milk run? It should have been possible to do 1500km today." Tom had cancelled his plan for a 2000km flight starting at first light, and instead did a little 500km O/R in his new Ventus 2, setting a US record at close to 160km/h.



Pad the insides of their hats.

I should guess that 99% of the big flights here are done in Standard or Racing 15 metre machines, since the cruising speeds are 120kt when the direction and strength of the wind is right, and big span is only briefly an advantage when crossing the gaps, or if conditions turn sour. A big glider certainly gives a more comfortably sprung ride because of the massive flexing of the wings. Experienced pilots here pad the insides of their hats to protect their heads - and canopies. In the ASH-25 we only had one severe bang in five and a half hours, though this may only prove that, being old but not bold, I could not bring myself to fly as low and fast as one should.

Some of the pilots who do their record breaking over the wilderness of Australia or South Africa are dismissive of records achieved on the ridges, suggesting that the latter are too easy. Since, as I said earlier, these ridges account for half of all the 1000km FAI diploma flights claimed in the USA, they may be right. However the winner of two World Championships, Janusz Centka, flying the Appalachians in company with Karl Striedieck and John Good, fell off the ridge last year when conditions quite suddenly deteriorated; he picked a field in a hurry and crashed Karl's ASW-20. The ASW-20 is the world's easiest glider to put into a field, but you only have about a minute to set up your approach when lift turns to sink. More important, you need to know



Record breaking over the wilderness.

each of the few landable fields by name, and are even recommended to inspect them by car beforehand. John Good also landed at the same time, but in a safe field that he knew about. Needless to say, the double World Champion is now quite out of love with ridge running.

It clearly takes a newcomer an investment of time - in my case it would have required at least a month - to get a basic familiarity with these challenges, and then the diplomas, and even the odd British record, might come within reach. There's just one snag if you are thinking of coming from Britain to try this brand of big game hunting: you have to take your own glider or borrow a private one. (But don't ask Karl.) Tom Knauff's gliderport does not rent out any solo machines for cross-country use. I wonder why?

OVERSEAS NEWS

CZECH AIRSPACE OPENED TO WEST

In 1989, during the Wiener Neustadt World Championships, it was gliders that made some of the first holes in the Iron Curtain - the Hungarian government allowed tasks to the east to cross the border.

Not only has the "Curtain" now gone but, perhaps with the Worlds in Bayreuth in 1999 in mind, the Czech government, too, has reduced the bureaucratic barriers to cross border glider flights.

The hills of Western Bohemia are a superb area for soaring and gliders taking-off in Germany can now use a large part of this beautiful countryside without filing a flight plan. A short notification to Nürnberg tower is all that is needed. There is also a simplified customs procedure for gliders which land in Czechia.

The new rules are already valid for this season. Providing pilots use them responsibly and there are no other problems, they should become a permanent feature of central European gliding.

ALAN HARRIS

TWO SOUTH AFRICAN CLUBS MERGE

Carol Clifford, manager of the South African team and who used to fly at Dunstable during the 1950s, has written to say that two of the biggest clubs, Witwatersrand Gliding Trust and the Magalies GC, merged about two years ago and are operating under the latter name at the Orient Airfield, near Magaliesburg, which is about 65km west of central Johannesburg.

Carol was secretary of the former club and continues as secretary of MGC. It is basically a weekend only operation, although visitors are on the increase (particularly airline pilots) who want to glide mid-week and members make this possible.

The club fleet consists of three Twin Astirs, a K-7, two Astirs and a winch is being built.

For more details contact Carol at the club on PO Box 190, Tarlton, 1749 Transvaal.

INTER-CLUB LEAGUE SPREADS

The fame of the Inter-Club League is spreading and Dave Greenhill and Peter Deane have written from California to say they have adopted the idea. It was found that a number of pilots were finding it difficult to make the leap from local soaring to regular cross-country flying.

Dave had flown for a number of years in the Rock Polishers with the Nympsfield team and Peter, though not a glider pilot at the time, had grown up near Lasham and was fascinated by the League. They both felt pilots who were losing interest once they had gone solo would benefit from the challenge.

Andy Davis was asked for a set of rules which were slightly modified and the League was started last May. The range of conditions and venues in North California is vast, from the flat land sites in the central valley to the rocky peaks of the Sierra Nevada. The League has given a lot of fun and enthusiasm and they send their thanks to the inventor.

LEARNT TO GLIDE, WHAT NOW?

★ BRONZE TRAINING
★ SILVER TRAINING
★ ADVANCED CROSS-COUNTRY TRAINING
★ INSTRUCTOR TRAINING
★ SLMG/GROUP A COURSES
★ BGA/CAA GROUND EXAMS
★ MOTOR GLIDER HIRE

INTERESTED?

CONTACT:
THE MOTOR GLIDER CENTRE
(PILOT FLIGHT TRAINING)
Tel: Banbury (01295) 812775
Mobile: 0836 787421

BOOK REVIEWS

Teaching Harry To Fly by David Millett, produced by Hartley Publishers and available from the BGA at £5.95 including p&p.

This small book, priced at the equivalent of a winch launch, is interestingly presented - it is written in a conversational manner. *Ab-initio* and potential cross-country pilots will benefit from David's vast instructional experience. Who is Harry? Well at some stage of our flying training we would have played that role as we progressed under the guidance of our instructors.

Anyone trained by David, or an instructor who has worked alongside him, will immediately recognise his enthusiastic technique delivered with charm and understanding. In his book David avoids technicalities - his explanations are adequate for the purpose, although there are a couple of technique changes recently introduced by the BGA that don't quite align with the text. One technique for dealing with failed wire launches will be recognised by Camphill pilots.

David overcame the problem of dyslexia as a child, when I imagine very little was understood of this condition, to eventually fly as aircrew.

Should you buy this book, apart from the enjoyment and knowledge gained, you will also discover that we in British gliding have our own "Top Gun".

TONY KNIGHT

Beyond the Silver Badge - Crossing the Great Divide written and published by Ray Hart and available from him at 26 Quebec Road, Norwich NR1 4HZ at £10.95 including UK p&p.

This is a comprehensive guide covering initial practice for that first serious cross-country flight through to developing the film following a successful attempt. It informs us not only of soaring and final glide techniques, but also of many small but equally important points, often not mentioned by other publications.

Ray's guide is written in "no-nonsense" terminology backed by simple and clear illustrations. I would suggest that not only is this an essential guide for any Silver pilot, but would also greatly benefit anyone who has recently soloed.

KEITHA BRYCE-SMITH

A FERRY TALE

We flew a sinuous track, following the contours of the dark mountain on the left, gradually climbing all the while. When the lift died we edged in a little closer, and this mountain, being a cloud, we could dip a wing into its vapour and feel first the wing and then the whole glider start to rise. Climbing up beside this sea breeze front gave a tremendous sensation of speed and at the same time insignificance.

Then, like the curtains of a theatre, an arch shaped gap opened in the cloud, revealing the cliffs east of the Needles. There was time to turn round before infringing the controlled airspace which covers the west end of the Isle of Wight. Looking over my shoulder I was surprised, as usual, to glimpse the red mass balance on the end of the SHK's V-tail.

Heading east, over the spine of the Island, I had a wonderful view over the Solent and being at 4500ft decided to cross the five miles to Lee on Solent where I could see another line of clouds. Halfway across the visibility improved dramatically - I could see Beachy Head and the sea breeze front stretched all the way to the eastern horizon. Why not follow it?

Circling the entrance to Portsmouth Harbour, I looked down and saw the car ferry leaving for the Island and the answer hit me like a bucket of cold water. A field landing on the mainland would cost me £140 in ferry fares for car, crew and trailer - £14 per mile. I scuttled back across the Solent to Bembridge at 90kt.

JOHN KENNY

FLIGHT TESTS OF TWO OF THE LATEST GLIDERS

Jochen, a German glider pilot, gives his assessment of the Ventus 2cT and ASH-27, being one of the first to fly both after their launch this spring

Modern gliders no longer look alike. Klaus Holighaus, who was killed last year in a gliding accident in the mountains, proved this with his designs like the Discus and the Duo Discus. Now we have to get used to the look of the 18 metre Ventus 2c wing. The reason for this unusual design was not just to create a new fashion, but to improve handling characteristics without losing performance, as the World Championships' results showed. Schempp-Hirth is now led by his widow Brigitte and his sons Tilo and Ralf and in May they arranged for me to fly the brand new Ventus 2cT.

The Ventus 2A and B with the 15 metre version of the new wing have been in production since last year and are already well known in the gliding world. Klaus also designed a new, longer fuselage for the 15/18m version with 10cm of the extra length in the cockpit area, which is spacious even for the tall pilot.

Crash safety has been improved. Schempp-Hirth is going to research the possibilities of a glider rescue system with H.J. Streifeneder. The wing section was developed by Klaus working with Loek M. M. Boermans (Delft University), K. H. Horstmann (DLR Braunschweig) and D. Althaus (wind tunnel Stuttgart).

Normally, the design of a wing can only be optimised for one span. To avoid this problem the Ventus 2c has a four-part wing. The centresection is 11.4m, each piece weighing only 58kg. It is completed by either 1.80m tips with winglets for the 15 Metre Class or 3.30m tips stepwise "bent" upwards for the 18m glider. This solution seems to be aerodynamically best, but also expensive and a little heavier than a normal wing. As usual at Schempp-Hirth, all the controls connect automatically when rigging. The built in main bolts for the wingtips cannot be lost. They are operated by a lever that disappears in the gap between the inner and outer wing. The ailerons in the extreme outer section are operated upwards only, giving an additional washout in just the situations you need it - flaps and ailerons go down at slow speed.

The empty weight with the 15m wing is 240kg - a maximum of 525kg is permitted. With a 9.67m² wing area this means a possible wingload range from about 32 to 54.3kg/m². For the 18m wing it is 254/500kg on an 11m² wing, giving a wingload range from 29.5 to 45.5 kg/m².

The integral waterballast tanks are in front of the C of G with an additional 6.5 litre tank in the tail to balance the glider.

The 18m Ventus 2cT has the small 15.3kw turbo engine and its extra 45kg brings the empty weight up to 300kg. With my 80kg I flew with a wingload of 34.5 kg/m².

The cockpit has been stretched compared to the earlier Schempp-Hirth cockpits but the height, width and visibility are about the same. The longer sideways-opening canopy and the hinged up instrument panel makes it easy to climb in. Behind the fully adjustable backrest is a bag for logbook, bolts etc. The canopy jettison is operated by the normal closing handle only. Research at the Fachhochschule Aachen found that it is enough to open the canopy a bit. The wind does the rest - the hinges at the right side break off and the canopy flies away without hurting the pilot.

There is space for weights for light pilots in front of the rudder pedals. The big battery needed to extract the engine is placed under the roomy instrument panel. The trim spring is connected to the flap drive tube by an adjusting screw. With this design, an automatic elevator trim adjustment is achieved by setting the flaps. The cable release knob is between your legs but if you are well built you may have problems finding it in a crisis. It would have been better on the left of the cockpit but this space is taken by the decompression knob.



The ASH-26 and ASH-27 with (l to r) designers Martin Heide, Loek Boermans and Gerhard Waibel. Photo: Jochen.

Before aerotow take-off, the trim has to be set to neutral. This can only be done with the flaps set to neutral (0 position), as the trim screw-knob is fixed to the flap drive tube and the neutral trim marking is on the cockpit wall. For the ground run, flaps are set to -1 to achieve best aileron response from the beginning. This gives the best control in a crosswind. The big spring-suspended wheel gives a comfortable feeling even on bad runways. To lift the glider off, I switched the flaps to +1, or to +2 with slow tugs. The controls, and also the wheel retraction, are very light.

The cockpit ventilation could be better. The nose hook of the Ventus 2 is in the fresh-air channel, and this reduces the possible airstream coming into the cockpit. More fresh air is needed when it is hot.

The indicated minimum speeds, with the 45kg engine, are a little bit higher than those of the pure glider. With the flaps at thermalling position +2, the controls start to feel soft at about 75km/h. But that is not yet minimum - below 70 some buffeting can be felt with the stall speed at 65km/h. The Ventus 2 staggers and, if you pull the stick further back, drops a wing. I couldn't try spinning because these tests hadn't been made. At "L", which is not the landing but the "slow thermalling" flap position, it shows the same behaviour and finally stalls at 63km/h. In landing configuration, flaps at +2 and airbrakes full out, a good buffeting is felt below 75km/h and the stall speed is indicated as 70km/h.

The roll rate is good for an 18 metre bird. With a thermalling speed of 90km/h and flaps set to +2, I needed only 4.7 to 5sec to roll from 45° to 45° with full aileron and rudder. I noticed very little side slipping. The designers did a good job with the stretched fuselage and the new tail. The flap position "L" is very nice to be switched in narrow thermals after centring. It allows slow, small circles but needs a bit more rudder. In the strong thermals (3.5m/sec integrated) of the Alb region it was possible to fly comfortably with 30° to 40° bank and 80km/h using "L". The Ventus 2c is excellent at climbing.

The trim/flaps connection works perfectly. Using a trim setting for 75km/h at flap position "L" and going forwards with the flaps, the Ventus

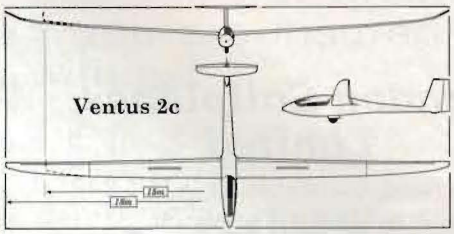


Jochen, who started gliding when he was a 14 year old, has a SL PPL, a Gold badge and two Diamonds from about 3000 flights and 1300hrs on 140 glider and 25 motor glider types.

accelerates to the best speed for every flap setting until it reaches >200km/h at the most forward position "S". In landing configuration (+2; airbrakes full out) with the same trim setting it balances at 105km/h, just a little bit more than recommended. This makes it very easy for a pilot unfamiliar with flaps. All they have to do is use the flaps as an accelerator in the same way they use the trim in an unflapped glider.

There have been a lot of orders for the turbo engine with its folding prop coming from the rear of the fuselage. It is impossible to start the engine on the ground but in the air the starting procedure is as follows: Open the fuel cock, ignition switch "on" and engine switch at "engine out". Now the engine rises from the fuselage and you can see the five-blade prop unfold in the airstream. Then you pull the decompression handle with the left hand and push the fuel pump button with the thumb. The prop then starts turning. Releasing the decompression and pump makes it start. There is no throttle - the engine always runs at full power with a cruising speed of 130km/h and a climbing speed of 0.75m/sec at 80km/h.

The most economical way for cruising is to use the climb, retract and glide method (sawtooth flying). The two-stroke fuel capacity of 14 (or optional 30) litres is usually enough to get you home. Apart from the fuel indicator there are no engine instruments, simply some warning lights to tell you if anything goes wrong. To stop the engine, switch off the ignition and close the fuel cock. It still turns, driven by the wind. To stop it, push the switch "engine in" until you see the propeller centre nearly disappear from the mirror's view range. In this position the engine will stop soon, and you may retract the engine completely. The prop blades fold automatically when entering the fuselage.



Technical data:		
Span	15m	18m
Aspect ratio	23.3	29.5
AUW (kg)	525	500
Empty weight (kg)	240	254
Wing loading (kg/m²)	32-54.3	29.5-45.5
Max speed (km/h)	270	270

Landing the Ventus 2c with its effective airbrakes is easy and won't be a problem for club use. The flaps remain on +2 or, under gusty conditions, +1 to achieve best handling after touchdown without changing the flap setting. You don't need to sideslip with these airbrakes but it is remarkable that if you do, the 18m wing needs full aileron against half rudder. More rudder makes the glider turn out and drop its nose. The strong buffeting in the elevator during the sideslip originates from the airbrake's turbulence. Taxying is comfortable and easy to control, the efficient wheelbrake operated by a bicycle brakehandle on the control column.

In the next few months, the self-launcher Ventus 2cM with a powerful, new Solo engine will complete Schempp-Hirth's range of 15/18 Metre Class gliders. Even if money was no object it would be difficult to decide which version to buy. For club use, the c fuselage seems to be best, as it gives most space for everybody and comes with the big, well suspended wheel.

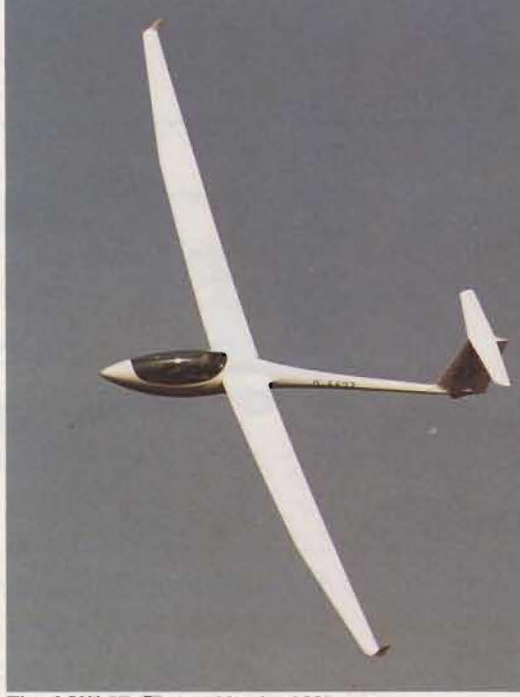
A Gentle Racer - The ASW-27

In the last issue, p160, we gave news of Schleicher's ASW-27, designed by Gerhard Waibel, which is replacing the successful ASW-20. Just two weeks after the maiden flight in March I had the chance to try this new racer.

The ASW-27 incorporates all the latest experience of modern materials. Glass, carbon, aramide and polyethylene fibres make her really lightweight - the prototype weighs 228kg with 225kg promised for serial production. That means 10kg below the unflapped ASW-24! The small wing area (only 9m²) and up to 180 litres of waterballast allow a big range of wingloads from 33 to more than 55kg/m². The wing section is designed by Loek M. M. Boermans from Delft University with special consideration for the airflow influenced by the fuselage near the wingroot. The laminar airflow under the wing covers nearly the entire surface with the blowing turbulators positioned in the flaps and ailerons. Gerhard Waibel made no compromises designing the 27. It is a pure 15 metre racer - there are no wingtip extensions or an engine. For those who like more span or engines, Schleicher offers Martin Heide's new ASH-26 with or without the British Mid West rotary engine. By the way, the German (LBA) type certification for this engine arrived on Schleicher's fax machine during the ASW-27's maiden flight!

Rigging is easy and fast with fully automatic connections and two main bolts. The small winglets with little tongues are put in slots on the top side of the wingtip and fixed with self-adhesive tape. The tailplane is laid on the fin and to prevent damage to the expensive seal-tapes has to be carefully pushed backwards to slip into its fittings. It is fixed with the old ASW-20 system - a vertical screw that is automatically secured by a spring-loaded ball. There is one thing I do not like about this system. Even if the screw is not inserted, the tailplane still looks as though it has been fixed correctly.

The 75 litre waterbags in each wing have to



The ASW-27. Photo: Manfred Münch.

be manually connected to the central water valve. They, and the optional 35 litre tank stored over the main spars, hadn't yet been fitted in the prototype. This extra tank is needed to reach the maximum possible wingload - there is not enough room in the thin wings. A ballast tank in the fin is not needed, as the wing tanks are close to the C of G and a slightly forward C of G position is optimal for the high speeds you usually fly at under high wingload conditions. Well designed flapped gliders show their best performance when the tailplane produces no lift, as lift also means drag. So it makes no sense to fly a modern flapped glider close to the maximum rear or front position of the C of G. To balance the weight of heavy pilots, there is a second battery compartment in the fin.

The cockpit is based on the ASW-24 but the narrow wing allows a slightly bigger canopy. Safety aspects and crash tests of the Fachhochschule Aachen led to the high inner canopy frame. That would also be suitable for a glider rescue system, but at the moment most pilots like to spend their money on GPS-variometer-calculator systems instead of life-saving ones! (I was told at all the German glider factories that there have been no serious customer requests for a rescue system.)

Although from the outside the cockpit visibility seems to be bad, it is in fact quite good and there are no distracting reflections on the canopy. The canopy is jettisoned by two handles in the frame in front of the opening handles. They also serve to push the canopy up and away. A specially formed rear end of the frame hooks into the fuselage and saves the pilot from being hit by the front end of the canopy. The sides are high, but with the instrument panel going up with the canopy it is easy to climb into the roomy cockpit.

Thanks to the fully adjustable backrest it is easy to get comfortable. Those who have flown the ASW-20 will be familiar with the ASW-27's cockpit. The release knob in the prototype is a little bit too close to the flaps and airbrake handles. This will soon be modified, just like the underside cover of the instrument panel. It can be touched by toes of very tall or short pilots. These are only small comments on a prototype that hasn't seen the inside of the workshop since the maiden flight!

I flew from the narrow airfield at Poppenhausen, next to the factory, and it sometimes has very turbulent wind conditions. You take-off ➡



Your Saxony Superwing getting unmanageable?
Want Something Light and Easy to rig ?
Still want to dash off on a 300k?

Kenilworth Mc7

Our Wing Root weighs less than most Tips.
No Rigging Aids required
300K Flight in April; Recovery Parachute Option

Kenilworth 7 The Willows, Bangor, Co. Down BT19 7XZ Tel/Fax:01247 453783
Int Ltd. 7 Humber Road, Coventry CV3 1AT Tel: 01203 444223 Fax: 01203 635032

The Complete Glider Service

★ CAA APPROVED WELDING ★

HIGH QUALITY MAJOR REPAIRS: Glass Fibre, Carbon, Kevlar, Steel Tube & Wood Gliders.

TOST WHEELS: (All sizes) with/without Brakes, Tyres, All Spares. WEAK LINKS & Release hooks/rings. Most types, new and exchange.

DOPES AND PAINTS: Stockists: All Neogene products, special paints on request, including Etch Primers & Polyesters.

WINCH CABLE: (4.0mm-4.5mm-5.0mm) High Tensile, All accessories, Ferrules, Tost Weak Links, Covers, Release Rings and Hooks.

PARACHUTES & Shock Ropes.

MATERIALS: All sizes for repairs/re-builds. GL1 birch ply, GL1-1.5mm Ply, (Special Price).

FABRICS: All Ceconites & Tapes (Light-weight) Aerolene, Cottons, Glass Cloth, Madapolam.

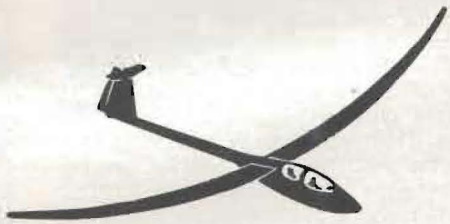
IN STOCK: Wood/Fabric glues, Various Resins, Hardeners. **German steel tubing** – All sizes.

INSTRUMENT CALIBRATION & SERVICING. Full Set Numbers/Letters £50.00 inc.

Made to Measure; Water – Bags. UK Agent.

HUNDREDS of items in stock for your Flying needs: **PHONE or FAX . . .**

SAMEDAY Despatch for all orders.



London Sailplanes Limited

Tring Road, Dunstable, Beds LU6 2JP
Tel: (01582) 662068 • Fax: (01582) 606568

Open Monday to Saturday
8.30am to 6.00pm

SKYCRAFT
Telephone: 01763 852150
Facsimile: 01763 852593
ALBANY HOUSE, LITLINGTON
CAMBRIDGESHIRE, SG8 0QE
UK SERVICE STATION FOR
HOFFMANN PROPELLER
SKYCRAFT is the business name of Skycraft Services Limited

The Last Straw
Is when you have an accident then find you're not fully covered, a situation that will not arise if you are insured with us!
Phone, fax or write to:
Stephen Hill
hill aviation insurance services ltd
Phone: 01765 690777 Fax: 01765 690544
4 Bedern Bank, Ripon,
North Yorkshire HG4 1PE.

from the factory end and land in the other direction, no matter what the wind condition.

As the ASW-27 was shown at the AERO exhibition the week before (see p210), it was still in the first flight state. Gerhard cleared me for "max 200km/h and no spinning", as only this range had been tested. There is a semi front hook for the aerotow, like the K-21, because the German LBA requires a second hook for aerotowing for new gliders, although it is not needed for a stable sailplane with a low fuselage.

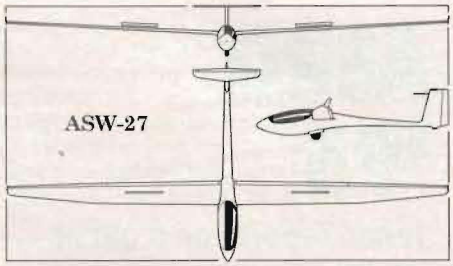
To prevent wingdropping and groundlooping in the gusty crosswind I chose the full negative flap position "1" and opened the three-bladed (because of the thin wing) airbrakes some inches. So the airstream was disturbed on both wings, even if a gust tried to produce lift on one side. This sounds a little bit too careful, but you never know... After some yards of taxying I felt good aileron response, closed the airbrakes and set the flaps to neutral (pos "3") to lift the glider off. Sliding to "4" (thermalling position) in this phase is not dangerous; the good elevator response prevents the ASW-27 from overclimbing the tug. The wheel retracts easily but very small or tall pilots have to turn their right hand to bring the handle into the rear position. The adjustable fresh-air-nozzle on the right cockpit wall gives real comfort in hot weather - sweating pilots in old ASW- 20s (and other gliders) will be jealous!

The ASW-27 is stable and extremely handy and light on the controls. At first pilots used to heavier gliders may over-react a little, but after a short time they will love this direct control. A glider is a workplace for long hours, and at least during an outlanding after hours of flight you will be grateful not to be fatigued by heavy control forces.

After releasing, I tried the minimum speed. Thinking about flying the prototype of a hot ship, I expected everything, but not the gentle behaviour of the 27. With my cockpit load of 80kg, I flew with a wingload of 34kg/m², the C of G in the optimal centre of its range and the flaps set on "4", the thermalling position. At 70km/h (indicated) I felt some buffeting and at 68km/h it went into a stable stall like a K-21! With the effective rudder I prevented her from wing-dropping even when I made abrupt aileron movements. Going to flaps setting "5" (landing position), the ASI needle showed a minimum of 62km/h before stalling at about 70km/h with the airbrakes full out. These are Vmin speeds and behaviour.

In most cases, the roll rate of a glider is given at 1.4Vmin and neutral flaps. I prefer measuring the real roll rate in the situation we need it - at thermalling speed and with thermalling flaps setting. Here, with the flaps on "4" and a speed of 90km/h (just the right speed for a thermal with average turbulence), I was glad to measure a handy 3.5 to 3.7sec from 45° to 45°. Using full aileron and rudder, the slip string stayed nearly in the middle. At higher speeds you have to be careful not to use the rudder unconsciously as the rudder forces are very light and sideslipping reduces the performance.

Another check: The trim setting at 80km/h and flaps "4", then slowly pushing the flaps forward to "1" (high speed setting). The speed rises constantly until it reaches 150km/h. At landing position "5" and with the airbrakes out the hands-off speed settles to 90km/h, the normal approach



Technical data:	
Span (m)	15
Wing area (m²)	9
Aspect ratio	25
AUW (kg)	500
Empty weight (kg)	225
Wing loading (kg/m²)	32.8-55.56
Max speed (km/h)	280
Min sink (m/sec)	0.52

speed, so you don't have to correct the trim setting frequently.

The aerodynamic elevator forces are so low, there is no need to push the green indicator knob to adjust any trim setting. After pulling the trim release handle on the stick it just slides to the required position.

At high speeds the ASW-27 is quiet and comfortable. The thin carbon wing is not so elastic as the ASW-20's glass wing, but absorbs the gusts much better than most of the older carbon wings. If the sensible rudder (which is needed for good and comfortable thermalling) is not used by the pilot to disturb performance, Gerhard Waibel promises a (calculated) speed polar that looks very similar (at high speeds even better) to that of an ASW-17 with 20 metres span.

For the landing, the wheel comes out as easy as it went in. Flaps to "5", airbrakes out and the racer goes down like a club machine. Gerhard decided not to make an extreme flaps landing position as on the early ASW-20s. Some stupid pilots did not read their manual before flying the 20, approached too slowly and dropped the glider somewhere behind the landing area in a four point landing" (wheel, tail and both wingtips).

Sideslipping the 27 is no problem in landing configuration and allows extremely steep approaches. The nose wants to go down a bit and has to be kept up against the trim spring forces. After touching the ground at a nice slow speed the flaps stay at "5", as the ailerons are then in a "high" position and permit perfect taxying in crosswinds. The mixer mechanics therefore are expensive, but this nice system has already saved many pilots from much more expensive groundloops in other flapped Schleicher gliders! The last inch or so of airbrake lever operates the hydraulic wheelbrake. It is effective and easy to control and only a very hard "emergency braking" forces the glider's nose to the ground.

For Schleichers, it was a brave step to make the decision towards a "clean" 15 metre racer and an 18 metre (motor) glider at a time when lots of 15/18m universal birds are offered. But it seems to be a success thanks to its easy ground handling, club-friendly, fun-to-fly flying characteristics and top performance.

The Schempp-Hirth agent is Southern Sailplanes and the Schleicher agent is J.J.Jeffries.

JULIAN WEST

AERO '95

Julian reports on a glider pilot's dream - masses of sailplanes and equipment under one roof

The biennial exhibition at Friedrichshafen on Lake Constance has always had the most comprehensive display of gliders and equipment all in one place, and AERO '95 in April was no exception. The main themes were the new models in the 18m Glider/Motor Glider Class, and the replacement of the ubiquitous Rotax by British engines from Mid West of Gloucester.

18 Metre Motor Glider Class

With the Deutsche Mark rising sharply against both the dollar and the pound, German manufacturers are concentrating their efforts on the home market, where the main demand is for the FAI 18 Metre Motor Glider Class and to a lesser extent their illegitimate motorless cousins.

Schempp-Hirth had the new 18m Ventus 2CT on display. This had its maiden flight the previous week with new boss Tilo Holighaus at the helm. (See p206 and the last issue, p160.) It has a new roomier fuselage, a larger tailplane and the ends of the outer panels are swept upwards and backwards in two stages. With automatic connections and an integral connecting pin mechanism, the unusually long outer panels can be fitted single handed. Shorter panels with vertical winglets enable the Ventus 2C to double as a 15m glider.

The prototype 18m LS-9 motor glider, displayed by Rolladen-Schneider, is based on a modified LS-4 fuselage with LS-6C-18w wings and tailplane. It was fitted with a water-cooled Rotax motor from Walter Binder. With Rotax going out of production shortly, certification is expected to take some time.

To overcome this problem the new 18m DG-800B motor glider from Glaser-Dirks, which is identical to the Rotax engined 800A, has been fitted with a water-cooled twin-cylinder two-stroke from Mid West.

Gerhard Waibel told me that Mid West's water-cooled Wankel rotary, which was in the 18m ASH-26E on Schleicher's stand, has now completed its certification in Germany.

15 Metre Racing Class

Schleicher also displayed their brand new ASW-27, which has an ASH-26 wing section, a modified ASW-24 cockpit and small vertical winglets.(See p207.) It is uncompromisingly optimised for its 15m span and is aimed at the dedicated competition pilot.



The SZD-59 Jantar Acro.



The LS-9 18m prototype.



Above: The SB-13 tail-less flying wing.

Below: The MDM-1 Fox 14m two-seater.





The World Class PW-5. Photos by Julian.

Standard Class

The only new Standard Class glider at the show was the LS-8 from Rolladen-Schneider, which has an LS-6 wing section with curved winglets. A DG-303 Elan basic, with a pink paint job, was on special offer from Glaser Dirks.

World Class

For the first time the official IGC World Class glider, the Warsaw University of Technology designed 13.44m Polish PW-5, now named Smyk (rascal), from PZL Swidnik was present. It features a double main pin mechanism mounted on the fuselage, but has purely manual control hook-ups. (See the next column.) The only other World Class entrant on display was the all metal 14.12m L33 Solo Blanik from LET.

Two-seaters

Glaser Dirk's DG-500M motor glider Orion comes in 17.2m aerobatic, 18m trainer and 20m competition versions. Cockpit comfort has been improved with an adjustable rear seat pan. Schempp-Hirth displayed their popular trainer, the 20m Duo-Discus.

Aerobatic gliders

The odd looking 14m Polish (+9/-6*g* solo, +7/-5*g* double) two-seater MDM-1 Fox is a further development of the solo 13m Swift shown at the last AERO. It won the 1993 World and the 1994 European Aerobatic Championships and is manufactured completely in glass-fibre. The Standard Class SZD-59 Jantar Acro shown by PZL Bielsko features a spin recovery strake at the rear of the fuselage.

Akaflieg experimentals

The incredible tail-less Standard Class SB-13 flying wing from Brunswick Akaflieg was there. Its main drawback is a certain lack of stability in pitch. They are now working on the SB-14, a conventional 18m flapped glider with spoilers at the tips to augment the rudder.

Open Class

In the secondhand section the best glider in the world, the Nimbus 4T that won the Open Class at the 1995 World Championships in New Zealand, was on offer for £105 000.

Equipment

When the NOAH emergency bale-out system is activated it automatically releases the seat belts and then inflates a cushion that lifts the pilot to the cockpit edge within a second. It is operated by pushing a red handle mounted on the starboard cockpit rim after jettisoning the canopy. ■

Comments on the PW5

Six PW5 World Class gliders were sent to clubs in New Zealand and Ross Sutherland from the Wellington GC, who have bought two, gives his impressions

On the trailer what catches your attention is the pod and boom design and the short wide wings with a Discus like curve at the ends. From the cockpit forward it looks like a regular glider and aft it looks short.

Rigging is a doddle - the wings only weigh 41kgs each and make a pleasant change from the back breaking efforts of other gliders. Everything fits together easily with about 20lbs of wing lift pressure required to easily slide the mainpin and automatic engaging drag pin. The controls are connected by a slide sleeve and are easy through a wide observation hatch. Elevator is a slide foreward with the rudder on full deflection then locked with a safety slide pin - elevator connection is automatic. The glider could easily be rigged by two small people with a wing stand.

The glider is a cute beauty. Not the long sleek lines of a regular glass ship but more like a guppy. It is really easy to move around and position. It balances on its main wheel so spinning around is easy.

The cockpit is huge with large movements possible in seat and rudder adjustment and the engineering is excellent. The only improvements I could think of was that the trim knob could be a bit bigger and the canopy needs a couple of extra inches in its travel on the gas strut to make it a bit easier getting in.

In the Air

This is where the glider comes into it own. It is beautiful to fly. Absolutely the best handling glider of the 15 or so types I have ever flown. Magic!!!

On the first flight I tried to take-off before it was ready and it told me, so the next time I let it just take-off by itself. With two wheels (main and front) on the ground during the roll there was a bit of wheel noise. Aileron control was excellent throughout the take-off roll and the aerotow was no problem - I trimmed it back a bit and up we went at 1000ft/min behind the Pawnee.

Off tow the first thing that struck me was the excellent roll rate of about 3-4 sec from 45° to 45°. You just think you want to turn and it does it for you. The stall was around 35kt and holding full back stick it just self recovered from a docile stall. Serious mishandling with cross controls forced a full spin but as soon as any back pressure was released it came out automatically.

I looped it with an entry speed of 92kt and the speed did not build up too rapidly during the exit. It was very easy and stable in the loop. Wingovers are lovely - the aircraft feels it could do them forever - and the control response is excellent. Minimum sink appeared around 150ft/m and I came across a small 100ft/m bubble and the glider just sat in the thermal and popped up like a cork. With these excellent thermalling characteristics it should give the K-6 boys around here a fright as they always gloat about being able to out climb the glass birds.

In conclusion this aircraft is fun, fun, fun. ■

Below are a few of the items we don't C of A or repair!



AIRBORNE COMPOSITES

C's of A, REPAIRS AND GLASSWORK

Purpose built glider workshop on a 500yd grass strip 2 nautical miles SW of Warminster

Currently maintaining over 15 motorgliders

Please fly in, call or write to:
Tim Dews, Airborne Composites, The Hangar, Wing Farm, Longbridge, Deverill, Warminster, Wilts BA12 7DD.
Tel: 01985 840981 (workshop) or 01373 827963 (home)
Mobile 0850 923160

The EW Barograph is simply . . .

NOT JUST THE WORLD'S NUMBER ONE ELECTRONIC BAROGRAPH

that is fully approved world wide, for all Glider flights including world records.

It is also a GPS Data Recorder!

(compatible with most portable and panel mounted GPS receivers with NMEA 0183 output)

Approved for GPS flight verification in national and regional competitions in many countries.

NEW "WINDOWS" SOFTWARE NOW AVAILABLE

Our brand new program is the easiest to use, most comprehensive mapping, flight analysis and task setting package available.

Also, new custom protective case for Barograph available £11.69 inc. VAT

EW products can either be purchased directly from us by credit card and despatched with our efficient mail order service, or from our comprehensive list of agents throughout the world!

For further information on all our products contact

EW Avionics

Seymour Barn, Widmere Lane, Marlow, Bucks SL7 3DF, England • Tel (44) 01628 485921 • Fax 01628 477999

FLY FASTER

with CAMBRIDGE GPS-NAV



NEW PRICES!
Our new compact models 20 and 25 are less expensive and easier to install.



CAI is very proud to announce the industry's most advanced wind measurement feature. In addition to the effective headwind or tailwind, you now know the actual direction and speed.

NEW WIND FEATURE eliminates the guesswork:
Is the ridge going to work?
In what direction does the blue thermal street run?
Where are the wind shears?

■ Cambridge GPS-NAV products are designed to the highest levels of data security. All our products will be approved for badge and record homologation by the FAI.

FOR MORE INFORMATION CONTACT:

RD AVIATION LIMITED
Unit 25
Bankside
Kidlington
Oxford OX5 1JE
Tel: 01865 841441
Fax: 01865 842495

All Cambridge products carry a full 2-year warranty.

CAMBRIDGE AERO INSTRUMENTS
RR Box 109-3, Warren, VT 05674
Ph. 802-496-7755
Fax: 802-496-6235
e-mail: cai@cerfnet.com

BUSINESS MEMBER

DAVID FOSTER

ARE YOU BEING INTERFERED WITH?

The latest glider technology is bringing with it a new set of problems which David helps to unravel in this article

Glider pilots are optimistic by nature. Sometimes they represent the ascendancy of hope over meteorological reality. Many glider panels reflect their character, crowded with electrical and electronic equipment with no attempt at anti Radio Frequency Interference (RFI) planning. RFI has become a jungle in many glider cockpits, not a jungle of wildlife and tangled straps but a jungle of electric and electronic equipment, each piece of which is a source or a victim of RFI. Today, a host of new devices are creating an increasingly complex Radio Frequency (RF) environment. Each new gadget brings with it a new set of problems to the gliding community.

Interference is a technical problem - the causes and cures are often straightforward, but they can be mysterious and complicated.

Nearly all RFI problems are due to basic design deficiencies in equipment. The components or filters that would prevent RFI are often left out of otherwise well designed equipment as manufacturers attempt to reduce costs and hence to reduce the price of their products.

Interference is primarily a matter of emanation (sending) and interception (receiving). Unwanted emanations occur by radiation (as from an antenna) or conduction (as along a wire). How and where to treat unwanted emanation or interception will depend upon where and how it occurs.

The source of energy is not always the source of the interference. The actual cause is sometimes difficult to determine - harmonics or spurious emissions may be generated by bad (rectifying) connections in the supply lines or by bad connections in the vicinity of the device transmitting the interference.

For that reason the cause is usually discovered by a process of elimination; usually more than one action will be necessary to cure the problem. Traditionally, radio amateurs, like myself, have been involved in the analog world, a world of sine waves and distinct frequencies as well as the noise created by rotating armatures with carbon brushes and such like.

Nowadays digital equipment is to be found in many glider cockpits. It is all around us and the digital domain is the realm of the square wave. in my young days we remembered Fouriere's name and bypassed his theorem if we wanted an easy life.

The frequency spectra of the sine and the square waves are quite different. The sine wave is ideally represented by a single frequency but in contrast an ideal square wave consists of a fundamental frequency, plus an infinite number of odd harmonics (as opposed to even harmonics) which require proper treatment to prevent RF emanations. Treatment to the digital circuit to minimise the possibility that the device is a source of interference - enclosure or shielding, filtering and bypassing - will also protect it from being a victim of interference.

What can you do? Be communicative and contact the manufacturers of the offending equipment. Responsible firms have a policy of supplying information and filters. Talk to other glider pilots who have similar problems.

The commonest problem is interference to the glider radio by some piece of gear close to on the instrument panel. The frequencies involved are the actual receive frequencies on the glider band, 130MHz, and the sub-frequency used in the receiver, 10.7MHz.

The interference can get into the radio *via* its 12 volt DC wiring, straight through the radio case in very rare instances, and down the coaxial cable in through the aerial along the same route as the incoming proper signal. Broadly speaking most glider instruments are served from one 12 volt DC source obtained from one or two gel cells.

If a series of boxes are drawn on paper and each labelled as being an instrument, and then a fan of lines drawn as the wires go from each instrument to the battery pack, note that RFI can hop across the gap between instruments and also has a pathway by going back to the battery pack. Many pilots do not have a circuit diagram of their glider, yet it is essential if they want to act sensibly.

The radio coaxial cable. The coaxial cable from the radio to the antenna can have its isolation severely degraded unless the ends of the outer shield are terminated properly in the antenna plug - usually a BNC or sometimes a PL259. The braid should completely encircle and enclose the inner conductor; the practice of twisting the braid to a point may result in a 20db degradation of isolation.

Never attempt to use the cheaper non soldering type of plug. If unable to solder a BNC plug, ask someone who does.

Interference flowing along the outside of the coaxial cable can be a cause of RFI and a 2in diameter cardboard tube threaded on to the coaxial cable and stuffed with steelwool works on the absorption principle. The steelwool is very "lossy" and dissipates the offending RF energy on the shield. Ideally the tube should be at least 1ft long and more than one can be used.

Winding the coaxial cable on to a ferrite toriod is an effective shield current suppressor and winding the first five turns in one direction and then reversing the last five turns allows more turns with less shunt capacitance.

The most important property of the cable from the point of view of RFI is complete shielding. Avoid cable that has less that 95% braid coverage. There are excellent cables available that are doubly covered.

The ideal placing of these chokes will vary with the standing wave pattern on the cable, but in general will be close to the radio.

Capacitors. RF capacitors are common elements in almost any piece of electronic gear, however, some precautions are necessary when used in RFI prevention devices and in filtering and bypassing applications. In particular, lead inductance may be sufficient to resonate with the capacitor and cause the entire combination to have a high inductive reactance rather than the desired capacitive reactance. Generally speaking this means making sure the capacitor has the shortest leads possible.

Lead filtering of the DC wires leading into and out of the equipment. Radio chokes sufficient to carry the current of most equipment can be made out of 16 turns of 20 gauge enamelled wire wound on to a 3/16in insulated former. Ideally the incoming and outgoing current should flow through 1000pfd feedthrough capacitors and then through the chokes, whose ends next to the instrument are bypassed by 0.001mfd disc ceramic capacitors - all leads as short as possible, of course.

Lead filtering to instruments can also be practised by winding the DC input wires into the instrument around a ferrite toriod. Wind both of the wires into the toriod by making the winding bifilar, winding the wires as a pair, lying side by side. Use about ten turns. The number of turns can be varied by experimentation.

Unbalanced filters for insertion into the glider radio coaxial antenna cable. It is possible to construct complicated filters of this nature quite cheaply and easily from a radio amateur's well stocked junk box, but the mathematics is complicated and generally speaking most amateur radio text books contain worked examples. They are perhaps a last resort.

To sum up

1. Where does the RFI come from? The GPS, electronic vario, T&S or WHY?
2. Does the noise diminish if the radio is run from a separate DC supply?
3. If the answer to 2 is yes, consider DC lead filtering from the offending instrument and into the radio and/or the use of separated batteries.
4. If the noise is diminished but is still there, remove the radio antenna plug. If the noise diminishes or stops, use chokes on the coaxial cable.

Bear in mind what was said at the beginning. It is a technical problem; some cures are straightforward and others may prove to be very difficult to solve.

The problem is often compounded by the fact that the glider wiring has been placed there on an *ad hoc* basis and a wiring diagram does not exist to help in the diagnosis. In some cases rewiring must be contemplated, together with instrument reposition.

The components mentioned may be obtained from the usual suppliers such as Messrs Maplins, Farnell Electronic and Radio Spares.

LATERAL TUG UPSETS

David, an instructor and tug pilot at the London GC, describes a disquieting incident while he was towing a K-21 with a Super Cub

We are all aware (or should be) of the risks when a glider on aerotow gets too high behind the tug. The resulting instability about the pitch axis has been extensively researched and written up, and unfortunately a few tug pilots have found out the hard way.

I would like to describe a phenomenon I recently experienced, which can best be described as a lateral upset. I was flying a 180hp Super Cub towing a K-21 which was being flown by an instructor. The wind was light and there was no turbulence or thermals. At about 1500ft the glider was well to the left of centre as the instructor demonstrated the recovery from "out of position". The glider remained in this position for a few moments, then moved a little further still to the left.

The tug immediately yawed sharply to the right and simultaneously dropped the right wing. With full left stick and rudder applied, I was still rolling to the right, so at about 60° of right bank I released the glider and recovered to straight and level flight. The entire incident had lasted no more than two seconds.

Thinking about it later, I realised that it is possible to induce a condition somewhat similar to a pitch upset, though about the yaw axis. Though I am a fully rated instructor of many years' experience, I have never seen this phenomenon described, so here is what I believed happened.

When a glider on tow is off centre, the tension in the rope has a lateral component which acts on the tug's tail, tending to cause the tug to yaw. The tug pilot would normally use opposite rudder to maintain his heading and keep the ball central in the slip indicator. (See Fig 1 below.) So long as the tug's rudder has sufficient authority to counteract the lateral pull of the rope, the tug does not sideslip, the situation remains laterally stable and the two aircraft continue to fly on the same heading, though offset.

If the glider moves even further from the central position, the tug pilot applies still more rudder until he has used up all the available rudder travel. (See Fig 2.) An important point to appreciate is that the limit of effectiveness imposed by the rudder-stops puts an upper limit on the angle which can be maintained between the tug's longitudinal axis and the rope. Once this angle is reached the rudder is no longer able to oppose the lateral component of tension in the rope.

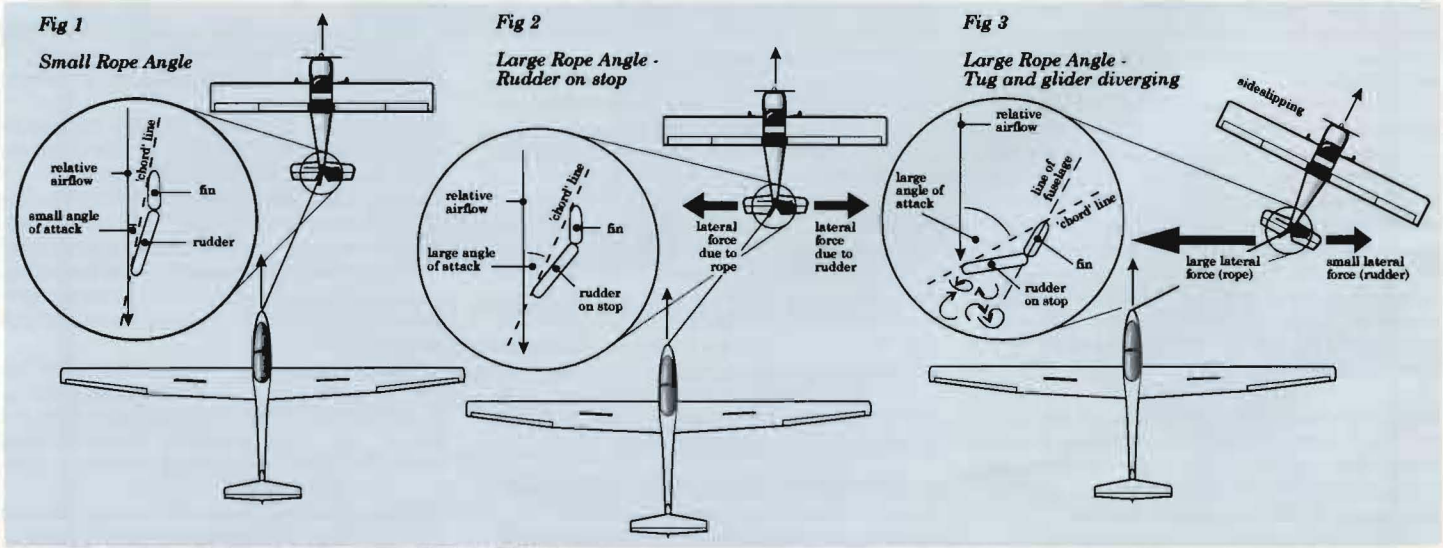
Under these conditions, the tug's heading begins to change and it starts to sideslip. The tug is now in a condition impossible to achieve except when towing. (See Fig 3.) The rudder is fully deflected, but the effective angle of attack of the fin and rudder is still increasing beyond that intended by the designer when the rudder-stop position was determined. The fin-rudder will eventually stall[1], and as it does so most of its lateral force is suddenly eliminated.

The opposite lateral pull due to the rope is now almost totally unopposed and a violent yaw results. One wing is now travelling forwards much faster than the other, and this differential airflow over the wings causes the aircraft to roll uncontrollably in the same direction as it yaws. The rate of roll I experienced in the Cub was considerable. In aircraft with dihedral, such as a Robin or Chipmunk, it might be violent enough to turn the aircraft on its back. Recovering from this position risks overspeeding the engine and overstressing the airframe, not to mention the possibility of colliding with the glider.

While the direct consequences are not as drastic as they can be in a pitch upset, I would nevertheless like to make some observations and make a few recommendations:

1. A crosswind take-off on aerotow has the potential to produce a similar incident if the glider gets airborne well before the tug, since the glider can drift a long way out to the side while the tug is still firmly on the ground. In this case, even a momentary loss of control could be disastrous for the tug. Instructors should set a firm limit on how far off centre is acceptable during the take-off ground run; beyond this point the pupil *must* release. Tug pilots should unhesitatingly dump any glider which is sufficiently off-centre during the ground run to require nearly full rudder to compensate.
2. Many aircraft require right rudder in the climb to oppose the asymmetric prop-wash. This means that the tug has already used up some of its rudder travel and has less in reserve to cope with an out of position glider. In these types, expect fin stall to occur at a smaller rope angle when the glider is out to the right.
3. As instructors, we should avoid excessive rope angles at the tug end when teaching out of position aerotowing, otherwise we should expect to be dumped. If a student gets excessively out of position we should teach the same remedy as when too high; don't try to recover, *just pull the yellow knob immediately*. The maximum acceptable rope angle will vary from one tug to another, but a rule of thumb can be developed by observing the glider's position relative to the tug's wingtip. Any turbulence reduces the maximum acceptable angle.
4. Sustained high forces on the rudder could cause control surfaces to distort, cables to stretch and who knows what other damage, leaving you with a prematurely unserviceable tug and a bill for maintenance.

[1] All aircraft have a fin with a symmetrical section. In the case of the Super Cub it is just a parallel-sided flat plate. This kind of section has a sharp leading edge and, as with a comparable main plane, the airflow detaches very suddenly once the critical angle is reached. The result is an immediate and total stall.



The figures were drawn by Steve Longland from originals by Sheila Keath.

MARY MEAGHER

BRAKES CLOSED AND LOCKED?

Still with tugs, Mary writes how she recently came to dump a K-13 at 300ft

The ideal tug pilot should of course be experienced in power and qualified as a glider pilot. He should be mature in attitude, responsible, fearless and bold, with superb reflexes and judgment. The ideal tug is a lightweight taildragger, minimum 180hp, capable of extracting the heaviest water bearing Open Class glider from a morass at 35°C ambient air temperature and a 90° crosswind, without making too much noise for the neighbours. And of course the ideal ground organisation for a mixed winching and aerotowing club would be Lasham.

We should all be so lucky. I began my towing career at a quiet little weekend club with a 150 Super Cub and a home built winch. In over four years I have chalked up 555 aerotows without incident, until last weekend. *(This was written in April. Ed.)*

But first let me share with you a hairy moment I observed while visiting a gliding club in Texas a few weeks earlier. Sitting on their front porch telling stories and watching the gliders galumphing about in a 20kt wind, I saw their Cessna 180 departing with a DG-100 on tow with the airbrakes open.

It was climbing well enough, but when I pointed out this interesting configuration to the locals they went rushing about, found a radio and broadcast to the old fellow in the DG "Your airbrakes are open! Close the brakes, close the brakes!!!" He did, all right. He did something else too; lost it rather badly and nearly upended the tug. He had to pull off and his downwind landing was an inspiration to us all.

Two days after returning from the USA I did six tows at my club to the wave without incident. On Sunday the wind came round until the winch was working with quite a considerable crosswind component. I did three aerotows on the same run as the winch without problem, but also without the help of an into wind factor, so I wasn't all that high on crossing the boundary and a neighbour complained. So after discussion with the duty pilot I agreed to do the next tow on the westerly runway. I was happy to do so, as it was directly into wind and I'd been landing on it anyway without conflict.

Take-off was a different kettle of fish, however. I would be crossing the winch operation and a higher degree of co-ordination would be needed. No way will I tow across winch cables, nor land across them, so both cables had to be removed, there could be no gliders in the circuit and the tow out vehicle had to be halted.

This meant we had to look sharp and seize our opportunity and I began to get ratty with the people in the K-13. When they were finally ready I took up slack too fast and snatched them pretty badly. They were still attached so I carried on.

Remember, this was my first into wind takeoff of the day. We lifted off after about as much ground run as I had been getting on the crosswind runway. So the penny didn't drop right away. My normal technique is to get airborne asap, then accelerate to the appropriate climb speed, 60 or 70mph depending on the type of glider.

I became aware that instead of a gentle climb on acceleration the combination was **descending!** I held the throttle against the stops, raised the nose, staggered along at 45 to 50mph and rapidly checked - carb heat off, max revs, both magnetos on, full rich mix and the Lycoming was making all the right noises, so why were we still dodging trees? Not always can I catch sight of the glider behind me in that rear view mirror, but I looked and there it was, flopping around with the **airbrakes open!!**

And no radio for making suggestions. Not that that would have been a good idea anyway, remembering what happened in Texas. And no way, at 45mph, was I going to start waggling a rudder. I sent an urgent message by ESP but they were not receiving thought waves. The airbrakes remained proudly displayed on the K-13 which was following like a drunken swan.

Right. What to do? We were no longer descending, at any rate. Inch by inch the 150 Super Cub was gaining altitude. I carefully began a wide swing back towards the airfield and at 300ft I dumped them.

I didn't see them go. I turned round and looked for the K-13, hoping to find it landing back on the airfield. But it wasn't there. What was happening was a bunch of people leaping into cars and roaring out the gate.

It was very bad. We knew they were down but couldn't find them

I came round and landed, badly shaken. The next 15 minutes were very bad. We knew they were down. We couldn't find them. I was about to get back in the tug with an instructor to begin a search when P2 arrived back, quite unaffected and cheerful, and said all was well. P1 had set down safely in a ploughed field, which was in a valley not easy to see, and there was no damage.

The reason they had landed in a field was that P2 had not realised the airbrakes were open until they were landing!

I tried to take-off with the airbrakes open in a K-13 at Booker a few years ago. The Robin 180 dragging us across the grass was notorious for its reluctance to leave the ground, but by the time we reached the middle of the airfield and were still not airborne I was wondering what on earth was wrong with the tug. And then I glanced out to the side, and there were those cute little orange paddles sticking up on the wings. I put the brakes away and we leapt into the air and no more problems.

But my first thought had been what's wrong with the tug? And on this occasion the first thought of the K-13 pilot had also been what's wrong with the tug? Engine trouble? Curl over from the hill? For the entire duration of that dreadful excursion, the glider pilot hung on with the determination **"I must not pull up her tail".** (A sentiment which I endorse one hundred percent.)

I was ever so glad the K-13 had come down safely and they even found the tow rope. Everybody said it wasn't my fault. That I did all I could. But I wasn't happy about it. Never before have I dumped a glider. That 15 minutes of wondering whether they were rolled up in a ball at the bottom of a quarry somewhere was very bad. I wanted to talk about it with a wise old tug pilot. What should I have done that I didn't?

Dave Richardson at Booker listened carefully to my story. "You **were** climbing. You were not in danger and the longer you carried on climbing the better things were getting?"

"That's true," I admitted, "but I lost my bottle. I thought we were high enough and close enough for them to land safely back on the airfield."

"If they hadn't noticed the brakes were open up to then, they certainly wouldn't notice it when you dumped them; you just presented the glider pilot with a maximum overload situation, rapid descent and choosing a field from 300ft. They were lucky to walk away from it."

"What should I have done? I didn't dare to signal because we were flying so slowly."

"If you had hung on to about 500ft, however slowly you were climbing, and **then** flown level to pick up speed you could have signalled the glider pilot safely. And if they still didn't twig, you could have brought them round right over the airfield and **then** pulled the chain."

That's absolutely right. That's what I should have done. **Dave Byass**, Booker tugmaster, agreed. "But it was 90% the fault of the glider pilot, so don't feel badly about it," he assured me. "You did the right thing in flying slowly to gain height, that was the only thing you could do!" "I just should have kept on doing it longer?" "Yes, but remember, if you have engine failure, or you **can't** climb at all, you dump the glider and forget about it. No sense in having two machines destroyed. The glider will crash at 30kt and they'll walk away from it, but you would go splat in a puddle of petrol, and that's undesirable."

Shep, grizzled old tuggie, added his pearl of wisdom. "If you carry on tugging you'll have everything go wrong sooner or later. Engine failure, the lot. I say you did the right thing to dump them and make them land out; taught them a lesson they won't forget."

Should tug pilot training cover this situation? I wonder what comment other tuggies or CFIs would make? I hope all glider pilots reading this will resolve to do their checks properly and that all those offering a tow rope to a glider will remember to ask and confirm **brakes closed and locked**. And if your tug is not performing properly remember it **may** be that the airbrakes have come open. Have a look.

AEROBATIC CORNER

Flight Envelopes

This second of two articles by Mike on aerobatics is an extract from the new Aerobatic Manual he is writing with Peter Mallinson - there are various misconceptions about flight envelopes, particularly on the multiple use of controls, and he attempts to clarify this in simple terms and provides an interesting insight into the comparative strengths of different gliders

While structurally vulnerable on the ground, gliders are really quite strong when subject to the aerodynamic loads for which they are designed. However, that strength can vary significantly from glider to glider (see Fig 1).

Flight loads increase significantly with only moderate increases in speed

Flying loads are strongly dependent upon airspeed in a way which should be fully appreciated by the aerobatic pilot. Basically, the ability to apply flight loads increases as the square of the airspeed. So if one **doubles** the speed of flight, then **four** times the loading will be applied to the glider. The implications of this, particularly if VNE is exceeded, are therefore very serious.

The strength of a glider is illustrated in the flight envelope (*eg* Fig 2) which is particular and different for every type of sailplane. This is a graphical representation of the load a glider can sustain in its most vulnerable degree of freedom, *ie* the pitch plane where loads are measured perpendicular to both the longitudinal and lateral axes of the glider, as applied by the elevator. The elevator controls the greatest force acting upon the glider - the wing resultant force - which is the most significant to the airframe.

The acceleration load factor "n" imposed upon the airframe is measured in multiples of *g* so that a load of 1*g* implies that the glider is experiencing its normal all up weight. A load of 2*g* means the glider weight is effectively doubled. This can be achieved by manoeuvring the glider in such a way as to increase the **acceleration** experienced by the structure to twice that of gravity. This could be achieved for example in the pull-out from a dive or by pulling the glider around a steep turn - the turn providing an acceleration of 1*g* which is additional to the normal 1*g* acceleration in normal level flight. Similarly you can impose loads of less than 1*g* on the airframe by pushing over to horizontal flight from a steep climb.

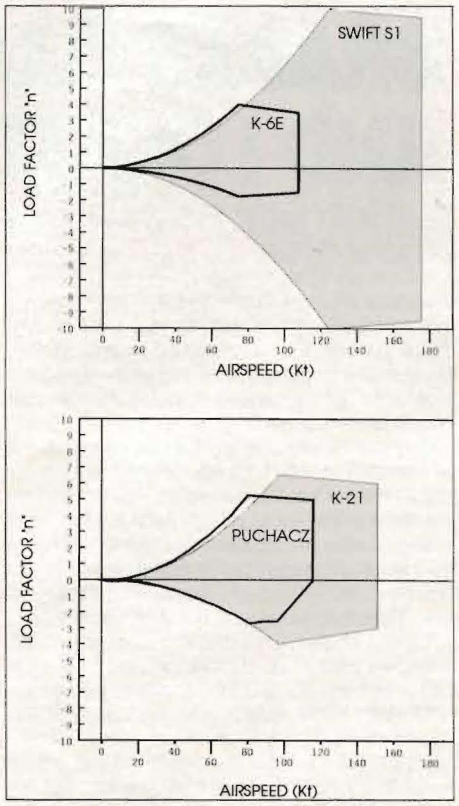


Fig 1. Various flight envelopes compared.

Before aerobatting a glider we need a fundamental understanding of its flight envelope. The basic information may be difficult to get as flight manuals can be limited in scope. In such cases ask the manufacturers or other aerobatic pilots for the necessary data. JAR22 is the European design standard for gliders produced after April 1980, and gives a valuable insight into the requirements met by designers since that time. It is important to realise that older gliders may not fully meet these strength requirements, so study carefully the flight manual.

A good way of getting to know flight envelopes is to practise constructing them, so why not have a go by drawing the envelope for the glider you propose to fly. If you draw it to the same scale as those in Fig 1 you can then make a direct comparison, but first read below to understand the information provided.

Elevator induced loads

The flight envelope is written with specific reference to the elevator control which has the greatest potential for damaging the airframe. The effect of the aileron, rudder and airbrakes are then reflected in relation to additional constraints their use imposes.

Fig 2 shows that flight loads of 1*g* and -1*g* occur at the erect V_{S1} and inverted V'_{S1} stalling speed of the glider. The next key point is the maximum manoeuvring speed V_A, the speed beyond which rapid movement of the elevator control (only) will cause the wing to generate forces in excess of the glider's maximum allowable load factor. This applies equally in erect or inverted flight although the load factors (n_1 and n_4) are usually of different magnitude and V_A may also be different in each case.

Between the stall speed and this maximum load condition is the stall boundary - a curve with its origin at zero. This represents the airspeed and corresponding load at which the wing will stall with rapid elevator deflection, thereby alleviating resulting airframe loads. In other words, up to maximum manoeuvring speed, rapid and full elevator deflection will not overload the

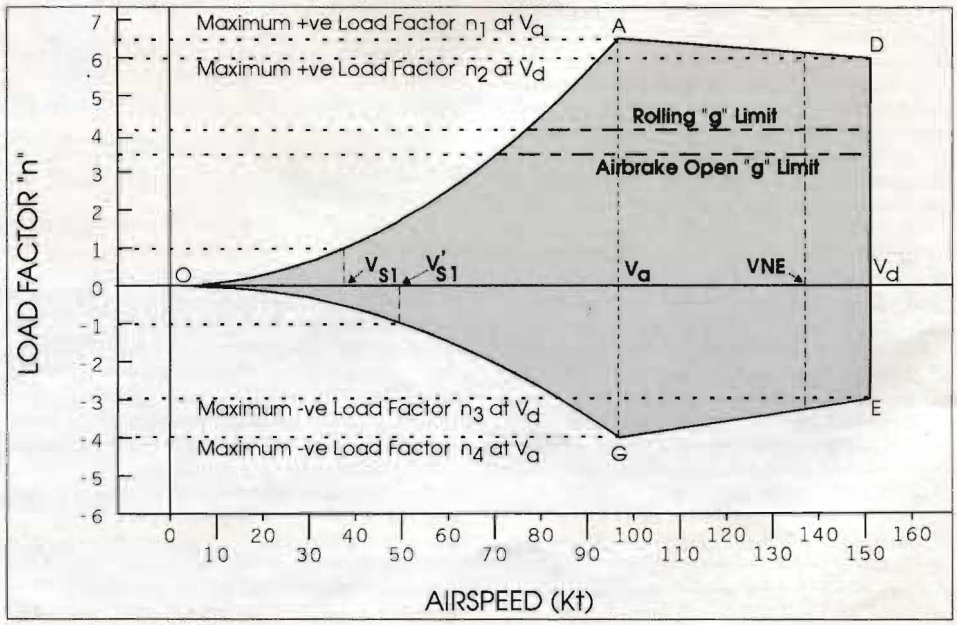


Fig 2. Points on the flight envelope.

glider, the wing stalling before reaching a critical load. Above this speed, however, overload can certainly occur and judicious use of the elevator is needed, reducing to as little as 1/3rd full elevator deflection at the maximum allowable speed VNE of the glider.

JAR22 defines the maximum manoeuvring speeds V_A to be

$V_A = V_{S1} \times \sqrt{n_1}$ for erect flight
where V_{S1} is the erect stall speed and
n_1 is the maximum erect design load factor

This equation is useful to derive either V_A, V_{S1} or n1 in the event that any one value is unknown for the erect flight conditions. Its application can similarly be used with equivalent values relating to inverted flight, *ie* V_A, V'_{S1} and n_4.

The maximum design speed V_D will usually be the same but may be different in erect and inverted flight (*eg* the Puchacz). At these speeds, erect (n_2) and inverted (n_3) maximum load limits exist which will certainly be of reduced magnitude to those occurring at the maximum manoeuvring speed V_A. The never exceed speed VNE is established and placarded as 0.9 times the maximum speed demonstrated in flight tests VDF which itself must not be more (but may be less) than the maximum design speed V_D.

JAR22 337 defines the minimum manoeuvring load factor limits to which gliders should be designed in either the utility or aerobatic category as follows.

Load Factor	Category	
	U	A
n1	+5.3	+7.0
n2	+4.0	+7.0
n3	–1.5	–5.0
n4	–2.65	–5.0

However, confirm the limits of the glider you intend flying with the flight manual. It may have only been designed to meet the utility category requirements so that the aerobatic load factors do not apply.

Gliders are designed to withstand and operate satisfactorily up to their flight limit loads without permanent structural deformation. The ultimate strength must be at least 1.5 times greater, with such loads being resisted for at least three seconds before failure occurs.

Also important is V_B - the rough airspeed limit and the corresponding maximum load factor imposed on the airframe by a standard knife edge gust of 15m/s. It should not be confused with the maximum manoeuvring speed V_A which may be coincident or lower in value to V_B.

Factors moderating the flight envelope

Additional significant forces may be imposed on a glider airframe resulting from:

1. Use of rudder to generate yaw forces.
2. Use of aileron to generate roll forces.
3. Use of airbrakes.
4. Vertical up/down draughts.

The effect of these is illustrated by reference to the reduction each causes to the elevator related flight envelope. Combinations of these effects will of course reduce the flight limits still further.



The Fox two-seater - an ideal glider for unlimited aerobatic instruction. Photo: Pete Mallinson.

A. Use of rudder

Full rudder and full elevator are generally only used together to perform flick manoeuvres which if permitted in the glider will be limited to a maximum airspeed. This should be regarded as the max manoeuvring speed for combined rapid and full deflection of both rudder and elevator controls together (typically 53kt on a glider with a V_A of 90kt).

NB: Flick manoeuvres impose huge twisting loads on the airframe which severely stress rear fuselage structures and T tail mountings. They must be avoided on gliders not specifically cleared for such manoeuvres.

B. Use of aileron

A rolling load limit is superimposed on the flight envelope as an additional limit on the operation of the glider when roll control is used. This is a lower figure than the maximum load factor because the wing structure has to provide strength to withstand the twisting forces caused by the roll control deflection in addition to providing strength to withstand normal loads. This is illustrated by the roll limit boundary line shown in Fig 2.

JAR22.349 specifies that the positive manoeuvring load factors must not reduce by more than 1/3rd, when aileron induced loads are imposed upon the airframe by full aileron deflection up to V_A, and reduced deflection of 1/3rd x full deflection at V_D (JAR22.455), *ie* a load factor n1 of 6*g* reduces to no less than 4*g* when full aileron is used at speeds up to V_A.

Fortunately rolling manoeuvres are normally performed at low or only moderate airframe loadings so that flight within this reduced flight envelope is generally not a problem provided we avoid the use of full ailerons beyond V_A. More care is needed in manoeuvres involving higher speeds and significant elevator and roll control inputs, such as Cubans, Clover Leaves and Barrel Rolls, to ensure that they are not used significantly at the same time.

C. Use of airbrakes

Contrary to popular belief, using the airbrakes does cause a significant reduction in the strength of a glider, moderating the flight envelope in a similar manner caused by the ailerons described earlier and as illustrated in Fig 2. The reason is twofold.

First, the airbrakes destroy lift over a significant inboard section of the wing causing the spanwise wing lift distribution to move outboard, substantially increasing wing bending moments. Secondly, the airbrakes generate significant drag loads upon the wing, a proportion of which becomes additional load in the pitch plane direction.

JAR22.345 specifies that the maximum load factor limits should reduce to no less than 3.5g when airbrakes are fully deployed. In consequence, it may be better to slow a strong glider by pulling *g* rather than by opening the airbrakes.

D. Vertical up/down draughts

Loads imposed on the airframe by vertical gusts such as thermals, detract from the amount which may be imposed through the controls. It is inadvisable to pull 4*g* in a glider having a maximum load factor of 5*g* if the thermals are causing an additional 2*g* load. It is best to avoid aerobatics when there are thermals and choose smooth air conditions at the beginning and end of the day.

Fortunately the loading effect of gusts on the airframe is linearly proportional to both the vertical speed of the gust and the glider airspeed. A load excursion of 1*g* from thermals seen on aerotow at 60kt therefore translates to only a 2*g* load excursion at 120kt rather than a 4g excursion as would be caused by a control input induced load as mentioned earlier.

Effect of age on flight envelopes

As a glider ages its ultimate strength will inevitably reduce through wear and tear. A good example is the minute loosening of several thousand rivets along the wing of a Blanik which is often used for aerobatics.

Pilots therefore need to make their own judgment about the flight envelope shrinkage they consider appropriate for any particular glider they intend to fly, bearing in mind its age and condition.

References and additional reading. Irving and Welch **New Soaring Pilot**, 3rd Edition 1977 Chapter 20; Airworthiness Steering Committee Joint Airworthiness Requirements JAR22 **Sailplanes and Powered Sailplanes,** Change 4, May 7 1987. Originated April 1 1980.





Both Photo A (left) and Photo B (right) show the decay of a very shallow cu under an inversion. All the photos and drawings are by Tom.

GROWTH AND DECAY OF

TOM BRADBURY

No cumuli last for ever and some have a very brief life. It is worth watching for the first signs of change, especially in the cloud you are heading for. If a small cu decays it is usually easy to divert to an active cloud nearby. A developing cu-nim is much more serious. It may end up overshadowing a whole county.

Shallow cu

Photos A and B show the demise of a flat cu on a perfect day with high based shallow clouds under a solid inversion. A shows a decaying cloud nearby with active ones further away. B shows a cloud from directly below taken with a 24mm very wide angle lens. There was not a wisp of it left five minutes later. Shallow cu can become a mile wide or more and, although lacking in depth, persist at least a quarter of an hour. A cloud this size survives because the small area of lift feeding it moves about constantly refreshing it. When the lift fails holes appear and the cloud soon evaporates. From high up it is hard to spot the start of holes but looking at the shadows on the ground is a help.

Stages in the life of a cumulus

1. The initial thermal. Almost as soon as a thermal leaves the ground it begins to be weakened by mixing with its environment. This process, known as "entrainment", starts at the edge of the thermal. Most thermals have their maximum lift in the core. The core speed is faster than the ascent of the summit. As the faster rising air nears the top it usually curves outwards and begins to fall back when it reaches the side of the dome.

One can see this in time lapse films of large cumuli. The central dome surges upwards almost vertically but turrets on its edges tend to slip back relative to it. To begin with the little bulges at the side merely rise slower than the central dome but later on they actually descend. 2. At first entrainment of outside air into the thermal occurs chiefly at the leading edge of the rising dome. Later outside air is drawn into the side of the cloud and some may curl round and enter near the base. One can often see that the surface of a large dome is covered with lots of lesser bulges. These engulf outside air as they rise, so diluting the thermal. Large wide domes take longer to become diluted than small ones and can rise further before they lose lift. A clump of cumuli lasts longer and grows larger than an isolated cloud because the inner clouds are protected from erosion until they emerge into clear air higher up.

The sheltered inner core sometimes builds up such a speed that it shoots out of the cloud mass as a long thin column. Thin columns offer less drag and can rise faster than the usual blunt dome of cumulus. Being narrow makes them vulnerable to erosion from the surrounding cooler and drier air so they have a short life. Any wind sheer tends to blow them over and the column is apt to break leaving only a dissipating bubble at the top with sink beneath it.

Photos C and D show two varieties of big cu. C looking east shows a good looking sky with no threatening features but D, looking SW at almost



Photo E shows active cu with strong lift. The nearer clou
right, but a new turret on the left shows where the lift has

Below: Photo G. Glaciation blurring the outline of a moderate sized cumulus. It is the first sign of a snow shower.



Below: Photo H of a snow shower from an area of spread out.







On the left photo C shows the view east at midday. All the big cu look good ahead. Photo D (on the right) was taken looking SW at the same time as photo C. Over energetic cu are throwing up long narrow turrets which isn't a good sign for the afternoon.

CUMULUS



loud has begun to tilt and develop an overhang on the has moved to.

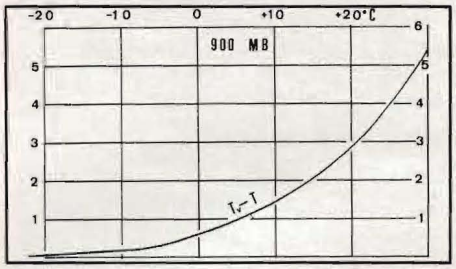


Fig 1. Graph showing the difference between actual and virtual temperature at the 900mb pressure level assuming 100% humidity.

the same time as C, is an early warning of changes for the worse. These clouds are altogether too energetic, throwing off narrow tilted columns in their haste to grow tall.

3. Moisture as a factor in lift

Water vapour is less dense than dry air at the same pressure and temperature. When calculating lift in a thermal it is convenient to work with the "virtual temperature". This a fictitious temperature at which completely dry air would have the same density as the saturated air. For example if the air at 900 millibars (3243ft in a standard atmosphere) had a temperature of 15°C and a relative humidity of 100%, the virtual temperature would be two degrees higher at 17°C.

The difference between virtual and actual temperatures is negligible below -20°C but increases to more than 5°C at a temperature of 0°C. Fig 1 shows a graph of this difference between virtual and true temperature. If the air is not saturated the virtual temperature is less than the value shown on the graph. For example with a relative humidity of 50% the value is halved.

Moisture becomes important when entrainment draws drier air into the thermal. The mixing both cools and dries the thermal and the original density difference is rapidly reduced.

Condensation

The air can only hold a limited amount of water vapour and the colder it is the less it can hold.



Above - Photo F is looking up at an overhanging turret. Lift has moved to the far side where the base is still clear. (Taken with a 24mm very wide angle lens.)

Below: Photo I is of a big cu just before an anvil formation starts.



Below: Photo J was taken 15 minutes later when the small anvil was well developed



While unsaturated a rising thermal cools at 3°C/1000ft. When the temperature falls below the dewpoint, condensation begins and the water vapour forms cloud droplets. Condensation releases latent heat which increases the energy of the cloud. This usually allows the thermal to rise much higher. Entrainment of dry air from outside the cloud reverses the process.

Many traverses of cumuli made by aircraft with fast response temperature and humidity sensors showed that tiny pockets of dry air became engulfed by the growing cloud. With time these grew into sizeable volumes of air which had been cooled by evaporation as well as mixing. Volumes of denser air developed within the cloud; this first reduced the thermal strength and eventually stopped all the lift.

Visible signs

The first effects of entrainment are seldom visible to an approaching pilot; the process takes time to reveal itself. From the air it is difficult to watch how a cloud is developing; one is usually travelling too fast to be able to observe the changes and the altering angle of view affects one's impression of the cloud. Indeed rounding a TP and setting off in the new direction often seems to make clouds look better (or worse) than on the previous leg.

An enforced grounding provides opportunity to concentrate on a single cloud. Stop watch, sketch pad and camera are useful here. One soon finds problems. It is rare to be able to time a cloud from the moment it first forms and it requires patience to follow it to final extinction.

Some small cu form and disperse in a couple of minutes, especially early in the day. Such very short lived puffs of cu often form just above the base of the inversion when momentum makes the thermal penetrate the stable layer above. Finding itself suddenly too dense to stay up the thermal quickly flops back and its marker puff vanishes.

Most medium sized cu go through a cycle of growth, decline and revival which makes timing frustrating. Clearly fresh pulses of lift come up to revive a moribund cloud. (How often do you look back and see the cloud you spurned five minutes ago has just grown a new turret and now looks better than the one you are under?)

Photo E shows a collection of cu on a day of strong lift. The right hand (downwind) side of the nearer cloud has begun to tilt indicating that the lift is failing there but the new turret poking up on the left marks where a fresh pulse of lift is active. Photo F was taken looking up at a turret when it had only recently started tilting. The top still looks active but is actually just starting to overhang (as in E). Approaching such a cloud one usually doesn't find any lift until the far edge is reached.

Bright clouds are best

A growing dome of cu has a sharply defined edge and usually looks a bright white if the sun is behind you. It is bright because the newly formed droplets are small and very close together so that they reflect sunlight particularly well. A dulling of the cloud can mean it is aging; the tiny droplets are merging into larger and less reflective elements.

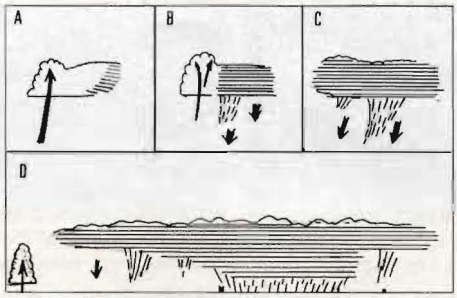


Fig 2. A to D - cold springtime cumulus becoming glaciated and producing a snow shower. Horizontal lines show where ice crystals had become dominant.

Look of the cloudbase

A sharply defined dome to a cumulus usually shows the upper part of the cloud is still active. Unfortunately the dome is often the last part of the cloud to decay.

It may keep growing for some minutes after the lift has ended below cloudbase. If the thermal starts to die out the first signs of decay show up at cloudbase. A ragged and uneven cloudbase usually means the lift has failed under that section. However there may be a new surge of lift further upwind and this will produce an inviting flat base. The new dome will appear a little later.

Decaying turrets

Soon after the turret has stopped rising the crisp outline starts to blur. Selective evaporation slowly changes the rounded dome into thin filaments of cloud and it ends up as a hairy mess. This affects even small cu but it is most noticeable with some cu-nim. The text books call it "Capillatus" which is Latin for having hair. The hairy appearance is often, but not invariably, a sign that the water droplets have changed to ice crystals.

Glaciation

This is the technical term for the transformation of supercooled water droplets into ice crystals. The process usually marks a fundamental change as a big cu grows into a cu-nim. The veil of ice crystals gives the cloud a misty appearance (see photo G), the domes and turrets start to blur and the first signs of anvil cloud may appear. This often starts near the downwind end of the cloud and takes very few minutes to transform the appearance. A shower quickly follows. On cold days in spring the precipitation often starts as snow which falls so slowly one can watch the trails sinking down and expanding outwards as the shower grows.

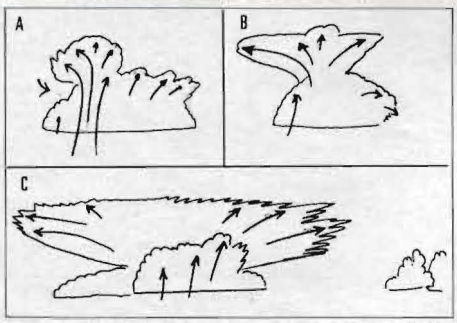


Fig 3. A to C - warmer cu developing a small anvil.

Spread out of showers

Showers vary greatly in the area they cover. Some cu-nim have a life time as brief as half an hour from start to finish. These are usually small enough to fly round without much waste of time or loss of height. Cu-nim which form wide anvils are a serious problem. The actual shower may only cover a small area but the anvil can grow to overshadow an enormous distance. Photo H illustrates an early stage in the spread out.

Fig 2 shows four stages in a cold springtime cu-nim. At (A) only the extreme downwind end has begun to glaciate and a new turret composed of super cooled water droplets is growing on the left (upwind) end.

In (B) the glaciation has spread more than half way through the cloud and the first trails of falling snow begin. By (C) the entire cloud has lost its crisp shape and a second trail of snow has begun. (D) shows the last stage when a vast sheet of cloud (still producing snow) extends across some thirty miles. When this happens in mid or late afternoon the cloud persists for two or three hours.

Anvil formation

Fig 3 shows a deeper cloud changing into the typical anvil of a cu-nim. The first stage (A) is a large swelling dome with the beginning of an overhang on the left. The anvil has developed in (B) and is nearing its full size in (C).

This kind of development is shown in photos I and J. Photo I shows a large dome of cloud with a notch cutting into it on the left hand (upwind) side. The subsequent change was quite rapid. Within a quarter of an hour the cloud looked very different.

An anvil had spread out in all directions and the cumulus base had degenerated into a rather small supporting column. The volume of air entering the cloud was probably much less than in I and the anvil did not grow much wider.

Portmoak
Scottish Gliding Union Limited

- **Our two brand new K21's are now on site!**
- **All year round soaring in thermal wave & ridge**
- **Launching by winch and aerotow**
- **Holiday Courses available from April**

For Details Contact:
The Secretary
Scottish Gliding Union
Portmoak Airfield
Scotlandwell KY13 7JJ • 0592 840543

Nevynn international
36 Southpark Avenue, Mansfield, Notts.
NG18 4PL. Tel/Fax 01623 634437

"Tesa" Aileron Tape 38mm x 50m white waterproof s/a cloth
£18.35 plus £2.50 p&p UK

Wing Tape British made s/a P.V.C. in 33 mtr rolls

19mm	1 roll	£1.25	plus £0.75 p&p UK
	8 rolls	£8.80	plus £3.75 p&p UK
25mm	1 roll	£1.75	plus £1.00 p&p UK
	6 rolls	£9.30	plus £3.75 p&p UK
38mm	1 roll	£2.85	plus £1.25 p&p UK
	4 rolls	£10.00	plus £3.75 p&p UK

Glider Batteries 12V 7AH sealed lead acid
"YUASA" ONLY £18.35 plus £6.00 p&p UK

"Global YUASA" sealed lead acid batteries
12V 12AH £36.50 plus £6.50 p&p UK
Yuasa 2.6AH, 15AH & 24AH also in stock at competitive prices

Battery Charger LED "plug" type 5 stage charge
12V 300mA output. Made in U.K. £29.25 plus £2.00 p&p UK

Battery Charger LED 3 stage charge 12V 1AMP to "Yuasa" specification. Made in U.K. £37.85 plus £6.00 p&p UK

Instrument Screw Drivers
in 6 pack £3.00 plus £0.75 p&p UK

Permanent Markers fine tip
in 6 pack – 2 black, 2 blue, 1 red & 1 green
£4.95 plus £0.40 p&p UK

Tyre Valve Extensions in pack of 3
1 chrome 19mm
1 chrome 32mm
1 brass 60mm £8.75 plus £1.00 p&p UK

Registration Decals for wings and tails
s/a vinyl e.g. 6 for tail to comply with B.G.A. requirements

6"	£8.50	plus £1.00 p&p UK
8"	£12.50	plus £1.40 p&p UK
10"	£16.50	plus £1.60 p&p UK

Any size available in all standard colours.

"Ricoh" LX-55W Databack Camera
Auto load, auto rewind, 1.3m to infinity, tripod bush, self timer, flash, carrying case. Supersedes LX-33W £69.25 plus £3.00 p&p UK

Black & White Films 12 exp 35mm 200 ASA/ISO
in re-loadable cassettes £1.25 plus £0.50 p&p UK
10 rolls £11.50 plus £1.50 p&p UK
20 rolls ONLY £19.00 plus £2.50 p&p UK
Refund on our returned re-loadable cassettes in good working order of £0.10

Colour Films High Definition 12 exp. 35mm 100ASA/ISO
1 roll £1.40 plus £0.50 p&p UK
10 rolls £13.00 plus £1.50 p&p UK
20 rolls £24.00 plus £2.50 p&p UK

Film Magnifier/Viewer (8x)
ideal for 00's £15.25 plus £0.70 p&p UK

Pocket Magnifier
ideal for 00's £3.25 plus £0.50 p&p UK

Mini Vac Battery Operated, ideal for cameras & instruments
£8.95 plus £0.85 p&p UK

Beanie Hats Top Quality
white, blue glider motif, asstd sizes £3.95 plus £0.45 p&p UK

T-Shirts Giant Size top quality
heavy weight 220gm white, printed "Glider pilots side slip it in" or other slogans. Please ask to see our complete list which includes tug pilots, motor glider pilots & aerobtic pilots. £7.50 plus £1.00 p&p UK

T-Shirts Giant Size top quality
White printed in blue "Glider pilots need help to get up . . . then stay up for hours" £6.60 plus £1.00 p&p UK

T-Shirts Giant Size top quality
Navy or black, printed in white "I'd rather be gliding" with Nimbus drawing £5.95 plus £1.00 p&p UK

Sports Polo Shirts Made in U.K.
embroidered with self colour glider motif
Short Sleeves. £12.75 plus £1.00 p&p UK
100% combed cotton pique. 3 button. M/L/XL. new gold, royal blue & red. (XXL & other colours to order 7 days or sooner).

100% Cotton Shorts Lined, 2 pockets, tie waist M/L/XL
Navy, pastel blue-grey, turquoise & grey £8.75 plus £1.00 p&p UK

LATEST ADDITIONS to OUR RANGE

"Jessop" AFPS Databack Camera auto load, tripod mount, flash, red eye reduction, self timer, carrying case £54.95 plus £3.00 p&p UK

Camera Mount with 100mm SUCTION PAD & release lever. Ideal for fixing to canopies £32.65 plus £2.00 p&p UK

BCF Fire Extinguisher 1.5kg re-chargeable, gauge & bracket
£63.65 plus £5.70 p&p UK

Portable Gas Soldering Iron 30 mins on full tank, 35W 350 C £23.25 plus £2.75 p&p UK

Rechargeable Soldering Iron with charger
£23.85 plus £2.75 p&p UK

Right Angle Tyre Valve Extensions, brass with knurled locking nut, dust cap. Pack of 3 £8.75 plus £1.00 p&p UK

8" Tyre Levers chrome vanadium, ideal for tail wheels. Price per pair £21.00 plus £1.75 p&p UK

12" (300mm) Tyre Levers chrome vanadium, ideal for main wheels, price per pair £34.85 plus £2.25 p&p UK

Curved Mylar Seal self-adhesive for ailerons, flaps & rudders. Prices per mtr.

22mm	£4.40	plus £1.80 p&p UK
30mm	£5.20	plus £1.80 p&p UK
38mm	£5.60	plus £1.80 p&p UK

Ultra Heavy Duty Picket Irons (15")
pack of 2 with ropes & tommy bar in strong canvas wallet.
£53.85 plus £5.70 p&p UK

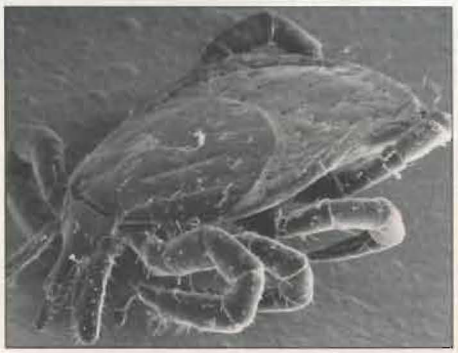
We now sell the full range of "Jessop" photographic products at competitive prices, please ask for catalogue and price list.

Hopefully we will be shortly stocking "Dunlopillo" impact absorbing foam, capping tapes, maps, protractors, scale rules & other products at competitive prices.

Please see our other product range on page 245

ROBERT A. POLLETT & GWENDOLYN E. HEYGATE

PILOTS BEWARE



This hideous looking tick can be lethal. It was photographed by Robert, a physicist and Lasham glider pilot, who writes about a dreadful disease which can be picked up during an outlanding. It caused the death of his mother Gwendolyn (who collaborated in producing a paper from which we have taken these brief extracts)

When you climb out of your glider after a successful landing the last thing you would expect to suffer is a silent and potentially deadly bite from a hungry but infected tiny tick.

In Britain, in the last 50 years, great areas of heathland and scrub have been repopulated by deer. Records from nearly a century ago list sufferers of strange forest associated symptoms which have recently been likened to Lyme disease.

Ticks fall off deer after a meal of their blood and later eggs and ticks of all stages of growth are commonly present on moors and urban parks as well as hills and valleys - deer paths go through the best kept lawns and country estates, set-aside, fields and verges.

Many deer forest wardens tested in one area had antibodies to the disease in their blood and some almost daily had to remove ticks with fine curved tweezers from their ankles, waist or wrists where they crawl under clothes. So landing out may be no picnic as you walk to find a telephone or wait around for your crew.

Brushing past a tree or merely sitting on the grass will allow them to hitch a lift and crawl around you for 24hrs or longer before tucking in for their liquid lunch. In really hot weather they are twice as active. All mammals are at risk and birds have been known to carry the ticks to previously uninfected areas..

So what about Lyme disease? Called Lyme, Old Lyme and East Haddam - a cluster of small towns in wooded areas in East Conneticut, USA - where it was first identified in 1975, the disease may appear in three overlapping stages which starts with a spreading red rash and then neurological, cardiovascular and arthritic problems may develop.

NB. The symptoms are alarming but if it is correctly diagnosed - and sadly Gwendolyn had the disease for over a year before the cause of her illness was realised - there is a cure and vaccines are being researched for humans and deer. Fortunately it isn't very common in the UK but in parts of the USA it is the most feared disease after aids.

This isn't the correct place to go into all the clinical details but Robert has researched the subject thoroughly for six years, starting with his mother's help until her death four years ago, and if you would like a copy of his paper and references (which might be useful for club noticeboards) send a sae to *S&G*. As he says, knowledge is prevention.

GLIDER INSTRUMENTS
(M. G. Hutchinson)
Repairs and overhauls carried out
P.Z.L. Sales and Service
Barograph Calibration centre
Write or phone:
'Tanfield'
Shobdon
Nr. Leominster
Herefordshire HR6 9LX
Tel: 0568 708 368
(answering machine)

STORCOMM
TWO-WAY RADIO
Our NEW instrument panel mounting air set, model TR 9005 is now in production. Main features:
- ★ Covers entire band 118-136 MHz.
- ★ Accepts up to 8 channels.
- ★ Offers cost saving narrow band receiver version.
- ★ Full power transmitter accepts both hand and boom microphones.
- ★ Sensitive and selective receiver with crystal filter.

Economic service for all our previous models plus most other air and ground radios.
Pye "Westminster" 6-channel ground sets available, fitted 130.1 and 130.4 Mhz.
Detailed information, prices and technical specifications from
GEORGE STOREY *Tel. 0932 784422*
H.T. Communications, P.O. Box 4, SUNBURY ON THAMES, Middlesex, TW16 7TA

KENYA

A recommendation by Rupert Robertson of a friendly club with great soaring conditions



The K-13 at the Gliding Club of Kenya.

If you are looking for staggering thermals, unlimited airspace, stunning scenery and one of the friendliest atmospheres in gliding, look no further than the Gliding Club of Kenya. We were fortunate enough to spend ten days with this little club in February.

Mweiga Airfield is situated next to Mt Kenya (17 000ft) and the town of Nyeri at an altitude of 6000ft. The surrounding hills form a rain shadow effect over flatter country 35km to the north where hot dry desert terrain provides marvellous cumulus weather.

Peter and Petra Allmendinger took over the gliding club in the late 1980s having gained a passion for the area. Their beautiful 1920s colonial home, which is a short drive from the airfield, makes comfortable accommodation for guests with home cooked meals at modest prices. Guests are welcomed into life with the family of five or can remain independent as they wish.

The fleet consists of a K-13, Std Jantar, Tutor, two Cirrus (owned by club members) and a T-21 which everyone loves to fly in the hot weather. Maintenance standards are high and oxygen is fitted to the club fleet.

On arrival Peter and I flew the K-13 after which he left me to go solo. The area is easy to navigate and air traffic is low, but Peter did point out that you need to keep an eye on the large African soaring birds which join you in a thermal. Lift of 5-10m/sec is not uncommon although the same rate of sink can also appear when you least expect it.

Peter demonstrated that the thermals tend to be narrow and you soon develop the technique which makes long duration flights easier and enjoyable. There have been many high altitude flights and I found myself thermalling at 13 500ft near Mt Kenya and still well within sight of the airfield.

In the opposite direction are the no less interesting Aberdare range of mountains, at the base of which is the Aberdare Country Club and Game Park where elephants, giraffe, zebra and many African animals abound, making it less suitable for landing out.

Gliding in Kenya is still in the pioneering stage and has great potential. Interested pilots from the UK and elsewhere are being invited to bring gliders for a season and map out cross-country routes.

We had a delightful stay at this little club and would recommend a visit. If interested contact Peter and Petra Allmendinger: PO Box 926, Nyeri, Kenya, tel/fax 00 254 171 2748, or me through the London GC or at home on 0171 381 1539.

Don't forget your logbook!

INDIA

Murray Wilson calls his account of gliding in Delhi "Against all odds"

A sunny Sunday afternoon. Visibility apparently good. A fine time to visit the local gliding club. After all, we were sure that was a K-6 lying beside the runway on our taxi ride past the airport.

Finding it was not so easy. As we attempted to pass the airport gates towards what was clearly the flying club area an ancient retainer demanded "permissions". Helpfully, he abandoned his place at the gate leaving it unguarded and took us into the Airport's Authority Building. After a tortuous climb we emerged into the control tower to confront the duty officer. It seemed that we had arrived on the wrong side of the airfield - don't you just know that feeling from other gliding sites?

Eventually we arrived. A group of youngsters, including girl air cadets, were having a meteorology lesson, but one was detached to give us the tour. In the hangar was a "Bonn", which on closer inspection was actually a K-13 well sheeted. The others were a T-21B, an unknown open single-seater and the sad remains of a Bocian in a trailer.

The pupils were avid to hear of our experience. "How high do you get on a winch launch?" was usually the first question. My modest exploits, no stick bender me, aroused admiration. Their maximum permitted height off the cable is 400ft. Yes, feet. From there they perform a gentle circuit to earth.

"But what about picking up a thermal?" Already we could see strong thermals just above ground level clearly marked by enormous circling vultures. Apparently not.

The flying is limited to no more than 400ft and to the boundaries of the airport. The prime minister and many members of the government live along one side of the field and may not be overflown. A flyover bounds one side of the field with the result that the runway threshold bars for the airport are painted half way down the runway. A quarter of a mile to the south lies one of the biggest hospitals in the world. This is in the middle of eight million people.

Get the picture? A gliding club as though in Hyde Park. Limited because of airline traffic, security close by and the limits of the park because there is nowhere, literally nowhere, to land for the next few miles. How would that suit you? Turn up regularly for your occasional heave to 400ft from a single drum diesel winch in one of the club's three aircraft?

The enthusiasm of the pupils at Delhi GC was delightful to see. We were indeed fortunate. The wind direction removed the restriction from the nearby international airport.

No one special was in residence. "Check the glider and take it out". "Would you like a joyride?" Having recently observed local railways and other mechanical devices we were happy to forgo the offer. Two girls, one in a sari, which made me wonder about "free and full movement of controls" leapt into the cockpit of the T-31 to be pushed about half a mile to the launch point. This was done with much happy banter and the occasional song. There followed long discussion about who was to fly. I took the opportunity to renew acquaintance with the Cosim variometer. Could these be antiques now?

Tension mounted as the instructor drove up in his Land Rover. Why didn't he use that to tow out the glider? He drove away. "He had forgotten that there is a restriction from 1400 to 1600 today" they told me with glee. Two more girls jumped into the cockpit, to obey the rule that all seats must be full when gliders are moved on the ground. Back it went to the hangar, and we resumed our tour of the clubhouse. The site is next to the Delhi Flying Club with links to Oxford Aviation, and also the Delhi Balloon Society who plan a balloon museum.

There are two gliding clubs in Delhi. The one which owned the K-6 is for air cadets and exists on the west side of the runway. We were at the other where civilians and girl air cadets may fly, subsidised by the government. A winch launch costs 30 rupees, or 60p, with no charge for airtime. Explaining the economics of a 2000ft aerotow was impossible in a society where 40p is quite a reasonable tip. Some had, despite all the limitations, over 100 launches and expected to go solo "fairly soon". Our concept of the number of launches to solo equalling 20 plus age impressed them, as did the possibility of pupils going solo on their 16th birthday. The instructor had been trained many years previously by the RAF and runs the club as a state employee.

We didn't believe it when we were told that there is a gliding club functioning right in the centre of Delhi. We can scarcely credit that it functions with all the restrictions imposed, but the members' enthusiasm overwhelms all these obstacles and they clearly enjoy their club. Anyone who visits is welcome, but do not accept the joyride. They have so few that it would be unfair to take even one flight.

CYPRUS

Josie Briggs from the Norfolk GC was holidaying in Cyprus when she tracked down the Crusaders GC



Jochen Ewald sent us the photograph above and details of a device to pull the fuselage out of the trailer. He saw it in use at the Rheinhausen GC at Sevelen, Germany, and found it was made by Werner Fröse from Krefeld. As Jochen, who also took the photo, says, rudder mountings are often bent when pilots try to lift the glider tail out of the trailer. This device, which can easily be copied, makes it safer to manoeuvre the fuselage. The rudder top can be watched and prevented from hooking in the trailer's roof and your back isn't bent carrying the load.

It had taken some effort to discover the site. My husband Andrew and I spent a day sightseeing around RAF bases and our quest eventually led us to a small airfield near Dhekelia, the home of the Crusaders GC. The site, an isolated ex-RAF base with a single concrete runway, was disused, the hangar locked and silent. But on our return at the weekend it was up and running.

We were greeted by a small but enthusiastic group of men. With only 22 members the club consists mainly of working and retired RAF members, British and Cypriot.

The winch driver had to double as cable retrieve vehicle driver. The winch itself was interesting - a converted bus with one wire and a single gear. Taking up slack involved manhandling the glider, with passengers, backwards until the wire was taut, so the members are exceptionally fit and strong The club is run very much on British lines. I had two launches to 900ft in the K-13 with instructor John Morris, which was enough for a good look round.

With Cyprus a divided island and the northern third under Turkish control, John warned me not to cross the dividing "green line", a motley barrier of barbed wire not obvious from the air which passed through a deserted village near to the site, as there was the possible penalty of being shot down. With the sea to the east and Larnaka airport to the south, opportunities for cross-countries are rare.

The view was splendid. Deep blue Mediterranean water sparkled in the winter sunlight, while westwards rose distant snowy mountains capped with dark storm clouds. The countryside was rough with small, cultivated fields and orchards dotted with hamlets and farmsteads. In December even Mediterranean sunshine struggles to produce thermals.

Our visit to Crusaders GC was, literally, the high spot of our holiday and hopefully other British holiday makers can have the chance to become international glider pilots like us.

We like to hear about your travels and will use these reports as space allows.

SOUTHDOWN AERO SERVICES LTD

MAINTAINING AND REPAIRING GLIDERS AT LASHAM SINCE 1957

WE CAN OFFER

- FAST HIGH QUALITY REPAIRS IN GRP, CARBON (SKINS AND SPARS), KEVLAR, METAL, WOOD
- GELCOAT REFINISHING TO THE HIGHEST STANDARD
- COMPETITIVE PRICES FOR C OF A INSPECTION, COLLECTION AND DELIVERY CAN BE ARRANGED
- INSTRUMENT PANELS MADE AND INSTALLED
- COMPETITION SEALS FITTED
- HARD WAX POLISHING
- CAA APPROVED WELDING
- LLOYDS APPROVED REPAIRS

LASHAM AIRFIELD, ALTON, HANTS GU34 5SR
TELEPHONE/FAX 01256-381359

BGA & GENERAL NEWS

NATIONAL LADDER

Conditions in April were well above average allowing a certain D. Watt of Booker in an ASW-24 to take full advantage on the 21st with 106km/h around 504km, contributing over 3800pts to his impressive total in the Open Ladder. A mediocre May allowed a few half days of decent weather but nothing of great note - let's hope the second half of the summer will allow us to make inroads on Dave's score.

The Weekend Ladder is well represented by Cambridge University and Bidford pilots, though the poorer scores reflect in part rather more traditional British weekend and Bank Holiday weather.

Next submissions by July 31 please.

Open Ladder

Pilot	*Club*	*Pts*	*Flts*
1. D.S.Watt	Booker	8005	4
2. J.Bridge	Cambridge Univ	5997	4
3. P.Baker	Cambridge Univ	5351	3
4. F.Shepherd	Booker	5211	4

Weekend Ladder

Pilot	Club	Pts	Flts
1. J. Bridge	Cambridge Univ	4085	4
2. R.Palmer	Bidford	3819	3
3. D.Findon	Bidford	2648	3
4. P.Baker	Cambridge Univ	2409	2

John Bridge, *National Ladder steward*

NATIONAL GLIDING CENTRE

Following the statement by Don Spottiswood, chairman of the BGA, at the last AGM, discussions have been taking place to explore the possibility of forming a joint venture undertaking between the RAFGSA and the BGA to set up a National Gliding Centre.

The Ministry of Defence is seeking to dispose of several airfields and this is seen as a window of opportunity which is further reinforced by the possibility of obtaining Lottery Sports Fund grants.

A joint venture would be of mutual benefit. It would enable the BGA to run more effective instructor training courses, while making savings in the cost of the national coaching operation. Staffing would be easier, with opportunities for cross-support from the RAFGSA and fleet maintenance would be greatly facilitated by having a fixed base. There would also be better opportunities for providing advantages to young pilots. Similarly, the RAFGSA would benefit from the co-operation of a major civilian organisation in order to preserve its facilities within a shrinking air force and would welcome the opportunity to share and thus reduce its running costs.

Initially, the operation would be based at Bicester but there are several possibilities, of which the best favoured is Weston on the Green. This is largely dependent upon a study being undertaken within the RAF on the future of the RAFGSA.

In the long term, there would also be opportunities for further development, with the joint venture providing its own buildings and facilities and possibly even sharing in a commercial "profit centre" on the site, providing general sporting and leisure facilities for the benefit of a wider public.

The joint venture would be eligible for grant aid from the Lottery Sports Fund which would provide up to 50% of the land and development costs, although the annual running costs would be shared between the RAFGSA and the BGA.

One of the problems with any partnership or joint venture is that the partners are not always compatible. The time scale allows for a trial marriage period and that is now proposed for the 1996 season.

For that reason, most of the 1996 BGA instructors' courses will be based at Bicester at the invitation of the RAFGSA and at no additional cost to the BGA whereas the soaring and cross-country courses will be of a peripatetic nature, based at a number of different BGA sites as in previous years.

There are still many problems to solve on such matters as staffing, airfield control and the sharing of facilities and costs. Final decisions cannot be made until RAF policy is made known but there are certainly prospects for developing a first class facility for the benefit of the gliding movement as a whole.

After a year of trial marriage, we shall all have a much better idea of whether or not these proposals have any future

Roger Coote, *BGA development officer*

BGA 1000 CLUB LOTTERY

The **May** draw results are: First prize - J.F.Green (£63.75) with the runners up - D.Shepherd, Sheila Eastell, G.H.N.Chamberlain, P. Arthur and F.J.Tucker - each winning £12.75.

June. First prize - A.R.Milne (£63.75) with the runners up - B.Morris, J.Gorringe, Mrs P.Hardie, J.F.Crawford and J.W.Bolt - each winning £12 75p.

TWO GENERAL AVIATION JOBS

With the retirement of John Ward from his all-enhancing duties with the General Aviation Safety Council (GASCo), the General Aviation movement is seeking successors to take over as chief executive of the Council and editor of the Flight Safety Bulletin. The two positions can be held by one or two people. Each job, which will be on a self-employed basis, demands a considerable amount of time with a sound background knowledge of general aviation, but the financial rewards are minimal.

The work of GASCo is most important to the health of UK general aviation and can prove to be very worthwhile. If interested and suitably qualified for either jobs write for further information and an application form to the Executive Secretary, GASCo, Holly Tree Cottage, Park Corner, Nettlebed, Oxon RG9 6DP

AEROBATIC CHAMPIONSHIPS

The National Aerobatic Championships are again being held at Buckminster GC, Saltby Airfield. They are from September 2-3 and all visitors are welcome.

THREE FATALITIES

On May 5 there was a fatal accident at The Soaring Centre, Husbands Bosworth, when a Puchacz was being winch launched on an air experience flight. There was a cable break and the pilot made a 180° turn and, after a short downwind leg, spun in on the final turn killing the passenger, Christopher Melton. The P1, Anthony Head, was injured. Unusually, the accident is being investigated by the police.

The second accident was at Southdown GC, Parham, on May 8 when a Discus BT being flown by John Hawkins was seen to manoeuvre strangely. The wings flexed markedly and the airbrakes came open, probably at high speed, and the glider spun in from about 100ft. There is the possibility of a medical problem.

The third was at Black Mountains GC, Talgarth, on Monday, June 12, when Rowland Greenhalgh in a Std Cirrus released from tow soon after take-off. Although a positive control check had been made the port aileron became disconnected causing the wing to flutter. The pilot turned back towards the site and spun in over the site.

Details from Bill Scull

FIRST WORLD AIR GAMES

The FAI Council decided at a meeting in Montreal on June 6 to hold the first World Air Games in Turkey, in and around Ankara, during September 1997. It is intended that the games will include gliding as well as general aviation, ballooning, parachuting, aeromodelling, aerobatics, hang gliding and paragliding.

The Council was in Canada as guests of the International Civil Aviation Organisation where they held a joint meeting in honour of FAI's 90th anniversary and the 50th anniversary of ICAO.

A DIARY ENTRY

The BGA's 1996 AGM will be on Saturday, February 24 at the Stakis Hotel, Northampton, which is just a couple of hundred yards off the M1. As usual admittance to the AGM will be free for all members and for those who wish there will be a formal dinner the same evening at the Stakis followed by overnight accommodation at a special rate.

Please make a note in your diary now and there will be more details in the next issue.

GLIDERS IN AIRWAYS

Last May there was an airmiss involving a glider in airway A25 near Wrexham. The reporting aircraft was an Airbus which had taken-off from Manchester and the incident occurred at FL140.

The outcome of the Joint Airmiss Working Group's deliberations was a recommendation to National Air Traffic Services (NATS) to review the regulations concerning gliders flying in controlled airspace. The proposal was made in the light of known airmisses between gliders and airlines in airways. In the 15 year period there have been seven, two with a possible risk of collision and five with no risk.

As result NATS formed a working group with members from three of the Airspace Policy

AERIAL SITE PHOTOGRAPHS
Don't forget to send us an aerial colour photograph of your site taken, if possible, this summer. We need them by October 1 and intend printing them during the winter. A good sharp colour print will be ideal with a caption on the back giving the direction in which the photograph was taken.

sections (AP1, AP3 and AP5), Air Traffic Operations, HQ Military Air Traffic Operations (MATO), the General Aviation Department (GAD) of the CAA, the UK Flight Safety Committee and, of course, the BGA. After a meeting to agree the terms of reference in November all club CFIs were consulted in December to get details of actual airway crossings and clubs' needs. There were some very helpful responses with useful details about the number of actual crossings and the altitudes/flight levels used.

The first working group meeting to discuss the perceived conflicts was on February 14 and the second on March 14. NATS provided information on the increase of airways traffic from 1988 to 1994, but as percentages with only limited information on flight levels (FLs). This lack of data meant that it was not possible to carry out an immediate risk assessment. However, NATS's chief scientist is producing a simple mathematical model which can be used in association with any airway to assess the collision risk of a single crossing glider.

The chairman of the working group, Derek Banning, had said that NATS' policy was airspace sharing. It soon became apparent that most of the *en route* airways traffic was above FL120 and, from BGA data, the majority of glider crossings were below this level so airspace sharing was possible. The only problem for NATS was the climbing and descending traffic adjacent to terminal manoeuvring areas (TMAs). As a result of this meeting the BGA reviewed its crossing needs based on the information from clubs.

The next meeting was limited to BGA and AP3 staff when BGA requirements were reviewed. There was broad agreement on the levels at which gliders would be allowed to cross specified sectors of airways and, for the most part, this included all the airways which are crossed regularly and therefore represent little loss. NATS also gave us an assurance that any local agreements would be honoured. The detailed proposals have still to be agreed by the working group and accepted by the director of Airspace Policy.

The detailed changes will probably appear in the next *S&G*. NATS have agreed to coordinate with us the promulgation of the proposed changes so watch this space. The subject of gliders in Class D airspace will be dealt with in future meetings.

Bill Scull

FOR OWNERS OF IS GLIDERS

The manufacturers of the IS range of all-metal gliders and motor gliders (IAR-SA) are hoping the Romanian CAA will extend the 20 year life of these aircraft. It would help them if UK IS-28B2, IS-29 and IS-29D2 owners mailed or faxed the following details;-

Aircraft type; Registration No.; manufacturer's No.; total launches; total aerotows; No. of flying hours; issue of flight manual; list of implemented service bulletins and amendments; summary report on general technical condition of the aircraft including remarks after overhauling and annual inspections; name of the person who endorsed the work; address of former owners and name of present owner. The address is S.C.IAR-SA Brasov, PO Box 198, 2200 Brasov, Romania, fax 0040 68 151304

DEVELOPMENT CORNER

A confidential questionnaire which was circulated to club chairmen at the time of the AGM has produced some interesting results. In order to preserve confidentiality, none of the 45% of clubs that responded is identified and we rely upon ranges and averages to tell the story. Where specific information has been requested, we have written asking permission to identify the source and then to place clubs sharing similar problems in touch with one another.

Site security. Thirty one per cent owned their sites and another 31% held secure leases. Twenty four per cent occupied sites under licences with varying degrees of security and 14% had no security at all.

Rents. Excluding sites of less than 25 acres, which tended to produce distortions, the average rent paid was £125 per acre. The range was £5 to £300 per acre. Eight-five per cent were paying more than £50 per acre with 46% paying in excess of £150 per acre, *ie* well above agricultural rents and more than set-aside land (currently £138 per acre).

Operating costs. Twenty per cent of clubs only broke even or made an operating loss. Generally, the biggest clubs produced the highest gross income or turnover per member.

The average turnover was a surprising £809 per member with a range from £340 to £1600. Costs were generally within 15% of gross output. Subscriptions ranged from £75 per head to £325 per head with an average of £157 per head for civilian clubs. Generally, the bigger the club the bigger the sub (with some notable exceptions).

Cadet schemes. Over 80% of clubs operated some sort of cadet scheme or provided preferential terms for young people. Sadly, only 48% had taken cadets on to solo stage and only 31% had retained their cadets for over two years. For many, however, this was a new venture and one to be encouraged.

Uniform business rates. Thirteen clubs returned details. Many had been revalued, the maximum increase being 78%. Several had obtained 100% discretionary relief and were paying nothing. Others were paying over £80 per acre in annual rates. The average, for what it is worth, was an annual rate of £41 per acre.

CAP reform and airfield rents. There have been several cases recently where landlords or their agents have taken unfair advantage of Common Agricultural Policy (CAP) reform measures in order to force unjustified rent increases from gliding clubs.

They claim that since it is now possible to receive over £130 an acre from setting land aside and doing nothing with it, then that is a reasonable starting point from which to negotiate a rent review.

Nothing could be further from the truth.

When excess production forced the introduction of the CAP reforms in 1992, provision was made for 15% or more of arable land to be taken out of production. In return, farmers receive payment, currently £138 per acre as quoted earlier, for their set-aside land and an acreage payment for all cereals, pulses and oilseeds grown on their remaining land.

The scheme was phased in over three years, during which intervention buying and product support prices were phased out.

This is the first year in which UK farmers have to sell their crops on the open world market without price support. It is also the first year in which full acreage payments are receivable.

However, only land which was in arable production on December 31, 1991, is eligible for the scheme. Land in permanent pasture or being used as an airfield at that date is not eligible, nor is it ever likely to be under present legislation. With area aid payments now constituting some 70-300% of the enterprise profit for eligible agricultural crops, there is no chance of making a profit from arable farming on ineligible land.

So beware sharp land agents and persuasive farmers who try and tell you otherwise. Better still, have a word with me.

More grant aid available. The Foundation for Sport and The Arts, at PO Box 20, Liverpool L13 1HB have told us that they are now accepting applications from the less athletic sports, including gliding.

Roger Coote, *BGA development officer*

MAIDEN FLIGHT

Repclif Aviation's kit built 15m Standard Class Spirit demonstrator had its maiden flight on May 31 at Chipping. It was flown by Dave Masterson who has been overseeing its construction.

We will have a test report and photographs in a future issue.

MARY'S SHIRTS

Mary Meagher has designed some amusing gliding sweatshirts and T-shirts in a range of sizes from S to XXL in grey, sky blue and royal blue. The sweatshirts are £18 plus £1 p&p and the T-shirts £11.50 plus 50p p&p. If interested contact Mary on 01865 61190

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	*Name*	*Club*	*1995*
445	Gilbert, C.N.R.	Bicester	18.10.94
446	Shelton, P.M.	Marchington	15.4
447	Davey, B.J.	Imperial College	28.3
448	Wells, S.	Booker	29.3
449	Wells, P.M.	Booker	29.3
450	Owen, B.H.	Booker	15.4
451	Brice, P.	Booker	29.3
452	Mee, M.	Booker	15.4
453	Redshaw, P.R.	Lakes	8.5

DIAMOND GOAL

No.	*Name*	*Club*	*1995*
2/2316	Blackburn, A.M.	Derby & Lancs (in Australia)	27.1
2/2317	Lewis, S.M.	Midland (in South Africa)	18.11.94
2/2318	Stockwell, J.M.	Marchington (in Australia)	15.12.94
2/2319	Bleach, J.	Bristol & Glos (in Australia)	12.2

If you're going for it this year, go for it at Husbands Bosworth.

THE SOARING CENTRE

We offer a professional approach to training, with a comprehensive range of courses from air experience onwards, at the friendliest club in the country.

- Ab initio to solo – fixed price guarantee with no strings.
- A superlative fleet of gliders – 6 trainers and 6 single seaters.
- Ample launching capacity – 6 tugs, 1 motor glider, 1 four drum winch.
- All year round, 7 days a week operation, with daily met.
- Accessible central location with excellent cross-country opportunities.

SEND FOR THE 1995 COURSE BROCHURE.

Call: The Manager,
The Soaring Centre,
Husbands Bosworth Airfield,
Lutterworth,
Leicestershire. LE17 6JJ.
Tel: 01858 880521
Fax: 01858 880869

SAILPLANE & GLIDING

You can buy the magazine from most Gliding Clubs in Gt. Britain, alternatively send **£15.50,** postage included, for an annual subscription to the British Gliding Association, Kimberley House, Vaughan Way, Leicester. Red leather-cloth binders specially designed to take copies of the magazine and gold-blocked with the title on the spine are only available from the BGA.

Price £5.50 including post and packing. USA and all other Countries

Payable in either Sterling £15.00 (or US$30.00) (or US $40.00 by Air Mail) direct to the British Gliding Association.

Cambridge University Gliding Club



Gransden Lodge offers: 100 acre gliding only site, unrestricted airspace, 7 day week operation in summer (winch & aerotow), bookable weekday training K13s/Grob Acro/Janus – K8s/Junior/Astir/Discus

5 day courses • Bronze Badge courses • 1 day & short courses on request

Visitors are most welcome: extend your cross country experience in landable country!

Write or call: Gransden Lodge Airfield, Longstowe Road, Little Gransden, SANDY, Beds SG19 3EB (01767 677077)

THE CLUB IS OPEN TO EVERYONE

PIGGOTTS

Fluorescent Orange Windcones made in Nylon or Ministry of Defence Hypalon,®.

Flagstaffs suitable for Windcones supplied and fitted.

Landing Marker Sets in bright orange.

All types of Flags and Banners.

PIGGOTT BROTHERS & CO. LIMITED
Stanford Rivers, Ongar, Essex CM5 9PJ
Tel: 01277 363262
Fax 01277 365162



BGA SHOP

Quick grab your Postman NOW and order your BGA SOARING 'T' Shirt. (White cotton – Sizes M, L & XL). **£6.95** incl.

ALSO in stock BGA Baseball Caps with glider silhouette. (Royal Blue, Navy, Red, Purple, Green & Burgundy). **£4.40** incl.



BRITISH GLIDING ASSOCIATION

SALES DEPT., FREEPOST, LEICESTER LE1 7ZB
or ask us to send you our complete sales list

Telephone 0116 253 1051
(ACCESS/VISA accepted)

A PUBLIC APOLOGY

Mike set up The Gliding Centre in 1992 and now runs 14 gliders and motorgliders doing about 20,000 launches a year

Success

1995 is proving to be a fantastic year! We began our intensive 1 week courses in February to cope with the demand. These have remained full ever since. In fact, we've had to turn people away each week since our capacity is firmly pegged at just 15 pupils at a time. More than that and it might stop being fun!

The Staff

Are brilliant! It's a real pleasure to work with such a team of first class enthusiasts. It really is important to have excellent instructors.

Motorglider PPL

A Bronze pilot can acquire a PPL for around £1200. For Silver pilots the cost is as little as £600. An ideal winter project and an inexpensive way to get a PPL (A)

First Time Buyers?

We almost always have one or more single seaters for sale. At all times we have a spare K8 and a spare two-seater. If you or your club need a glider, a trailer, or equipment, we'll help if we can.

Fresh Ideas – Flight Safety

Our latest new developments are specialist one-day courses on a variety of safety-related topics. **Spinning for Safety** and **Spinning for Fun** seem particularly relevant after a spate of spin accidents nationwide.

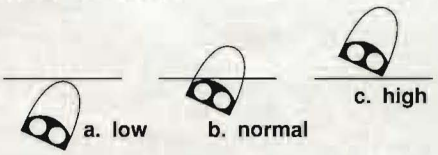
These courses are aimed at the curious, the nervous, or indeed anybody who hasn't had the opportunity – yet – to experience first-class professional tuition.

Future Plans

Video/CDI training aids, greater range of special courses, possible additional sites . . .

New Departures in Spin Training

From which of these attitudes are you most likely to spin?



If you think it's "C" then we suggest you book in for a day and let us show you something interesting.

The Apology

We're sorry we didn't do it sooner!

LEARN TO GLIDE IN A WEEK . . . . . AND WHY NOT?

Why choose us?

- ★ We **guarantee** a minimum of 40 flights or 10 hours per week – or a cash refund
- ★ 1 week course fees start at £199 – less than £5 per flight!
- ★ Our instructors are dedicated professionals – the best – with a maximum of 3 pupils each
- ★ Open all year for courses at all levels
- ★ 80% of our pupils choose to return for more advanced training
- ★ We use winches, aerotows and motorgliders to maximise your achievements

THE GLIDING CENTRE
Shenington Airfield, Banbury, OX15 6NY
Tel/Fax (01295) 688151

FLIGHT SAFETY COURSES ONE DAY £85

SPINNING FOR SAFETY – learn how to control your aircraft and avoid unwanted stalls and spins

SPINNING FOR FUN – explore spinning characteristics under expert guidance

LAUNCH FAILURE RECOVERIES – conquer your anxieties, even at low level

FIELD LANDINGS – smoothly, safely, successfully

JUST HOW GOOD ARE YOU? – confidential assessment and personal development plan

THE GLIDING CENTRE
Shenington Airfield, Banbury, OX15 6NY
Tel/Fax (01295) 688151

2/2320	Pickering, K.	Southdown	20.7.94
2/2321	Thompson, P.B.J.	Soaring Centre	12.4
2/2322	Fraser, G.N.	SGU	15.4
2/2323	Ashby, D.A.	Yorkshire	12.4
2/2324	Fairness, K.	Borders	10.5

DIAMOND HEIGHT

No.	*Name*	*Club*	*1995*
3/1213	Gilbert, C.N.R.	Bicester	18.10.94
3/1214	Holloway, T.M.	Bicester (in France)	20.3
3/1215	Saunders, D.J.	Lasham	13.3
3/1216	Shelton, P.M.	Marchington (in Spain)	15.4
3/1217	Davey, B.J.	Imperial College (in Spain)	28.3
3/1218	Wells, S.	Booker (in Spain)	29.3
3/1219	Wells, P.M.	Booker (in Spain)	29.3
3/1220	Ell, S.R.	Yorkshire	1.4
3/1221	Adam, K.J.	Deeside	1.4
3/1222	Dickinson, A.B.	Derby & Lancs	24.3
3/1223	Grinter, A.F.	Wolds	2.4
3/1224	Ashby, D.	Yorkshire	2.4
3/1225	Tanner, J.A.L.	Deeside	6.4
3/1226	Densham, D.N.	Chilterns (in France)	20.3
3/1227	Randall, J.P.	Bicester	18.10.94
3/1228	Owen, B.H.	Booker (in Spain)	15.4
3/1229	Price, P.	Booker (in Spain)	29.3
3/1230	Edwards, M.W.	SGU	15.4
3/1231	Cooper, D.S.	Booker (in Spain)	15.4
3/1232	Mee, M.	Booker (in Spain)	15.4
3/1233	Penman, R.R.	Heron	7.4
3/1234	Redshaw, P.R.	Lakes	8.5
3/1235	Davis, M.F.	Southdown (in USA)	12.4
3/1236	Sebreghts, L.	ESC (in Spain)	15.4

GOLD BADGE

No.	*Name*	*Club*	*1995*
1804	Blackburn, A.M.	Derby & Lancs	27.1
1805	Saunders, D.J.	Lasham	13.3
1806	Codd, P.G.	Essex & Suffolk	24.3
1807	Shelton, P.M.	Marchington	15.4
1808	Beach, J.	Bristol & Glos	12.2
1809	Hannah, D.C.	Glyndwr	2.4
1810	Maclean, N.A.	Lasham	2.4
1811	George, A.M.	Lasham	2.4
1812	Berriman, P.E.	London	24.3
1813	Smith, J.	Wolds	1.4
1814	Ashby, D.A.	Yorkshire	12.4
1815	Fairness, R.	Borders	10.5

GOLD HEIGHT

Name	*Club*	*1995*
Maddocks, D.	Wrekin	24.3
Holloway, T.M.	Bicester (in France)	20.3
Saunders, D.J.	Lasham	13.3
Urry, S.	Fenland	9.10.92
Codd, P.G.	Essex & Suffolk	24.3
Cohler, M.D.	York	2.4
Hartland, A.W.	Midland	16.6
Towler, M.J.	Bidford	1.4
Pennant, D.A.P.	Glyndwr	24.3
Shelton, P.M.	Marchington (in Spain)	15.4
Smith, D.A.	Yorkshire	1.4
Hopkins, B.	Shenington	24.10
Gillson, A.J.	Shropshire	2.4
Long, B.	Glyndwr	2.4
Hannah, D.C.	Glyndwr	2.4
Stanford, D.J.	Channel	2.4
Maclean, N.A.	Lasham	2.4
George, A.M.	Lasham	2.4
Fox, M.R.	Wolds	1.4
Ashby, D.A.	Yorkshire	2.4
Densham, D.N.	Chilterns (in France)	20.3
Randall, J.P.	Bicester	18.10.94
Berriman, P.E.	London	24.3
Martin, D.W.	East Sussex	2.4
Cooper, D.S.	Booker (in Spain)	15.4
Smith, J.	Wolds	1.4
Goult, C.P.	Wrekin	23.3
Kyte, N.	Glyndwr	23.3
Baldock, E.	Wolds	2.4
Hardy, R.	Cambridge Univ	2.4
Murfitt, J.P.	Cambridge Univ	30.3
Sturgeon, G.	Lakes	16.4

GOLD DISTANCE

Name	*Club*	*1995*
Blackburn, A.M.	Derby & Lancs (in Australia)	27.1
Lewis, S.M.	Midland (in South Africa)	18.11.94
Stockwell, J.M.	Marchington (in Australia)	15.12.94
Beach, J.	Bristol & Glos (in Australia)	12.2
Thompson, P.B.J.	Soaring Centre	12.4
Fraser, G.N.	SGU	15.4
Ashby, D.A.	Yorkshire	12.4
Fairness, R.	Borders	10.5

SILVER BADGE

No.	*Name*	*Club*	*1995*
9673	Weitzel, D.S.	Shenington	26.2
9674	Sharman, R.J.	P'boro & Spalding	17.7.94
9675	Thompson, B.	Shenington	13.8.94
9676	Hartland, A.W.	Gliding Centre	7.4
9677	Horn, P.C.	Southdown	29.5
9678	Ormerod, D.M.	Buckminster	2.4
9679	Freeman, P.R.	Bidford	1.4
9680	Wood, A.	Yorkshire	2.4
9681	Paszki, J.C.	Wrekin	2.4
9682	Gillson, A.J.	Shropshire	2.4
9683	Stanford, D.J.	Channel	2.4
9684	Dyer, D.R.	Essex	8.4
9685	Lawrence, N.R.	Four Counties	21.4
9686	Pamplin, N.S.	Burn	8.4
9687	Smith, E.T.L.	Bristol & Glos	21.4
9688	Bowers, N.R.	Bath & Wilts	20.4
9689	Jaques, G.J.	Portsmouth	19.4
9690	Grey, R.	Bristol & Glos	7.4
9691	Briggs, D.	Cotswold	21.4
9692	Park, R.	Dumfries	19.4
9693	Render, C.	Lasham	20.4
9694	Claason, E.C.	Surrey & Hants	7.4
9695	Wilson, S.	Lasham	20.4
9696	Charlton, M.	Borders	19.4
9697	Bridgewater, G.J.	Stratford on Avon	4.5
9698	Goss, S.R.	Kent	19.4
9699	Wade, P.A.	Bath & Wilts	21.4
9700	Watson, D.I.	Midland	28.4
9701	Rickers, A.	Kestrel	7.5
9702	McKeegan, F.	Anglia	6.5
9703	Feathers, M.S.	Two Rivers	4.5
9704	Gillow, R.G.	Cornish	13.5
9705	Bowman, C.	Bristol & Glos	13.5
9706	May, J.H.	Staffordshire	13.5
9707	Harrison, A.	London	14.5
9708	Thelwall, P.E.	Nottingham Univ	21.4
9709	Allen, M.J.	Kent	14.5
9710	Sale, D.	Chilterns	8.5
9711	Salter, P.F.	Bath & Wilts	13.5
9712	Seager, D.	Bannerdown	19.4
9713	Hardy, R.	Cambridge Univ	2.4
9714	Hills, K.	Portsmouth	20.4
9715	Campbell, I.R.	Two Rivers	3.5
9716	Bates, J.R.	Lasham	10.5
9717	Sheldon, A.	Wolds	18.5

VARSITY MATCH

The annual Oxford-Cambridge Varsity gliding match was held at Gransden Lodge on May 13-14. As usual the local soaring rules (1pt/min up to 50, -5 thereafter and 2pts/100ft height gain) were used. This led to a truly team match, and a very close final score.

Day 1 started promisingly, but in the event only a few pilots managed anywhere near the 50min target. Oxford went into Day 2 with a lead of 232 to 195, and as Sunday dawned it was clear that every competitor would get a good flight. The highest scorers on Day 2 were Matthew Turnbull (311) and Philip Smith (198) for Oxford, and Henry Rebbeck (274) and Alex Parr (190) for Cambridge.

Strong team efforts by both universities led to Cambridge taking the day by 859 to 851, but this was not enough to retain the trophy, which now goes to Bicester for a year. During the competition Cambridge's Alex Parr and reserve Arthur Williamson gained their Silver heights.

Our thanks to the Cambridge University GC for putting up with us for the weekend.

STUART CRAWSHAW

BRIAN WEARE – AERO

ALL TYPES OF GLIDER AND MOTOR GLIDER MAINTENANCE AND REPAIR. FROM SMALL TO THE LARGE INSURANCE REPAIR. REFABRICATING OF TUGS. VINTAGE GLIDER AND AIRCRAFT RESTORATIONS.

GLIDER WORKS
DUNKESWELL AIRPORT
HONITON, DEVON EX14 0RA

Phone:
Works (01404) 891338
Home (01404) 41041



LAKE KEEPIT AUSTRALIA

YES we are back in business after the big fire

★ **New fleet**
★ **New facilities**
★ **Same great soaring site**
★ **Friendly Club atmosphere**
★ **The Holiday Soaring Centre**

LAKE KEEPIT SOARING CLUB
TAMWORTH NSW 2340
Tel + 61 18 867 753
Fax + 61 67 697 547

Glider insurance

Turn our knowledge to your advantage

Joint Aviation is a new company headed by Terry Joint and David Innes.

Terry Joint is the ex CFI of the RAFGSA and Lasham with 22 years experience in gliding instruction and flight safety.

David Innes is a highly respected and experienced pilot who has competed in 12 World Comps to date. David is also an established professional in the financial world.

Because of this expert knowledge of gliding and the gliding world, Joint Aviation has been granted access to facilities placed by Lowndes Lambert Aviation Ltd and other Lloyds and DTI approved companies.

Only Joint Aviation can offer you the benefit of this extensive knowledge of gliding in association with the services of aviation companies of international stature.

This means you get the insurance deal that is right for you. Even high-value aircraft are no problem.

Contact us now to find out the difference we can make to your gliding insurance.

JOINT AVIATION SERVICES LTD
3a & 3b Aylesfield Buildings,
Alton, Hants GU34 4BY
Tel: 01420 88664 Fax: 01420 542003
Mobile 0860 343301

Member of B.I.I.B.A.



CLUB NEWS

Copy and photographs for the October-November issue of S&G should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 01223 247725, fax 01223 413793 to arrive not later August 15 and for the December-January issue to arrive not later than October 10.

GILLIAN BRYCE-SMITH *June 14*

ANGLIA (Wattisham)
The season started early with some good spring soaring. The winter maintenance programme has been completed mainly due to the efforts of the Wednesday evening crew with Mat Jones and Alan Elliott working on the club's MT.

Colin Wheeler has a SLMG PPL; Kevin Moloney an assistant Cat rating; Frank McKegan a Silver badge and Rob Eley, Bob Luff and Julie Abbey have Bronze badges.
P.J.

AQUILA (Hinton in the Hedges Airfield)
Andrew Preston has gone solo and Mel Eastburn has a full Cat rating. Expeditions planned to Bowland Forest GC and Talgarth are attracting much interest.

We are thinking of replacing one of our two-seaters or extending the hangar due to our increased membership and because we still have full use of the airfield grass triangles which increases our operating capabilities. It also saves much wear and tear on the gliders compared with using the concrete runways.

Our Astir has been displayed at supermarket car-parks and village fetes to promote the club and our air experience flights. We are again competing in the Inter-Club league.
S.K.

BATH, WILTS & NORTH DORSET (The Park)
We had a very successful Easter week during which many hours were flown. On Easter Day Alan Milne broke the height record of our two year's flying at The Park by finding consistent wave to 13 500ft over the site in a fresh north wind. Paul Wade, Nick Bowers and Mark Hawkins have Silver badges and Jean Whyte her height and distance. Denis Clack and Ashley Hooker have re-soloed after a break. David Waugh, a Bath University member, went solo and gained a Bronze leg on his third flight.

Our chairman, Mervyn Pocock, is re-covering the wings of the club K-8. Our refurbished Bocian, which we bought new in 1968, is back from Poland looking better than new. Our glider inspector, Ed Gunner, was most impressed by the thorough overhaul given by the makers.

Alan Milne and Dave Smith ran a very successful Bronze badge course during April.
J.L.

BICESTER (RAFGSA Centre)
Despite big military manpower cuts, we continue to operate successfully with a Service orientated membership. April and May supplied the weather for some fast 300kms, a Diamond distance, numerous club ladder flights and another successful Mynd expedition.

Owain Walters (aged 17) did well to achieve Gold distance. Lois Fox and Jeanette Mantle have gone solo. We have expeditions to La Motte, Sisteron, Le Blanc and Aboyne.
P.S.



Above: The presentation at Deeside GC of the gliding scholarships under the umbrella of the Scottish Sports Council member Lesley Grant. From l to r: Neil Stewart, Deeside publicity director James "The Hat" Davidson, Lesley, Ian Teuch and Geniveve Bisset.



Richard Garner of Booker GC who soloed the day after his 16th birthday after only 26 flights.

BLACK MOUNTAINS (Talgarth)
Another K-13 has joined the club fleet and Talgarth's notorious incontinent quadrupeds have not renewed their "membersheep". Consequently the runway is now excrement free. Ian Murray has a Silver badge.
D.U.

Obituary - Rowland Greenhalgh
The Black Mountains are much darker today. It is with great sadness that we record the tragic death of Rowland Greenhalgh, who was killed when his Std Cirrus crashed at Talgarth Airfield on Monday, June 12. (See also the BGA News.)

Rowland trained as a fighter pilot during WWII, although the war ended at the conclusion of his training and he never saw combat. A very successful career in finance led to a comfortable retirement and he delighted in describing his occupation as "gentleman".

Rowland was a fine pilot, an accomplished pianist and a superb snooker player and was also, without doubt, the kindest, gentlest and nicest man that I have ever known.

Our deepest sympathies go to his widow Betty and his children and grandchildren. We miss him already.
Dave Unwin

Below: Highland GC's "flying Chalmers" family after Vickie's first solo at 16. From l to r, Vickie, Helen and Geddes with David at the front. Photo: Steve Young.



Below: Lance Swannack of Dukeries GC celebrates going solo on his 16th birthday with proud father, CFI John.



BOOKER (Wycombe Air Park)
The outline planning consent for the glider storage facility has to be modified, resiting it 5m north to avoid expensive retaining walls between it and a new aircraft hangar. The committee have to resolve the loss of space for temporary caravans as it threatens our ability to hold Nationals.

Al Kay (LS-6c) flew his second 750km and Dave Watt (ASW-24) is claiming a 500km triangle record, both on Friday, April 21.

The evening courses are going well with a number resoloing after several years away. Our free Regionals is fully subscribed and we have three more cadets for this year.

Our proposals for VAT calculations have been agreed by the inspector.

At least ten members are taking the club's Discus on our furthest expedition to South Africa this winter, with the assistance of the European Soaring Club.
R.N.

BOWLAND FOREST (Chipping Airfield)
Phil Atkinson was our first solo of 1995, quickly followed by Geof and Liz Whittaker and 17 year-old Gordon Punt. We had an expedition to Feshiebridge in May which gave some excellent climbs, the best being to 21 000ft by John Wood in his Nimbus 2c.

We have our annual migration to Husbands Bosworth in August and members have entered Wolds GC's Two-Seater Comp and the Northern Regionals. We are selecting two 15 year-olds as our first flying cadets. A warm welcome and a high launch awaits all visitors.
S.R.

BRISTOL & GLOUCESTER (Nympsfield)
Ken Barker, Ray Payne, Mike Strathern and Nick Wall are representing us in the Standard Class Nationals we are hosting as I write.

Holiday courses have started well and the first aerobatic course of 1995 has been run by Peter Mallinson, a member of the British Aerobatic team. We are planning to introduce a cadetship scheme to encourage more local young people into the sport.
J.F.B.

BUCKMINSTER (Saltby Airfield)
Frank Cox has retired as CFI after two sessions, the last for nine years. The new CFI is Clive Stainer our manager. Paul Rodwell has a Bronze badge. Neil Scully and Dave Ormerod have completely rebuilt a T-31B (No. 3272) and it is now flying with a yellow fuselage and silver wings. It was last with the air cadets at St Athan.

The tug has had a complete overhaul thanks to Neil Brown and helpers. The National Aerobatic Competition is again at Saltby - on September 2-3. All visitors are welcome.
N.R.C.

BURN (Burn Airfield)
May 20 was "BFJ" evening in honour of Bernard Wilson, Frank Thompson and Jack Sharples. Having just retired from instructing, they were given the "This was your Life" treatment by chairman John Stirk. Previous chairmen and many others connected with our predecessor, the Doncaster GC, paid tribute to the trio's contributions to the club and re-enacted many hilarious



Above: Brian Hutchinson, Angie Tapson and Max Ivison after successfully completing the AEI course held at RAF Cranwell.



Above: Steve Crozier photographed Diana Skerry of Lincolnshire GC in the Bocian while she concentrated on the winch launch. Below: The cups were presented after Bristol & Gloucestershire GC's annual dinner. L to r: Jackie Lemin (best novice); Ray Lemin (best height gain); Les Bradley (best closed circuit in club aircraft); chairman Bob Cunningham who presented the awards; Tim Macfadyen (longest distance flight from Nympsfield and Ladder trophy) and Sid Smith (services to the club). The plate for the most deserving instructor was awarded jointly to Brian Jenkinson and John Beach (not photographed). Photo: Bernard Smyth. ➡



moments in their gliding careers.

In April, within days of soloing, Alan Jenkins gained two Bronze legs and Silver height in one flight.
P.N.

CAMBRIDGE UNIVERSITY (Gransden Lodge)
The 60th anniversary dinner in Gonville and Caius College was a great success with more than 180 members, past and present. Since our move to Gransden the launch rate has increased by 34% and we have 30% more private owners.

The Gransden Regionals are fully booked.

After three years as CFI Robert Bryce-Smith has handed over to Steve Foster.
A.N.

CHILTERNS (RAF Halton)
Carloton Fox and Kerry Mulvey have re-soloed after considerable lay offs (Kerry 29 years), and Raphe Stobart has returned and re-treaded his assistant Cat rating.

Julie Pead and Dave Henson have Bronze badges. Silver durations were achieved by Angela Mariner, Dave Henson, Keith Jackson, Peter Mann and Dave Sale, with Silver heights by Dave Henson and Peter Smith. We wish Peter a full and speedy recovery from his heart attack.
I.P.

CLEVELANDS (RAF Dishforth)
One of our Chipmunks disappeared into the tug bay for weeks, then emerged resplendent in new, high visibility colours - thanks to Colin Walker, Debbie Reynolds and helpers.

Lee Mollins and Carl Halford have gone solo. We had a successful flying training week at the beginning of June, our first for many years. Bob Little has his AEI rating and Frank Wilson has regained his full Cat. Derek Smith has taken over as CFI from Dick Cole who gave years of hard work and encouragement.
J.P.

CORNISH (Perranporth)
The year has started well with Nigel Climpson going solo; Max Hocking resoloing after a considerable gap; Keith Withey gaining his A and B certificate and Bronze legs and Cliff Clarke and Dick Gillow their Silver distances giving Dick a Silver badge. John Shaw has Diamond goal and Dave Uren won the task week.

The seven day week operation restarted for summer on May 22 - visitors are very welcome.
S.S.

COTSWOLD (Aston Down)
Solos have been flown by Fran De'Ath, Brian Hemming and Michael Platt. Simon Buckley has a Bronze, Peter Teader Silver height and Paul Boylan a Silver badge.

About 15 members went to Sutton Bank at Easter, enjoying the ridge and some soared in wave in excellent weather. Visitors from North Wales - Bryn Gwyn Bach - enjoyed some good thermals and cross-countries during their expedition task week at Aston Down in May, though they missed some of the excellent wave we have had lately.

We hope the control tower extension, which will provide super loos, extra showers and overnight accommodation, will be ready for the Inter-Club finals on August Bank Holiday. Perhaps the best news of all is that we make our last mortgage payment in July, so the airfield is now ours - all ours!
M.S.

CRANWELL (RAF Cranwell)
The very successful start to the season was partly due to our new Tost winch assembled at Bicester which gave 850 launches during its first month

Jim Mills is now a full Cat; Angie Tapson, Brian Hutchinson and Max Ivison have AEI ratings; Dempster Hamiltion has a Bronze badge and Bill Skinner, Mike Jackson and Steve Langford have gone solo.

The RAFGSA's Janus CM is based here for the summer and is a valuable training asset.
L.F.

DARTMOOR (Brentor)
Thanks to the hard work of a small band of members our field is now in tiptop condition and suitable for any kind of glider. Peter Williams (CFI) tested it with his YS-55 and now glass gliders like Jantar I, PIK and Cirrus are flying regularly on club days.

We have 20 gliders of all types on the site. Richard Roberts has flown the longest flight from the field this season - an O/R to Warminster. With Plymouth University students enrolling there is a welcome increase in young members. Bob Hawley has become an instructor.
F.G.M.

DEESIDE (Aboyne Airfield)
Grant Williams has gone solo and Iain Teugh, Neil Stewart and Geniveve Bisset have been awarded gliding scholarships with the help of the Scottish Sports Council.

Mary-Rose Smith is looking after the wave season bookings and can be contacted *via* the club, tel/fax 013398 85339 or at home on 01569 730687.

We have received a £60 000 grant aid towards our new hangar costing £100 000 and work will start soon on the 40m x 20m building. Our secretary Glen Douglas has given talks to the BGA and Scottish sports clubs on how to complete a successful application.

Due to unprecedented bad weather and despite launching when we could, no scoring distances were achieved during the Scottish Regionals. The next Scottish Regionals briefing will be at Aboyne at 9am on Saturday, May 25 1996.

Heights achieved have been 22 500ft in April and 12 200ft in May.
G.D.

DERBY & LANCS (Camphill)
Bert Broadhurst, Dave Bailey, Jonathan Pearson and Keith Williams have gone solo, Keith gaining both Bronze legs. Dick Muir has his 5hrs and Tony Dickinson Diamond height. We are celebrating our 60th anniversary with a grand bash with our friends from Germany, France and Holland (with whom we are twinned).

We also plan a dinner-dance in the autumn to celebrate and ex-members and gliding friends from other clubs will be most welcome.
W.T.

DEVON & SOMERSET (North Hill)
An interesting April and May saw our CFI Simon Minson and Ron Johns have wave climbs to 8000ft. A group lead by Dick Wolff had a very successful expedition to Talgarth taking two club and two private gliders. In five days 130hrs were flown with wave climbs to 14 000ft and Dave Reilly notching up 29hrs on several cross-country flights.

Many members took advantage of the visit by the BGA's DG-500 and Discus but the BGA cross-country course had poor soaring weather with only one task set. Stewart Procter flew Silver height to complete his badge.
S.C.L.

DUKERIES (Gamston)
We had a very progressive AGM in April. Keith Gregory is now chairman and past chairman, Tim Bowles, was appointed president in recognition of his services to the club since its inception. At our annual dinner in April trophies were presented to Mike de Torre (outstanding service); Beryl Clarke (most improved pilot); Beryl Clarke and Dave Urpeth shared the cup for the longest Silver distance flight; Dave Prosolek (highest flight) and Glenn Barratt (longest cross-country flight).

Craig Hobson and Mark Etherington have two Bronze legs and Silver heights and Mike Burrows has a Silver badge.
J.C.P.

EAST SUSSEX (Ringmer)
At the AGM trophies awarded included the progress cup to Terry Stimson, the Fred Head trophy to James Warren and the Pratt's pot to Heather Willis. The rose bowl and president's cup went to Richard Goodsell for his work on the new hangar and the longest cross-country respectively - given the amount of time he spent on the former it was amazing he had any time to achieve the latter.

The SF-27 is back, splendidly refurbished, and the club continues to sprout new peri tracks, winches and other facilities.

Dave Bracey has gone solo, and the latest expeditions to Denbigh and Talgarth resulted in many notable flights including Gold heights at Denbigh for Terry Banks and Dave Martin.
L.M.

ENSTONE EAGLES (Enstone Airfield)
In May the club's new K-7 (M) arrived back after being completely refurbished by Tony Cox. It has some new modifications including nose and tail wheels and, thanks to sponsorship by Holiday Club Pontins, hand-controls in both cockpits to enable paraplegic pilots to fly and instruct. The clubhouse, based in the WWII control tower, has new double glazing upstairs and we are doing extensive interior decorating over the summer.

The May Bank Holiday open weekend was plagued by bad weather so we will be holding another on September 16-18. The dates of the club task week have been changed to August 21-25.

Fran Brennan has completed his Bronze and we have two full Cat instructors, Steve and Jane Nash, who are a welcome addition to our team.
L.J.B.

Photographs: We get a lot of queries about photographs. We can use good quality colour prints and don't need negatives. It also helps us to return photos if the name and address is on the back.

But make sure you write on a label before sticking it on the back - sometimess prints are ruined by the lettering coming through.

ESSEX & SUFFOLK (Wormingford)
The clubhouse is now finished and has transformed the club with extensive facilities such a as workshop lecture room, galley, office, dining and lounge areas. It even has hot and cold running water and proper toilets. Luxury at last!

We have added a Twin Astir to the club fleet and have two new privately owned gliders. We have started a cadet scheme to help young students from local schools learn to glide in return for helping out around the club.

We are running the fourth round of the East Anglian Inter-Club League in August with winch launching for a change. There will be a party on the Saturday night.

Amendments to both ends of the runway have eradicated the launching and landing congestion. Peter Codd gained Gold height at Shobdon; Andrew Wilson and Chris Bailey completed their Bronze badges and Charlotte Hart went solo. Visitors are always welcome at the weekend.
C.B.

FENLAND (RAF Marham)
We have had a good start to the season with quite a few cross-countries. The new Grob Acro is a popular asset and been well utilised.

Liz Peel and A.J. Padgett have Silver heights and Stew McQuillan has both Bronze legs and a Silver height. Mark Crocker has become an assistant Cat and Pete Luckhurst completed his Silver badge with a flight to Wattisham.
A.R.M.

FOUR COUNTIES (RAF Syerston)
We had a good April with Neil Lawrence and Pete Thelwall completing Silver badges and Jeremy Hood a Bronze badge. Gary Stingemore (LS-6) flew a "fun" 500km in 6hrs and Colin Davey (Ventus) a "fun" 300km in 3.45hrs. Dave Ruttle (Ventus) and Pete Sanderson (LS-4) climbed in wave to 9500ft.

Our new replacement Discus has arrived, but without winglets - back it goes!

Our 40th anniversary party was a great success with over 200 past and present members.

We are hosting the Inter-Services for the first time in over 20 years with the Inter-University Comp task week the following week.
D.M.R.

HEREFORDSHIRE (Shobdon Airfield)
The most memorable recent event was the visit of a party from the Penparcau rugby club, Aberystwyth in poor weather. They were all launched to 2000ft and handled the controls. Everyone got wet but we had a jolly time.

We have expeditions to France - the pundits to Gap and the less experienced to Chauvigny.

There will be plenty of members left to welcome visitors.
R.P.

HIGHLAND (Easterton Airfield)
Our hangar is complete - bliss!! Vicki Chalmers soloed on her 16th birthday, two weeks after her mother's first solo - Geddes look out, they will be after the Dart soon. Stuart Harris flew 59km to complete his Silver and Martin Knight has an AEI rating.
A.G.V.

ISLANDERS (Jurby Airfield, Isle of Man)
Mary Richman and Alan Robins broke the site record with a 70min wave flight on April 30 in our K-2B. Our membership and launch rate are increasing steadily but instructor shortage remains a problem.

The K-2B now has a trailer so we can go exploring the area. The tug is on its annual. A visit by Malcolm Gay coincided with strong NW winds on to the ridge and more club records for the two-seater. June 9 saw Malcolm with John Bell and Deryck Ballington doing O/Rs and triangles up to 65km, 95min and 2800ft.

The next day was similar with John and Malcolm being driven down from 3500ft when still climbing by the onset of darkness. The ridges were mist capped on June 11 but some weak wave and cliff soaring made up for that. A good week with only one landing out - our first retrieve!
B.G.

LAKES (Walney Airfield)
Diamond heights at the Lakes! Neil Braithwaite and Peter Redshaw gained theirs on the VE Day Anniversary (Peter having made several unsuccessful trips to Scotland). On the same day Elwood Mancini gained Silver and Gold heights and Andrew Tebay his duration, narrowly missing his Gold height through lack of a dip off tow on the barograph.

For the first time the club hosted an assistant instructors' course. Our facilities impressed the coaches. John Burdett, Alan Meadows and Graham Sturgeon gained their ratings.

Graham Sturgeon has Gold height, Roger Copley, Martin Lewis and Andrew Tebay have Silver heights and Alan Welch went solo.
A.D.

LASHAM (Lasham Airfield)
A south facing patio, complete with barbecue, is being built outside the club bar.

Gee Dale (ASW-17) and David Innes (Nimbus 3T) have flown 752km - Gee in 8hrs 51min and David in 8hrs 40min. Regretfully, one of David's photographs was out of sector. Our manager, Phil Philips flew an Oly 460 100km in a creditable 1hr 12min. Warren Palmer and Graham Garnett (Surrey & Hants GC) flew K-8s for Silver distance.

Jeff Smithers reports 29 applications for our cadetship. While the aim is to introduce young people to gliding, it can help them to go further.

For instance, Peter Masson, who finished his third year as a cadet last summer, has flown 500km in 5hrs 50min in an ASW-24. Nick Luxton (aged 17) and Corrin Higgs (20) have Silver height and distance; Ian Bews (17) is cleared for cross-country flying and Stuart Spencer and John Craydon, both 17, will be ready this summer.

With great regret we record the sudden death of Tony Snow, a loyal and greatly respected member of Lasham.
A.M.S.

Obituary - Tony Snow
Tony's sudden death on May 22 from a heart attack has saddened his many friends both at Lasham Gliding Society and at other clubs where he flew during his holidays.

He will be remembered for his helpfulness and willingness to assist in any task, however minor, and he could always be relied upon to come up with good ideas to solve a problem.

Tony began gliding at Saltby before moving to Lasham and proved to be a very motivated, determined and precise individual. He was also a highly accomplished cross-country pilot.

Though shy and retiring by nature he had a wonderful sense of humour and was always very entertaining company. Lasham members will miss him greatly and our condolences go to his wife Rita, his family and to his colleagues at St. Piers School, Lingfield.
David McCarthy

LINCOLNSHIRE (Strubby Airfield)
Robin Collins has gone solo and Jeanette Kitchen (2), Paul James, Diane Skerry and Dave Draby have Bronze legs.

All pilots are welcome to visit and try to earn the very rare Lincs GC's flying tiger badge. All that's needed is to take a winch launch and land 25km away. The group flying evenings are going well with most slots booked.
R.G.S.

LONDON (Dunstable)
Following the AGM in May, Bob King became chairman, David Starer vice-chairman and Steve Lynn treasurer.

Our Regionals are fuly booked and we are taking names for reserve places.

There have been some problems with thieves on our caravan site and several members have had valuables stolen.

The committee has decided to seek a full-time manager, as the workload has increased greatly with the growing popularity of our courses.
R.C.

MARCHINGTON (Tatenhill)
The weather is conspiring to keep the fleet grounded at weekends. However, the Wednesday Club are enjoying some excellent flying, with Tom Swinscoe completing his 5hrs in the club K-23.

The real news, of course, is Paul Shelton's Third Diamond gained in the Pyrenees in his Discus, so becoming our first member to hold all three Diamonds.

After a successful visit to Camphill in March with our K-21 we have an expedition to Portmoak in October.

The search for a new site continues, but a new mobile hangar is near completion. Phil Pritchard has become an assistant Cat and Frank Voerten, a full Cat, has joined us.
I.N.R.



Burn GC's "BFJ" evening with, l to r, Joe Millward, Jack Sharples, Bernard Wilson, Jack Tarr, Bill Scull, Frank Thompson and John Stirk. Photo: Paul Newmark.



Carol Baxter of Trent Valley GC being debriefed by Bob Kmita after flying the LAK.



Above: Clevelands newly painted super-visibility tug.
Below: Two Essex & Suffolk GC pilots receiving their wings from instructors. On the left, Sofie Lambert with Angus McDonald and, right, Phil Hudson with instructor Mike Friend.



Mike Squibb of Vectis GC after completing his second Bronze leg - holding an old bronze table leg.

MENDIP (Halesland Airfield)

Dan Lodge and Brian Dymock have gone solo, Brian getting both Bronze legs and a Silver height.

In early June we had wave climbs over the site with 9200ft for Paul Croote (Kestrel 19) and 8000ft for Graham Taylor and George Whitcombe-Smith (Falke, with the engine off).

We started the Inter-Club League badly on the Saturday but on the Sunday Bob Merritt (Kestrel 19) won the Pundit Class.
P.J.R.H.

MIDLAND (Long Mynd)

Andy Holmes has been awarded a Rolex trophy by the Royal Aero Club. The fencing of the air-



Above: Nene Valley GC's Richard Aylesbury after going solo. Below: Harry Phelps (right) and instructor Dan Birks after Harry's solo at Shenington GC.







field perimeter is now complete. This is part of a project to help control sheep and members of the public on the airfield.

John Bland, Nick Bucknell, David Compton, Andy Hodson, Warwick Nuttall (on his 16th birthday), Brian Pearson and Nick Williamson have soloed. Tony Errington, Richard Justice and Mike Woolley have Bronze badges. Richard Coghlan and Donald Watson have Silver distances. R Copley has Silver height, Richard Justice Silver height and duration and Mike Woolley has complete his Silver badge. Jon Blackhurst and Guy Hartland have become assistant instructors.
A.R.P.

NENE VALLEY (RAF Upwood)
Richard Aylesbury went solo and Mike Noble resoloed after a 30 year break. Steve Codd has an AEI rating and Gary Johnson an assistant Cat rating.
R.T.

NORFOLK (Tibenham Airfield)
There were lots of good flights in April but the weather was not too kind for our early May task week.

On VE Day we hosted an emotional visit of 50 American veterans of the 445th Group and their families returning to their old wartime base.

A great bunch of pilots turned up for the Eastern Regionals which were won by Paul Fritche (Southdown GC) after five contest days.

Our new Rallye is providing good service and the retiring Condor has been syndicated so will remain a feature of our skies.
B.W.

NORTH WALES (Bryn Gwyn Bach Farm)
We thoroughly enjoyed our expedition to Aston Down. We are hosting the third round of the Inter-Club League on June 17-18, the previous two having being scrubbed due to the weather.
P.C.

OXFORD (Weston-on-the-Green)
The village fete was held on the airfield this year, an innovation largely organised by Norman Machin. Attractions included an aerobatic display in a K-21 provided by our friends at Bicester, and parachuting by the RAF team. We gave 18 trial lessons and signed up two new members.

The second K-13 was beautifully re-covered by Graham Barrett and his workshop crew. Rick Underhill and chairman Steve Evans have installed fancy curled-up tips on their LS-6.

Club facilities are improving with a new bar store area constructed by Chris Buck and Paul Rogers.
P.H.

PETERBOROUGH & SPALDING (Crowland Airfield)
May was busy with three well supported Inter-Club competitions when Trevor Nash and Chris Hatton achieved good results. Frank Painter, Mike Ward and Sheena Fear have gone solo and Kev Fear is an assistant instructor.

Visitors are welcome to the soaring fortnight beginning on July 31. We have a barbecue on August 12 when we host the last Inter-Club League.
S.C.F.

PHOENIX (RAF Brüggen)
We have settled in our new clubhouse. Wally Grout has his AEI coach rating, Roelf Bruinsma and Dave Gauntlett are full Cats and John Clegg flew 50km to complete his Silver badge.

Andy Wilson and Guy Bulmer have gone solo, Andy as well as Andy Meuller, Tim Bruinsma, Ray Power and Grey Stephens, going on to get a Bronze badge.
J.C.

PORTSMOUTH NAVAL (Lee on Solent)
We had a successful course at the end of April with some excellent soaring and many gaining their 5hrs and Silver heights, ending with an enjoyable party and barbecue.

New solo pilots include Jan Coote, Pain Thorne, Tim Patterway, Dave Watkins and Sterling Cripps. Cat Stevens and Martyn Butcher have Bronze badges and Glyn Jaques and Kevin Hill have completed Silver badges. Steve Micklewright and John Bradbury have AEI ratings and Nigel Gilkes a full Cat rating.

We are making good use of our new Astir. Phoenix GC at RAF Brüggen kindly stored it for us prior to delivery.
J.P.

RATTLESDEN (Rattlesden Airfield)
The main event for May was the return of the 447 Bomber Group (B17) to Rattlesden Airfield. probably for the last time.

It was a special event with ex-American army lorries, jeeps and a really splendid meal prepared by the members and friends. To crown a great day, a fly past by Sally B, the Duxford B17.
M.E.

SACKVILLE (Riseley, Beds)
We have added a second Bocian and a K-8 to our fleet plus three instructors and are actively seeking new members to keep them occupied.

Our task week was marred by the weather but some cross-country flying was done and we are grateful to Keith Richards for allowing so many to experience flying his IS-32.

The BGA Puchacz is here at the end of July.
D.C.W.

SHALBOURNE (Rivar Hill)
Our open day in April was successful, despite the poor weather, with a number of visitors joining the club. But we had splendid weather for our expedition to Sutton Bank with lots of flying.

We now have a professional winch/retrieve driver during the week. Anyone interested in flying midweek should contact Geoff Nicholls on 01585 215938 (mobile).

Rob Sharpe and Bill Cook have AEI ratings. Rob has also flown a 100km triangle.
J.R.

SCOTTISH GLIDING UNION (Portmoak Airfield)
Early summer wave has brought a real crop of badges for members and visitors. Mike Edwards, Kevin Dillon and Graham Fraser have Diamond heights and Graham has also flown his Diamond goal. Ronan Murphy has Silver distance.

Kevin Hook missed his 500km by 3km having backtracked to more suitable landing ground!

Several have had a successful expedition to The Soaring Centre. The Allcoats have their new DG-500 and are already notching up 300kms.

It is with great sadness we report the tragic death of Nick Wales who was killed while flying his Kitfox. He was only 22 years-old. He was a popular member and we will all miss him. Our heartfelt sympathies go out to his family.
G.S.G.

SHENINGTON (Shenington Airfield)
Reg Curwen celebrated his 12 000th launch recently, with the aviation press in attendance.

Sandi Kidd, Harry Phelps, Robert Goodger and Michelle Pennington have gone solo and Mick Phelps and Graham Hudson have Bronze badges. Ian Atherton has an assistant Cat rating and Arthur Carpenter an AEI rating.

The first Inter-Club weekend was noticeable for its mass landouts but the club did well. The second weekend was held at Shenington and both days were abandoned due to the weather, though the ridge was working on Sunday allowing our visitors to have some long flights.

The clubhouse has a new outdoor seating area and barbecue. We are holding fortnightly barbecues on Saturday nights and welcome visitors from neighbouring clubs.
T.G.W.

SOUTHDOWN (Parham)
The spell of hot and sunny weather in early spring brought a number of cross-country flights and badge claims. Mervyn Warren gained both Bronze legs and Julian Hitchcock completed his Bronze badge. Rick Filipkiewicz flew 5hrs; David Rhys-Jones completed his Silver and Mark Turner flew Silver height.

We have a good record at championship level with Paul Fritche winning the Eastern Regionals.

Sadly the fine spirit of the club has been subdued by the death of John Hawkins on May 7. (See BGA News and Your Letters). John, generous and reliable, was a friend to us all and will be sorely missed at Southdown.
P.J.H.

Obituary - John Hawkins
John had been a member of Southdown GC since 1986 and, though he came to gliding relatively late in life, applied himself with determination and great enthusiasm. That same enthusiasm remained to the end; always amongst the first to arrive, he would never pass up an opportunity to hop into a spare seat in any club glider.

He was a true club member in every sense, although much of his considerable and unselfish contribution to the smooth running of the club went unseen, both during his years on the committee as clubhouse and premises officer and since then, when amongst other tasks he continued his grass cutting marathons.

A kind, generous and highly principled man of many talents, John had well-known weaknesses for electronic gadgets and the legendary high tows which made him a special favourite with hour building tug pilots.

And now, tragically, he's gone whilst doing something he loved and we have all lost a colleague and dear friend who will be much missed. Our thoughts and deepest sympathy go out to his widow Doreen.
Colin Robinson

➡

SOUTH WALES (Usk)
There has been a rush of new members taking up our package deal of £270 for one year's membership with 90 winch launches and six aerotows, or solo (whichever happens first). Courses and evening flying are booking up quickly.

The Easter weekend brought good wave with the entire club fleet up to 16 000ft. Harold Armitage achieved a Gold height; Paul Ridgill both Bronze legs and Richard Slater 5hrs. Maureen Weaver has an assistant Cat rating.
M.P.W.

STAFFORDSHIRE (Seighford)
We have planning permission for the clubhouse and with the intrepid bank of Seighford helpers hope that completion will not be far away.

An SZD Ogar motor glider will be based here for cross-country and navigational training.

James Davies (aged 16) has soloed and James Fisher has Silver height; John May a Silver badge after his 5hrs and Nick Tatlow and David Knibbs have AEI ratings.

Despite the poor weather we had a good turn out for the Inter-Club competition with Ian Martin and helpers organising the barbecue.
J.R.

STRATFORD ON AVON (Snitterfield Airfield)
Geoff Bridgewater, Martin Greenwood, Mark Parsons and Roy Wood have AEI ratings with Geoff and Ian Lang gaining Silver badges.

We are expecting two new gliders - Dave Benton's LS-6cw (with a purpose built Schofield trailer of a new design) and Frank Jeyne's ASH-26. The club has added a K-18 which is proving very popular along with the existing K-8 and Junior for early solo pilots.

Our winch "wench" Lesley Blair is getting creditable results by co-opting various members and has been allowed sufficient time off to complete her Bronze badge. Jim Tyler and Frank Jeynes are sharing the course instructing and Derek Phillips, technical officer, is winchmaster during the full time operation.
H.G.W.

THE GLIDING CENTRE (Shenington Airfield)
Our courses have started well with excellent weather and full bookings.

New additions to the fleet (SF-27 and yet another K-8) bring the total to 15 aircraft including two motor gliders and the tug.

We have been on national TV again on "The Great Outdoors"; viewers will have noticed though that we took the stickers off the side of the glider being filmed. This was to encourage a nationwide response to the programme which evidently worked since thousands of people phoned the TV channel for details and were directed towards their nearest club.
M.F.C.

THE SOARING CENTRE (Husbands Bosworth)
Despite our worst week this season, our task week went ahead with some enthusiasm but only one day was possible with many landouts. Mike Jordy came 1st with Ken Payne 2nd and Basil Fairston 3rd.

Other activities were organised and it was agreed that we had a good time and the new director, Derek Abbey, and his team had done the best they could in adverse conditions.

But we had three days' flying for the Inter-Club League we hosted and won.

One of our founder members and vice-presidents, Michael Hunt, completed his 1000km diploma in South Africa (see the last issue p146). Michael designed our hangar doors and was one of the prime movers in buying and moving to our site in 1963.

Despite the large handouts to other sporting clubs, we were unsuccessful in our application for a grant from the national lottery. As a result the stage two plans for our new clubhouse are on hold.

With the conversion of our last Chipmunk to a Supermunk we now have the use of an immaculate ex Navy Chipmunk from Phil Cartwright. With our former Chipmunk engine this new tug puts our aerotow fleet to six tugs on site at any time. Our weather satellite system is now back in operation having been blown over in the winter storms.
T.W.

TRENT VALLEY (Kirton in Lindsey)
Robin Parker is our new CFI, having taken over from Cliff Whitwell. Vince Geraghty joins us as an assistant instructor and Dave Bieniasz has an AEI rating.

Tom McKinley and George Morton have gone solo, George on his 16th birthday - and his father Mike has completed his Bronze badge.
M.P.G.

TWO RIVERS (RAF Laarbruch)
Despite rumours to the contrary in the UK, the club is thriving. Andy Gardiner and Vince Mallon are now full Cats with Martin Gittins, who recently returned to us, regaining his.

We have just returned from a two week expedition to Leszno, Poland where the weather could have been kinder. However, Ian Campbell, Martin Feathers, Tim Rommen and Ian Keylock (Fulmar) completed their Silver badges. Over 3000km were flown.

Back in Germany Al West flew 300km for Diamond goal, Andy McCann 50km and Silver height and Hans Girath 5hrs. We hope to see many old friends at our annual mini Comp.
R.M.G.

ULSTER (Bellarena)
Eleven pilots, four companions and an SF-27 made up the first cross-Channel safari we hosted this year. Newark & Notts GC visited in May for a week in which they encountered thermals, ridge lift and modest wave to 6800ft.

Vintage GC pilots weren't so favoured later with their national rally which we enjoyed hosting. Orographic and low stratus cloud restricted the scope on all the seven flying days but winds were westerly so there was much rockpolishing done and plenty of non-flying activities, including a well-provisioned civic reception.

Veteran Reg Browne retired from instructing on reaching 70 in May; we marked the occasion with a buffet supper at the Ballymac.

A poor market response resulted in cancellation of the first two of four course weeks but a club safari to St Angelo, in the Fermanagh lakeland, is mooted this autumn.
R.R.R.

VALE OF WHITE HORSE (Sandhill Farm)
It has been a slow start to the season due to unfavourable weather - particularly at weekends.

Hugh Young has a Bronze badge. Summer evening air experience flying has started. We have two more privately owned gliders, a K-6CR and a K-6E.
J.K.

VECTIS (Isle of Wight, Bembridge)
Ray Ginsberg has gone solo and Mike Squibb has his second Bronze leg in the K-8 they are taking to Thouars, France.

We have had some good soaring weather with cross-country flights over most of the Island and some venturing over to the mainland. During the Bank Holiday weekend there were several long flights by Mike Chambers (Club Libelle); Martin Parsons (SHK); Alasdair McLean and John Chape and Matt Colebrook (both in K-6es).

Matt ventured over to Lee-on-Solent to get a bird's eye view of their operations and still had time to fly the tug plane. The following week John Kenny, DCFI, with our local farmer Ken Smith on board, soared the sea breeze front across the Island to Yarmouth and back. (See John's comments on p205.)

Our open weekend in June has trial lessons.
M.J.H.

WELLAND (Lyveden)
Our open day was successful with over 70 introduced to the delights of gliding. AEI and instructor training is ongoing under DCFI Werner Leutfeld.
R.H.S.

WOLDS (Pocklington)
We enjoyed our mini-soaring course in May. Despite the weather it was productive in badges with Glen Ward and Anna and Angus Sheldon gaining Silver distances.

The task week was won by Bob Kirbitson flying the club K-21 on a very difficult day.

Pete Holmes and Nick Antcliffe are now assistant Cat instructors.

We are sponsoring four youngsters to train to solo standard and asking applicants to write explaining why they want to fly.
M.F.

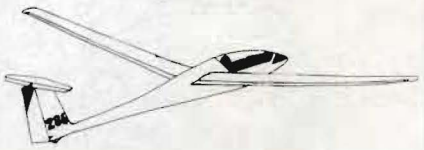
YORK (Rufforth Airfield)
After a promising spring which saw Mike Cohler gain his Gold height and Len Newnham his 5hrs, early summer has failed to live up to the initial signs of a good season.

We have added a third motor glider to the club fleet and the Blanik is now flying again.

Sadly we have to report the death of Bill Baldwin. Bill was one of the club stalwarts and over the last few years he had been our course winch driver providing pupils with consistent launches. Our sympathies go to his son Simon and all his friends.
S.R.L.

YORKSHIRE (Sutton Bank)
After an excellent start to the season May proved a disappointing month for soaring weather. John Goodall won our task week and Paul Foster is our new AEI.
C.L.

TALGARTH



BLACK MOUNTAINS GLIDING CLUB

THE ULTIMATE ADVENTURE PLAYGROUND

We have more ridge, wave and thermal soaring than any other UK site. New club height record 32,500' (1.1.92) in SW Wave. 364 days a year operations. Tuition provided for all levels. For advanced and ab initio course details or any other enquiry.

Tel: 0874 711463 (airfield)
0874 711254 (evenings)

BOOKER

- ✧ Open 7 days a week until dusk
- ✧ Cross country tasks every suitable day
- ✧ Full range of single seaters
- ✧ K21 & Duo Discus available for cross country training
- ✧ Efficient all aerotow launching
- ✧ Easy access from M25, M4 or M40 (Jnc. 4)

Call or write for colour brochure:

BOOKER GLIDING CLUB

Wycombe Air Park, Marlow, Bucks SL7 3DR • 01494 442501/529263

DERBYSHIRE & LANCASHIRE

Welcomes you to the spectacular Peak District

- Ridge
- Wave
- Thermal
- Open 7 days a week
- Fly our aircraft or bring your own
- Visitors most welcome
- Summer Holiday courses
- On-site accommodation, full catering and licensed bar
- Local attractions for all your family

For further information please contact our
Club Manager, John McKenzie.
Tel: 01298 871270

LASHAM

Planning this year?

LASHAM offers

One to one:	***Your own instructor and glider for the day – whatever you want***
Two or five day courses:	***ab-initio training, low numbers produces rapid results***
Advanced courses:	***early solo or aspiring cross-country***
X-country courses:	***run by champions for those who want to be***
Aerobatic courses:	***standard to advanced and beyond by instructors who know***

OR

Bring your own glider along for the day, launches and lunches always available.

Lasham

Lasham – a special way to fly

Tel: 01256 381322 or 01256 381270

Lasham Gliding Society, Lasham Airfield, Alton, Hants GU34 5SS.

KENT GLIDING CLUB

K·E·N·T GLIDING CLUB

Challock, Ashford, Kent TN25 4DR

Come to Kent for courses to suit all grades of pilots from beginners to cross country. Situated on North Downs thermal and ridge site. Meals and accommodation in comfortable fully licensed Clubhouse.

For details, write or phone:
01233 740274 or 740307
Fax 01233 740811

NORFOLK GLIDING CLUB



Experience the exhilaration of soaring above the East Anglian countryside.

Open all year - Modern fleet
Supacat winch or Aerotow
Fully licensed clubhouse
Super Falke - MGPPL conversions
Bronze 'C' checks and AEI courses as required
Caravan and camping site

Ring: 01379 677207

TIBENHAM AIRFIELD • THE HOME OF GLIDING IN NORFOLK

RIDGE, WAVE, THERMAL

NYMPSFIELD HAS ITS FAIR SHARE OF EACH

Seven days a week operation (subject to weather) all year round • Expeditions and visitors welcome at any time • Dedicated holiday courses April-October

Specialist holiday courses for 1995 include: Ab-initio to Solo; Solo to Bronze; Bronze to Silver; Silver to Gold; Aerobatics • Advanced Cross-Country & Competition Preparation with 1994 World Champion Andy Davies • Preparation for AEI, Assistant and Full Instructor ratings.

For details of any of the above contact:

THE BRISTOL & GLOUCESTERSHIRE GLIDING CLUB
Nympsfield, Nr Stonehouse, Gloucestershire GL10 3TX
Tel: (01453) 860342 • Fax: (01453) 860060

SKYLAUNCH WINCHES

340 HP 7.4 litre General Motors V8 Engine Thru-Standard 3 Speed Automatic Gearbox and Torque Converter:

- Excellent acceleration using accurate throttle with variable control for easy non-professional driving.
- Reliable running and odourless exhaust from cheap clean burning propane fuel.
- High quality engineering and unique sprung cable feed produces launches of exceptional smoothness.
- Easy maintenance, simple design, dependable operation.
- Simple controls in a comfortable air filtered cab with heating makes for pleasant, easy driving.

Twin drum winches at £36,925 + VAT @ 17.5% = £43,386.88 (ex works). Single drum winches also, and retrieve winches to provide complete launching systems and give rapid launch rates.

For a free brochure please contact –



"It's like going up on Rails!"

Designed and built in Britain by

D & M ENGINEERING

WESTLEY FARM, BAYSTON HILL, SHREWSBURY, SHROPSHIRE, ENGLAND SY3 0AZ
Tel: (44) (0) 1743 874427 • Fax: (44) (0) 1743 874682

The Ultimate "Challenge"

Courses for ALL

Buckminster GLIDING Club

✦ Week Holiday
✦ Weekend Intro.
ALSO PPL (A) SLMG Course

Ring Clive on 01476 860385

SALTBY A/F – 15nm SE of Nottingham
20nm NE of Leicester – Nr Grantham



THE GERMAN DIAMOND MINE IN CENTRAL SPAIN

FUENTEMILANOS

It is not without good reason that Fuentemilanos is the airfield from which the largest number of 1000km flights have taken off!

Come to the best soaring-site of Europe.
Fly our Janus, LS-4, Astir or bring your own glider.
Cross country with INGO RENNER in ASH-25
Camping, Swimming Pool, Chalets available
Season: June to September

Fax for more information:
01049-5202-72363

SEGELFLUGSCHULE OERLINGHAUSEN
Flugplatz • D-4811 Oerlinghausen • Tel: 01049-5202-7901

ENSTONE EAGLES

Gliding Club

5 Day Courses, unlimited wire launches
£195
Magnificent Cotswold Soaring Location
Aero-tows available
New Members at every level made most welcome

Details from
ENSTONE EAGLES GLIDING CLUB LTD
Enstone Airfield, Church Enstone, Oxon OX7 4NP
Tel: 01608 676708

LONG MYND HOLIDAY COURSES

- ✔ Fully inclusive fee, covers all flying, **accommodation** on site, and **all** food, from **£325** for 5 days.
- ✔ Modern fleet, K21s, K23s, ME7, and **JANUS TURBO for X-country** tuition, K13s & a K8.
- ✔ Launch by 300hp Skylaunch winch, Pawnee aerotow, or bungy depending on weather and availability.
- ✔ Excellent soaring on the famous Long Mynd ridge as well as plenty of thermals and wave opportunities.
- ✔ We guarantee* a minimum of: 1 hour flying time or 6 launches per day with no max. limit on your flying.
- ✔ Courses structured to your needs, from ab initio to Bronze, Silver, Gold and Diamonds. Courses from one to five days available.
- ✔ Some of the most spectacular scenery in England
- ✔ Whenever possible we soar, instead of flying circuits.

NEW: Advanced X-Country tuition in Janus C Turbo with Nationals pilot.

Midland Gliding Club
Church Stretton
Shropshire SY6 6TA

✆ Janet Stuart for a brochure and details* of the guarantee
01588 650 206
fax 01588 650 532
Access/Visa

NORTH WALES G.C.

5 Day Holiday Courses

Situated above the beautiful Vale of Clwyd, N.W.G.C. is a small friendly club offering expert tuition in our new Super Blanik or Bergfalke. Fly our K8 or Skylark 4, or bring your own glider for a holiday to remember.

Book now for June/July/August

£185

Visitors Welcome

01745 582286

COME AND BE PART OF THE MOST PROGRESSIVE CLUB IN THE COUNTRY!

- 7 day operation
- Excellent thermal soaring
- Ridge facing NW winds
- New clubhouse and facilities
- £125/year membership
- 9 two-seaters (K7, K13, Twin Astir)
- 9 single-seaters (K8, SF27, Astir) (5 x K8, SF27, LS-4, etc.)
- Approx 1 hour from London or Birmingham via M40
- 3 motor gliders and 3 tugs (syndicate shares available for hours - builders)

SHENINGTON GLIDING CLUB
Banbury, Oxon
Call 0295 688121 (clubhouse) or Colin 0295 251716 (home)

SEVERN VALLEY SAILPLANES

Martin Carolan

HIGH QUALITY WORKMANSHIP AT AN AFFORDABLE PRICE

FULL WORKSHOP FACILITIES TO COVER ALL JOBS BIG OR SMALL

Passage Farm, Arlingham, Glos. GL2 7JR
Telephone:
Home 01453 544107
Mobile 0860 542028
Workshop phone or fax 01452 741463

Distinctive Designs
for
Innovative, Quality Design and Services

Announcing another distinctive product from Distinctive Designs

UK Manufactured Glass Fibre Trailers
- Reduced condensation
- Lightweight for easy towing
- No more leaky rivets
- Easier repairs
- Competitively priced

From **£2850**

One Man Rigging Aids
Whether you own an Ash 25, ASW15 or a Pirat, these lightweight, sturdy rigging aids made from high quality steel will take the backache out of rigging your glider, increasing safety and minimising the risk of damage to you or your plane. Pneumatic wheels with a wide wheel base make this the Range Rover of rigging aids, tackling rough terrain smoothly and easily. And, when you've finished simply fold it up and it tucks neatly away in your trailer. **£295**

Tripod Trestles
These trestles are telescopic with no pins or pegs to fumble with, just slide the plated shaft to the correct height and turn the lever. The padded, pivoting head assures your glider wing is resting fully on the trestle. **£75**

We also supply Tow Out Kits, Tip Dollies and Trailer Rigging Equipment.

For full product details and advice call or write to
Phil at Distinctive Designs
30 Tetbury Drive, Warndon, Worcester WR4 9LG
Tel: 01905 454034 • Fax: 01905 454034

ARMSTRONG COMMUNICATIONS & ELECTRONICS

(All prices include VAT, but exclude p&p)

ICOM IC-A2	£321
ICOM IC-A20	£399
ICOM IC-A3	£389
ICOM IC-A22E	£409
GARMIN 55 STD	£399
GARMIN 55 AUD	£457
GARMIN 95 XL	£786
SKYFORCE LOGGER	£194
SKYFORCE LOCATOR	£135
SKYFORCE LOCATOR II	£304
SKYMAP	£1115
ARTIFICIAL HORIZON	From £319
12 VOLT T/S	From £129
12 VOLT BATTERY CHARGERS	From £29.50

Also varios/ASI's, all ICOM/GARMIN models and accessories, other brand GPS/ handheld radios and instrument panels to order

BLANIK CANOPY	Reasonable offers
12 VOLT/6 AMP YUASA SEALED LEAD ACID BATTERIES	£18.00
33 METRE ROLL WING TAPE	£1.50
BLACK & WHITE FILMS FROM	£1.80

For details contact:
P W & S K ARMSTRONG
15 Lancaster Green
Hemswell Cliff
Gainsborough DN21 5TQ
Tel: 01427 667068

SUNSTATE SOARING

- 12 month Season. 500 Km has been achieved in every month of the year
- Easy access to Brisbane, Gold and Sunshine Coasts, Great Barrier Reef and Bunya National Parks
- No Airspace problems, Huge paddocks unlimited visibility
- Fleet includes Nimbus 2, Ventus, LS4's, SZD55, PIK20D, Hornet
- Airport within town of 10,000
- Bad weather rebates
- Booking deposit only A$200

PO Box 452 Dalby,
Queensland, 4405, AUSTRALIA
Phone: +61-(0)15-169493
Fax: +61-(0)7-33022085

Soar the CANADIAN ROCKIES

from Mountain Soaring Courses, Cross Country or Wave flying

The place to go home with all three diamonds in your hand

• The best soaring place in Canada •

ROCKY MOUNTAIN SOARING CENTRE LTD
PO Box 1306,
Golden, BC, V0A 1H0
Tel: 604 344 6665 • Fax 604 344 7933

(2) Blanik L-13, Pilatus B-4, K6E and Phoebus B

Aircraft Instruments
DAVID GOODISON

INSTRUMENT REPAIR & CALIBRATION CENTRE

INSTRUMENTS FOR SALE

4 BROADACRES AVENUE
CARLTON, Nr. GOOLE
NORTH HUMBERSIDE DN14 9NE
Tel and Fax GOOLE (01405) 860856
Mobile 0589 383933

CONVERT WITH US

SLMG to PPL COURSES from £495 | **SILVER 'C' COURSES from £1320** | **SLMG COURSES from £1000**

(All prices inc VAT and landing fees)

THE REAL CONVERSION SPECIALISTS

Why train with assistant flight instructors when professional qualified flight instructors/BGA Full Cats are available!

- ★ Aircraft hire: Folke £40PH; C152 £65PH; PA28 £80PH
- ★ SLMG Courses Available
- ★ Farmhouse accommodation can be arranged

TEL: TOM EAGLES AT PILOT FLIGHT TRAINING

Hinton-in-the-Hedges Airfield, Nr Banbury
Tel. Mobile 0836 787421 or 01295 812775



✦ ALL PRICES + VAT ✦

Icom Radios *Lowest UK Prices*

SKYFORCE	
Locator	£115
Locator II	£259
Tracker	£429
Skymap	£949

GPS MADE EASY

Resin Handgrips Left or right hand

19mm – 1" tube fitting

Plain	£40
with PTT	£45
PTT + 2	£85

(RHand only)



Delcom Air 960 (760 Channel) £189
Approved/Panel mountable radio complete with antenna nicad pack charger, & soft case.
Panel Mount – Cast Aluminium £32
12v External Power Adaptor £20

New low priced GPS navigation from around £150
Garmin GPS 90 ..... £499
Magellan EC10x (GPS with high res map) £1279
Magellan Skyblazer LT (AVD with lots of features) ... £349
Magellan Meridian (900 kts speed range) £199

Small windsock 1m long ..... £15 inc VAT and del
Medium windstock 1.6m long .... £25 inc VAT and del

LYNDHURST TOUCHDOWN SERVICES LTD
64 Wellands Road, Lyndhurst, Hants SO43 7AD
Tel: 01703 282619 • Fax 282471 (M-0374 278902)

Oxfordshire Sportflying Club
The Premier Motor-gliding School

- ★ Convert your Bronze/Silver badge to a Self-Launching Motor-Glider PPL
- ★ We teach and examine for Bronze C field landing exercises
- ★ Silver C conversions at a special rate
- ★ We will fly to your Club for the weekend for block field landings and navigation training (special rates considered)
- ★ Ab initio training
- ★ Trial lessons

Discover motor-gliding and how it can help you in the world of pure gliding.

OXFORDSHIRE SPORTFLYING CLUB – DKSTONE AERODROME

For details call on 01608 677208

Open seven days a week

XK10 "CLUB" VARIO SYSTEM



XK10 "CLUB" VARIOMETER
- Audio codes climb rate
- Gust Filtering
- No Flask Required

£249



DEDICATED AVERAGER OPTION
- Battery Volts
- Three Averager Modes
- Thermal Total Average
- Speed to Fly
- Climb/Cruise Mode
- Auto Shut Down Overnight
- High Sink Rate Alert
- 0 – 5kts Wave Mode

£149



REPEATER METER OPTION
- 60mm Mounting
- No Mods Required
- Loom Included

£89

- Metric Version 0–5m/sec

As reviewed by Derek Piggott in February/March issue of "Sailplane and Gliding"

from Cair Aviation Ltd.

"You can bank on us"

✦ New Instruments: PZL Expanded Scale ASI 1.5 Turns 0-140kts, 1.75 Turns 0-200kts £105, PZL Vario with zero reset, Flask and Ring, 80mm £189, 57mm £219, PZL T.E. Unit £28, PZL 12V Mini T/S £259, IFR Altimeter £165, IFR Mini Accelerameter £167, IFR Pedestal Compass £69, Airpath C2300 Panel Compass £69, T/S 28V Converter £22.90, New Traditional Clockwork Barographs £189 ✦ Overhauled Instruments: 12V Turn/Slips Glider Rate £104 – £144 ✦ Radios: ICOM A2 £283, ICOM A20 Mk2 £339, Delcom 960 £199, Delcom 960 80mm Panel Mounted Version with Speaker/Mike £239, Mobile Magnetic Mount Aerials £26 ✦ Glider Battery Chargers £25.50 ✦ Parachutes: SK94, State of the Art, Rapid opening, low descent rate, Steerable, Comfortable, Lumbar Support, Bag. £465 ✦ Trailers: High Quality 15M size £2950 ✦ Superb Foka Standard, refurbished, XK10, trailer £5950 (no VAT) ✦ New Gliders (In conjunction with Anglo Polish Sailplanes)

Prices shown exclude VAT and carriage

SZD Junior $28,850, SZD Puchacz $42,500, SZD "55" $48,850, SZD "Accro" 39,680 DM

COLIN D. STREET, 7 Sharpthorne Close, Ifield, Crawley, Sussex, RH11 0LU, England • Tel 01293 543832 • Fax 01293 513819



HE HAS NINE LIVES – YOU ONLY HAVE ONE!

TELEPHONE 01845 577341
FAX 01845 577646

REPAIR AND MAINTENANCE FOR YOUR SAILPLANE

nys

CONTACT: DEREK TAYLOR

NORTH YORKSHIRE SAILPLANES

Unit R, Alanbrooke Industrial Park, Topcliffe, Thirsk, North Yorkshire YO7 3SE

Pop-Top Glider Pilots Parachute

- State of the art in emergency parachutes
- The Pop-Top. External seated pilotchute providing the fastest possible deployment.
- Fully encased risers resulting in a snag free parachute container system.
- Steerable parachutes in a range of sizes to suit all sizes of pilots.
- Soft, slim line design for the ultimate in comfort
- British built, quality assured to BS 5750
- Reliability, comfort and efficiency when it matters

THOMAS Sports Equipment Limited
Lofty's Loft • Pinfold Lane • Bridlington • North Humberside • YO16 5XS • Tel: 01262 678299

AMF Aviation Enterprises Ltd

Membury Airfield, Lambourn,
Berkshire RG16 7TJ, UK
Tel: 01488 72224 Fax: 01488 72224

✦ *Come to the professionals - you know what you're getting* ✦

Normally comes fully fitted and painted. Including: front door, spare wheel, jockey wheel, safe double strut knuckle support struts. Conventional rigging on or off the trailer. Jacking belly trolley. Lots of options to suit your preferences

GT 2000 LIFT TOP



TRADITIONAL DROOP SNOOT



Designed for the tight budget. Specify your own options. Specify your own fittings – use existing fittings if you like. Proven design with over 320 built to date and 16 years' experience. Very suitable for clubs and 2 seaters

ROGER TARGETT

ROGER TARGETT
Sailplane Services

Bristol & Gloucestershire Gliding Club
Nympsfield, Nr. Stonehouse
Gloucestershire GL10 3TX

Tel: Workshop (01453) 860861
Home (01453) 860447 (Portable (0850) 769060

FOR SPECIALIST REPAIRS AND MAINTENANCE

Offering outstanding workmanship, efficiency and service in:

- ★ All glass, carbon and kevlar repairs
- ★ Wood and Metal repairs
- ★ All modifications
- ★ Motor Glider engine approval
- ★ C of A Renewals
- ★ General Maintenance

(including re-finishing and wax polishing)

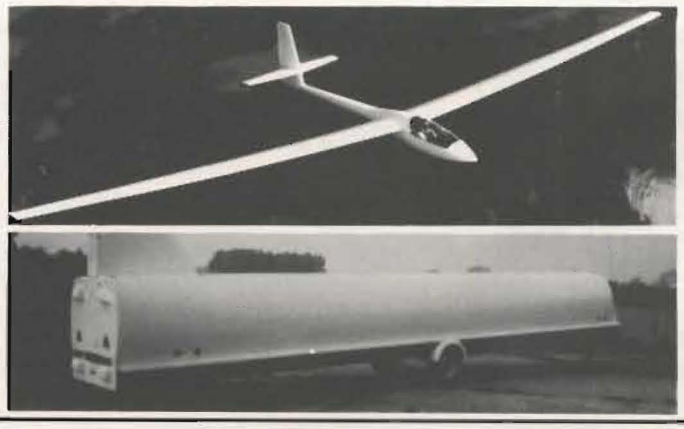
Grob Twin III 18mtr, now all carbon 25KG lighter

Self-Launcher: Full dual control
VP propeller
Highly automated operation
First SL with FAA certification
50 sold
Short delivery

Sailplane is the same specification but sans engine.

Send for details:
JOHN ADAMS SOARING (OXFORD) LTD
Hoo Mill, Ingestre, Stafford
Tel: 01889-881495 Fax: 01889 882189





LAK-12

From Lithuania – the best deal around:

20.5m span – 2 piece wing – flaps.
Fibreglass & carbon fibre construction.

Max L/D 48:1	Tail dolly etc.	Rigging aids
Fully instrumented	42 gallons water ballast	Full C of A granted
Empty weight: 820lb	Superb fibreglass trailer	

Ideal for cross-country minded individuals and clubs

New Price: **£22800** (approx) ex Hus. Bos. for complete new outfit including VAT.
Fully refurbished LAK 12's also available occasionally. Ring for details.

Demonstrator available, contact agents:

BALTIC SAILPLANES Ltd.
Baltic Sailplanes Ltd., 46 The Woodlands, Market Harborough, Leicestershire LE16 7BW
Tel: 01858 467723; 01536 85552 (office hours); 01536 81777 (evenings)
Fax: 01858 467137

STOP!

Insurance costs too high?
Looking for cover now?

Please call us now on Mansfield (01623) 822282 or Fax (01623) 822695 and ask for Lendal Fogg or Kay Stallard

- ★ Pilot personal accident insurance up to £25,000 (FREE)
- ★ No claim bonus on hull and liability up to 20%
- ★ Including competition flying (UK)
- ★ No charge for BGA instructors – as pilots
- ★ Premium credit facilities
- ★ Premium payable by Visa or Access

For further details or a quotation, please contact:

FABEN INSURANCE CONSULTANTS
Assurance House
3 East Lane, Edwinstowe
Mansfield, Notts. NG21 9QN

BIIBA

CANOPIES & SCREENS

✦

LARGE RANGE OF SHAPES AND SIZES FOR GLIDERS AND LIGHT AIRCRAFT

✦

EX-STOCK

✦

Bob Reece

REMATIC

School House
Norton
Nr Worcester WR5 2PT
Tel/Fax Worcester
(01905) 821334
Mobile Tel:
0589 786838

T. L. CLOWES & CO. LTD.

GLIDER INSURANCE

OUR COMPREHENSIVE INSURANCE PACKAGE INCLUDES:

1ST CLASS SECURITY

- ✦ COMPETITIVE RATES
- ✦ INCREASING NO CLAIMS BONUS SCHEME
- ✦ AGREED VALUES
- ✦ UK COMPETITION FLYING INCLUDED IF REQUIRED
- ✦ PILOT PERSONAL ACCIDENT COVER (EX CLUBS)



For further information or a quotation please contact:

Debbie Doyle, Steve Edmead or Ian Blakey,
T. L. Clowes and Co. Ltd.
4th Floor, 52 Lime Street,
London EC3M 7BS
Tel 0171 220 7878
Fax 0171 220 7879

LLOYD'S BROKERS

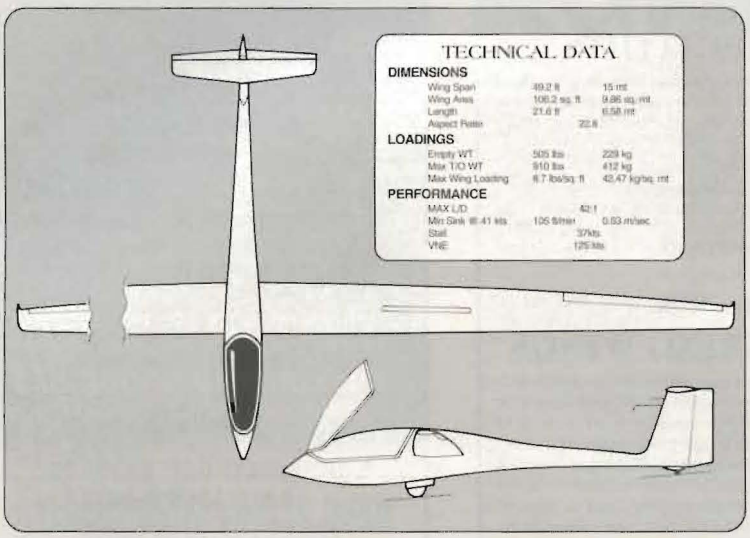
A.S.C. SPIRIT

15 mt Standard Class Sailplane Kit

A Low Cost, All Composite, High Performance Sailplane

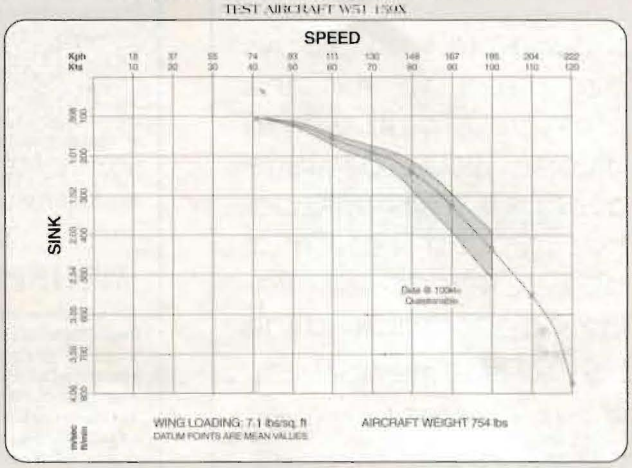
- Pre-moulded Composite Skins
- Carbon Fibre Spars
- factory Welded Box Frame
- Designed For A 6' 4" 260lbs. Pilot With Chute
- Includes Basic Instruments
- L/D: 42:1 Measured
- Aramid-Fibre Safety Cockpit
- Rounded Spoiler Openings
- Designed To JAR 22

Also Available 15/18 mt flapped single seat Falcon.
18 mt tips for Spirit and water ballast kits.
Self launch module available for 1995.



ASC SPIRIT POLAR DATA

TEST AIRCRAFT W51 159X



Sole Distributer, U.K. and Europe, For *Advanced Soaring Concepts, Inc. U.S.A.*

REPCLIF AVIATION LTD.

Macon Way, Crewe, Cheshire CW1 1YU

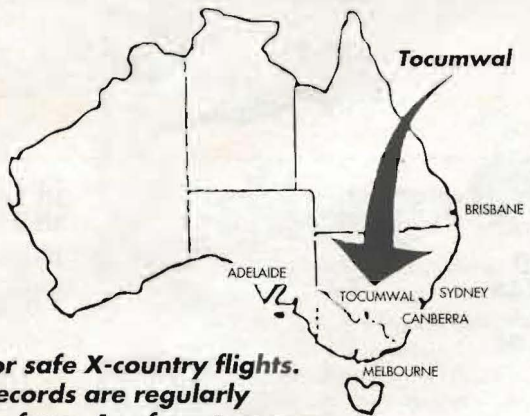
Tel: (44) (0) 1270 587616 Fax: (44) (0) 1270 580442

A high quality, state of the art, composite sailplane kit designed for the first time builder and cross country pilot. Computer design technology brings substantial improvements and features to a typical standard class sailplane at an affordable low price.

DEMONSTRATOR BASED AT STAFFORDSHIRE GLIDING CLUB, RING FOR DETAILS OF OTHER VENUES

SPORTAVIA SOARING CENTRE

Australia's International Gliding Centre Tocumwal



Now including ULTRALIGHT TRAINING AND HIRE

Situated on the beautiful Murray River with large open spaces for safe X-country flights. Personal achievements are daily events and National & World records are regularly achieved. Over 25 modern, well maintained sailplanes to choose from. As of next season we will also have available a Nimbus 4DM for X-country flying with Ingo Renner, 4 times World Champion. The on-field accommodation, restaurant and bar facilities surrounded by lawns, gardens and swimming pool complete the picture for a perfect gliding holiday with a friendly welcoming atmosphere.

For further information please contact us

SPORTAVIA SOARING CENTRE

PO Box 78, TOCUMWAL 2714, NSW, Australia

Phone 61 (0) 58 742063 • Fax 61 (0) 58-742705

LONDON GLIDING CLUB
DUNSTABLE DOWNS

Manager

required to work 3 days per week to run this prestigious club with a diverse £600,000 turnover. A commercial background is essential and experience of gliding or general aviation would be preferred.

For further information, please apply, in confidence, enclosing your c.v. to:

Stephen Lynn (Treasurer)
5 Warren Yard, Wolverton Mill, Milton Keynes MK12 5NW

Two Outstanding Titles from NEWTON BOOK CLUB . . .

David Ince's

COMBAT & COMPETITION

The fascinating story of a dedicated glider pilot, chief instructor and a man active in sailplane development testing, and a past member of the British Team Squad. His vivid description of soaring flight is enthralling. This is a well illustrated story of a gunnery officer turned Typhoon pilot, then a test pilot with an engineering degree. Foreword by Air Chief Marshal Sir Christopher Foxley-Norris GCB, DSO, OBE, MA, CBIM. **ISBN 1 872308 23 6. HB edition Price £15.95 inc p&p (UK only)**

Dave Millet's

WHISPERING WINGS

The author provides those interested in flying with deep insight into silent flight with his well illustrated book. Whispering Wings portrays many aspects of soaring flight mastered by the author in his long career which goes back to the days of WW2 when he was a rear gunner in Lancasters with 49 Squadron. There is humour running through the story and a flash of tragedy. **ISBN 1 872308 55 4. Soft back edition Price £14.95 inc p&p (UK only)**

Take both books for £28 inc. p&p (UK only)

Cash with order please from:

NEWTON BOOK CLUB
PO Box 9, BARRY, S. Glamorgan CF62 6YD

New authors may submit manuscripts for FREE assessment

C OF A OVERHAULS

TO ALL TYPES OF SAILPLANES

FULL TIME SENIOR INSPECTOR

JOHN SMOKER
9 ANSON WAY
BICESTER, OXON
Tel: Bicester 01869 245422
WORKSHOP, NR. HINTON A/F
Portable 0850 654881

RESTORATIONS

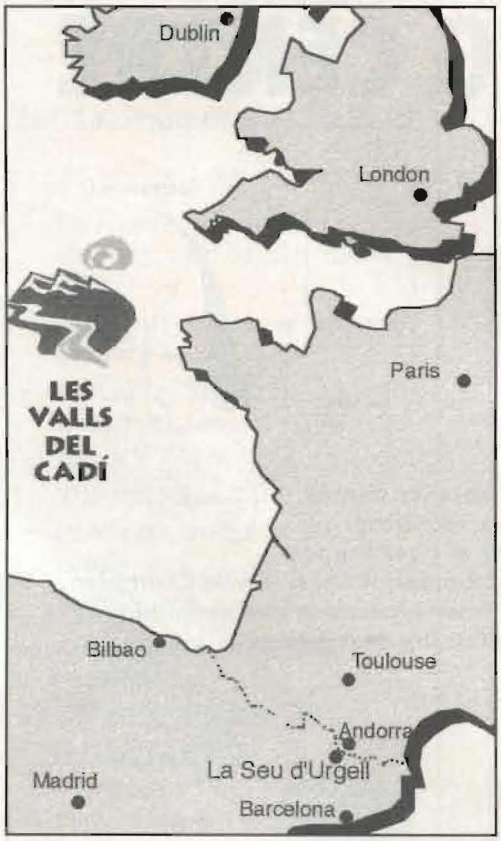
and repairs to wooden gliders of all ages a speciality

SKIDS

Laminated ash skids for most of the popular gliders supplied from stock. Others made to order

TRAILERS

Aluminum sheeting on steel frame



Mountain Gliding in the Catalan Pyrenees



AIRPORT OF LA SEU D'URGELL
LES VALLS DEL CADÍ

The airport of La Seu d'Urgell is situated in "Les Valls del Cadí", an area of great natural beauty in the very heart of the Pyrenees, 10kms from Andorra and 2 hours 30 mins from Barcelona. The region is ideal for the practice of mountain gliding.

TRANS-PIR
PARC DEL SEGRE, E-25700 LA SEU D'URGELL
T. 34 73 360155 • Fax. 34 73 360156

LA SEU D'URGELL AIRPORT
T. 34 08 94 23 11

FACILITIES: FUEL - TOW PLANE - TAXI - BAR/RESTAURANT

Trans-Pir will organise the gliding, accommodation and many other complementary activities

THE MOST EXCITING WAVE & RIDGE IN THE UK

FESHIE AIRSTRIP

IN THE CENTRE OF SCOTLAND'S HIGHEST MOUNTAINS

- 25km ridge up to 3600ft, 1km from field
- Diamond climbs all year round
- Aerotow and winch
- Motorfalk and area familiarisation
- Two seater with local instructor available
- Many local attractions inc. ice-skating, riding, 4 x 4 off road, clay shooting, etc.
- Places available Sept-Oct 1995

Phone 01631 740316, 01540 661099, 0850 173779 for accommodation and visitor brochure

CAIRNGORM GLIDING CLUB
BLACKMILL, KINCRAIG, INVERNESS-SHIRE

★★★ **WARNING!!** ★★★
LLEWENI PARC EXPEDITIONS
When winching or aerotowing directly into the wave be sure to mark a low point on your baragraph – don't miss that height gain badge.
Temporary membership now only £24 for 10 days.
Lleweni Parc – 01745 813774 – Lleweni Parc
Now *THE* Welsh wave holiday site

TUG WILLSON. We regret there was a printing error in Tug's advertisement in the last issue, p181. The correct tel/fax No. is 010 346 671 9196.

Nevynn international
36 Southpark Avenue, Mansfield, Notts. NG18 4PL. Tel/Fax 01623 634437

WAVE goodbye to Autumn/Winter blues & **FLY** in **WAVE**
ORDER YOUR OXYGEN & WINTER CLOTHING NOW

"SABRE" 540 litre portable cylinder with AIR24 constant flow regulator **£299.35** plus £6.50 p&p UK
AIR24 glider mask set **£66.25** plus £3.00 p&p UK
Please ask for full details on all "SABRE" equipment

Thermal Underwear Superior Quality (Men's)
Made in U.K. Introductory Offer
Long sleeved tops M,L,XL cream **£8.50** plus £1.50 p&p UK
Long-Johns M,L,XL cream **£8.50** plus £1.50 p&p UK
Per set **£16.50** plus £2.50 p&p UK
Other sizes & short sleeved tops available to order.

Hooded Sweat Shirts top quality
with "muff" type pocket, burgundy, navy or grey, embroidered with 75mm "Nevynn" glider motif **£17.95** plus £1.90 p&p UK

Sweat Shirts top quality
asstd sizes burgundy or navy embroidered with 75mm "Nevynn" glider motif **£13.50** plus £1.25 p&p UK

Quilted Bodywarmers
Zip, 2 pockets, royal blue M,L,XL **£14.50** plus £1.40 p&p UK
XXL & other colours available to order.

Long Sleeved Polo Neck Shirts
navy or black embroidered with 75mm "Nevynn" glider motif.
S/M & L/XL. NOW ONLY **£6.50** plus £1.00 p&p UK

Hats Knitted with 75mm "Nevynn" glider motif
black **£3.25** plus £0.50 p&p UK
navy **£3.50** plus £0.50 p&p UK

Balaclava Helmets
knitted navy **£3.00** plus £0.50 p&p UK

Mitts Knitted fingerless & flap **£3.50** plus £0.40 p&p UK

Mitts Knitted fingerless **£2.00** plus £0.40 p&p UK

Men's 70% Wool Thermal Socks
asstd colours 6-11 softtop made in U.K. by H.J. of "Indestructible" fame **£3.50** plus £0.40 p&p UK

Please see our other range of products on page 221

CLASSIFIED SECTION

TO PLACE AN ADVERTISEMENT IN THE CLASSIFIED SECTION, please send your remittance together with a copy of your wording to Tiffany Rolfe, BGA, Kimberley House, Vaughan Way, Leicester LE1 4SE (Tel 0116 2531051 or Fax 0116 2515939), before September 4 for next publication. Any advertisements received after this date will be carried forward to the next edition of S&G. Rates 70p per word with a minimum of £14.00. Black & White photographs accepted £6.00 extra. Box No. £3.00 extra. Prices include VAT.

FOR SALE

ASW 19B 1980 glider complete with 1992 Schofield trailer, Cambridge LNAV linked to Garmin 100 GPS, 720 channel radio, GQ parachute, EW Barograph. Call Neil Morgan 01332 832424 (office) 01773 710530 (home).

ASTIR STD II, 1200hrs, excellent condition, all mods done, wood glass trailer, £10 000 for quick sale. Contact Mike: 01527 402713.

LS-3 1977 Complete outfit AH, T/S, flight director, parachute, excellent trailer and rigging aids. Best glide 1:43. Must be seen. £17 000 ono. Telephone 01752 664677 or 01752 848565.

SKYLARK 4. Genuine man and wife rig, good panel, superb performer, including parachute, trailer and winter barograph. £5250 ono. Ring Steve on 01405 860114.

COBRA 15. L/D38 at 52kts. Aerobatic. Docile – flies beautifully. Includes excellent trailer and rigging aids, LX60, oxygen etc. Complete outfit or two shares based Pocklington. £9300. Telephone 01472 877136 or 01507 606995.

PESCHGES VP3E SYSTEM, LCD vario display, flight director, averager, glide computer, £1100. 013398 86994. Pam Hawkins.

ASW 20 650hrs, fresh C of A, Komet trailer, £18 500 ono. **SF-20,** metal trailer, immaculate, inc. parachute and barograph, £8250. **ZUGVOGEL 3B.** SF-27 with 17M wings, metal trailer, £6250. **K-8** excellent condition, £4500. **K-21** 3000hrs, £28 500. **TWIN ASTIR** 300hrs, £14 000. 01295 688151.

L-SPATZ 55 Complete with trailer and instruments. Quick sale required. Asking £1195 but all offers considered. Tel: 01234 824943 for details.

TWO SEAT GLIDER. SOVEREIGN. Full canopy, recent strip and resprayed blue. New C of A. £2750 for quick sale. Phone 01255 860598.

SILENE TWO SEATER with unique side by side configuration for sociable flying. 18M plus docile handling with 38:1 performance make it excellent for cross country instruction. Only 800hrs and recently completely refurbished from nose to tail. Includes Borgelt vario, radio in full panel with aluminium trailer. £29 950 complete, with new C of A. Day: 01582662068.

STD CIRRUS, excellent condition, aluminium trailer, new chute, Cambridge vario/averager, new altimeter, C of A Feb '96. £12 800. 01869 244943(day), 01844 237458 or 01295 788579 (eve).

*Take a **NEW LOOK** at*
AUSTRALIA
We are now offering complete cross country courses especially for NOVICES.
In just two weeks we teach your Thermal Soaring, Paddock Landings, Pressing On and Navigation, and Speed Flying. One recent pupil gained Silver, Gold and Diamond distances on successive days!
If you have recently soloed, this carefully structured course has been designed for you.
We haven't forgotten the EXPERTS either, with modern gliders for hire ranging from Mosquito to Nimbus 4, at very competitive rates.
Daily forecasts and task briefings for all visitors. Accommodation and catering on site.
*The **NEW LOOK** is only at*
BENALLA
For more details, write phone or fax, John Williamson at:
PO Box 46, BENALLA, Victoria 3672, Australia
Tel: ++ 61 57 621058 • Fax: ++ 61 57 625599
And for discount travel, quote 'Benalla' to:
TRAVELBAG, 12 High Street, Alton, Hants GU14 8BN
Tel: 01420 88724

PARACHUTE. Pilots emergency escape parachute. Suitable glider pilot. Just repacked professionally. £300. v.g.c. Ring 01903 247031.

NIMBUS 3DT 3 x 1/3 shares. In private hangar. One person only tow-out to launch point. Full panel. Tel: Gerry Wynne. 01734 813640.

LS-4 '446' Complete. Full panel including LX4000 GPS/Director, 720 radio, horizon, parachute, tow-out, covers, trailer. Mark Darby (01444) 881503.

ASW 24WL available now. Immaculate. Simply the best – Hull only or full kits required. No damage. Sensible offers. Tel Brian 0121 745 1380 home. 0121780 3111 work.

SCHEMPP-HIRTH STD AUSTRIA complete with C of A and metal trailer. No reasonable offer refused. 01903 745421.

IS-28B2, 550hrs. Very good condition. Full panel including Horizon, audio/vario, flight director, TMG radio, parachute and full rigging aids. Excellent wooden closed trailer. £13 500. Tel: 01933 625205 or 01933678595.

BURTON ELECTRIC AUDIO/VARIO in good working condition ... will suit club glider. £100. Phone: 01295 812775 day 01865 351663 eves.

USED GLIDER MAKE SCHLEICHER, TYPE K-6E. Year 1971. Standard instruments. 2810hrs used. New canopy. 55 000 FF. On view at ABBEVILLE flying field (50miles from BOULOGNE, on main road N1). Contact: J.P.Lignier. 0033 22 28 88 21 (evenings).

ARTIFICIAL HORIZON FERRANT MK6C (including converter) £350. **TURN & SLIP** £200. VP2C vario system with speed to fly £200. Phone 01953 483018.

The "LS" Agent in UK

MARTYN WELLS
(Wells Design Ltd.)
Brailes, Banbury, Oxon.
Workshop Tel. 0608 685790
Home Tel. 0608 684217
Mobile 0850 240524

Available:
THE NEW LS8 and LS9
LS4b DM 58,000 (ex factory)
LS6c (tipped to 18m)

REPAIR C of A MAINTENANCE

GLIDER FINDER

Due to popular demand Glider Finder is back in business. If you are looking for a Glider we have the largest database in Europe of what is for sale and where. Our services range from just faxing lists of Gliders for sale to a **complete** buying service. (Gliders only no SLMG)

If you are selling your glider then enter your aircraft details on our database FREE OF CHARGE

CONTACT

UK
Terry Joint 00 44(0) 1420 88664 Tel
00 44(0) 1420 542003 Fax
00 44(0) 860 343301 Mobile

Germany
Collin Woollard +49 231 822181 Tel/Fax

LAK-12. Fully refurbished to the highest standard. Three available now; more to come. Priced individually, reflecting hours flown etc. More details? Phone Baltic Sailplanes: 01858 467723 or Fax 01858 467137.

BOCIAN ESA (last one produced) First class condition, can be supplied with open trailer, offer for hull around £5000, trailer £750. K-8 also for sale. Contact: Harry Middleton, The Soaring Centre, Husbands Bosworth Airfield, Lutterworth, Leics. LE17 6JJ. Tel 01858 880531

VENTUS B Quarter share available in aircraft currently based at Lasham. Glider is in excellent condition and fully equipped for cross country, competition and wave flying. Contact Tim Hurn on 01420 84644 (eves & weekends) or 01923 254499 (office)

G.P.S. 90 BY GARMIN

MOVING MAP WITH JEPPESEN DATABASE/ AIRSPACE/V-NAV!

- simple to use, menu-driven GPS
- Lat/Long or OS grid position
- easy route programming & reversal
- bearing, track, groundspeed
- estimated time en route
- 250 user waypoints
- International Airspace
- distance calculator
- sunrise/sunset data
- course direction indicator
- full-screen moving map with "snail trail" and internal logger
- full p.c. up/download capability
- output port for external logger
- waterproof – 1-touch backlight
- includes yoke mount/bracket
- detachable antenna – carry case
- true hand-held: 145 x 50 x 30 mm!

Pre-loaded with selected BGA turning points on request!

GARMIN GPS 45

Same functionality, (including moving map) as the 90, but without Jeppensen/airspace database & V-Nav, and with 90 knot groundspeed limit.

GPS Prices on application

E.W. Barograph GPS Logger £425
Davron integrated electronic vario/altimeter/barograph/pc-link. . . . £585
Avocet Vertech Alti-Vario watch £125
Camelbak hands-free insulated drink system: 1 litre – £34.95, 2 litre – £37.95

Specialist Fabrication Services:
Shock-Absorbing Seat Cushions
Wing Bags – Webbing Work
Quick-Release Buckles
Swift foot-launch sailplane importers

All prices include VAT
Mail Order – All Credit and Charge Cards accepted

SKY SYSTEMS LTD

Edburton, Near Henfield
West Sussex BN5 9LL
Tel: Brighton (01273) 857700



Cotswold Gliders

(Prop. T. Cox)

HIGH QUALITY SPECIALIST WORK IN

Glassfibre, carbon, kevlar, wood and metal inc. alloy. Blanik repair Agent.
All types of repair undertaken – Motor glider engine approval
Kestrel/Libelle aileron drive rebuilds, also rudder drive NDT testing
Machining facilities for oversize wing pins, axles, control rods etc. Tig welding.

Tony Cox (Senior Inspector)
18 Stanton Harcourt Road, Witney, Oxon OX8 6LD
Tel: Workshop 01993 779380 Office/Fax 01993 774892
Email: tonycox@cotsglide.win-uk.net

LLOYDS APPROVED
CAA APPROVED COMPANY
AI/9182/89

PENNINGTONS
CHARTERED ACCOUNTANTS

✦ *For accountancy and taxation services* ✦

11 Worton Court, Worton Road, Isleworth, Middlesex TW7 6ER
Telephone John Gorringe
Day 0181 568 8745 • Evenings 0181 948 3799

K-6E excellent condition, standard panel plus electric vario, parachute, barograph, Schofield trailer, re-sprayed. Tel 01245 222055, 01279 506927/402716

LS-6C 18M 275hrs, 60 launches. Beautifully maintained and little used glider with 50:1 performance. Available now. Hull and Cobra trailer. 0171 434 4243 wk 01508 550406 hm.

PIRAT, excellent condition, the best you are likely to see. Recovered, repainted, new cables and bearings. Excellent panel, audio, T&S, A/H, parachute. Fully refurbished metal trailer. £6800. Tel: Norman Machin (01869) 350313 Day (01869) 350974 Evening.

VFW FK3 Rare opportunity to purchase this superb handling, easy to fly, 17.4M flapped, metal/glass sailplane. Very good condition, standard instruments, Cambridge MKIV director, handheld radio, parachute, barograph, newly refurbished covered aluminium trailer, rigging and tow-out gear. Paul 01733 245027 or 01954 211516 (evenings)

ASW 15B rebuild project. Fuselage broken, but wings & tailplane OK. £3000. For details Tel: 01449 612162.

SWALLOW Basic instruments, new C of A, no trailer. Have a fun glider for £1500 ono. Tel 01977 780548

PIRAT (1973) excellent condition, 12 month C of A, 1271hrs, 1981 launches, Cambridge audio variometer, radio, parachute, barograph, good trailer, £5750. Syndicate disbanding due to closure of our Gliding Club. Tel: 01234 751455, 01908 611036, 01525 874504 evenings

K-6CR with trailer. Rigging aids and one man tow out. £5500. Tel: Colin 01241 872045.

L13 SUPER BLANIK TT 350hrs approximately, C of A to 27/4/96. Our demonstrator in excellent condition. Immediate delivery. Peter Clifford & Co., Tel/Fax 01491 839316

1974 LIBELLE 201B very nice condition with full panel, Schroeder trailer, new parachute, winter barograph – £12 000. Tel 01406 362462 office or 01406 363574 home.

J.S. WEIHE built Germany 1943. Beautiful soaring machine 29:1. Good condition. Parachute. Trailer (aluminium). Offers: Contact Barrie Briggs 01623 792411.

NIMBUS 3, 25.5M, "KS" built in 84, all extras, instruments for competition, top condition, Anschau-trailer. World Championships: Benalla 87, Wiener Neudstadt 89, Borlange 93. Akademische Fliegergruppe Darmstadt, Germany. Fax: 0049 6151 291116. Tel: 0049 6151 24720.

TEACHING HARRY TO FLY
by
DAVID MILLETT
From:
27 Scotforth Road, Lancaster LA1 4TS
£5.50 + £1 p&p

Very large steel frame GRP clad **PFIEFER TRAILER** with fittings for G109. £1500. Very sound steel frame aluminium trailer built for Calif. £1500. **DISCUS BTWL** hull or complete outfit. Sensible offers only! 01844 201028.

K-6CR excellent condition, recently refurbished. Closed trailer, barograph, external trim tab. £5750. 01892 652641 evenings. 01293 562563.

WANTED

VENTURE T-61F MOTOR GLIDER SPARES, Rollinson engine, airframe (wings, fuselage, tailplane etc.) any condition – Falke/Venture trailer – 720 radio panel mounting. Phone: 01295 812775 day 01865 351663 eves.

PILATUS B4 (PC-11-AF) or accredited mods, preferably private, unpranged. Would consider SALTO. 01543 370037.

ACCOMMODATION

Going to Scotland? **Bed and Breakfast RENWICK** (9 miles East M6) £10pppn. Pilots, crew, beer, stories – WELCOME – Ex-pilots, final 'turn'. Ring 01768 898579.

HOMESITES FOR SALE at Florida's beautiful Seminole-Lake Gliderport. Great investment opportunity for private or club ownership. Enjoy country living at your home away from home and have a soaring vacation being within 30 minutes to Disney World. Purchase includes a week of free soaring at the Gliderport. PO Box 120458, Clermont, Florida 34712. Tel: (904) 394 5450

MISCELLANEOUS

S & G MAGAZINES for sale, 97 small size 1955-1973 and 115 large 1974-1995. OFFERS? 01420 22486.

SITUATIONS WANTED

EARLY SOLO PILOT looking for any kind of work near gliders, general duties catering etc. Anything considered anywhere. Call Chris 01706 374191.

OMARAMA
NEW ZEALAND
For information on our glider fleet, accommodation etc, contact:
HIGH COUNTRY GLIDING
Box 81, Omarama New Zealand
Phone/Fax 00 64 3 438 9621

PUCHACZ Very low hours and in exceptional condition. Fitted with cross country instrumentation back and front. Trailer extra if required. £18 500. Tel 01949 860350 (home) 01159 211899 (work).

WITTER

TOWBARS TO TRUST

- First choice for safety conscious drivers with over 4 million towbars supplied.
- Safety testing to B.S. and I.S.O. standards.
- Guaranteed for life.

See Yellow Pages for your nearest specialist fitter or stockist.
WITTER TOWBARS, CHESTER CH1 3LL
Telephone: 01244 341166

European Soaring Club

Fantastic Gliding Experiences all year round in France, Spain and South Africa

Record breaking to beginners flying

Fleet of gliders including LS6c, ASW19, Pegasus

Mountain thermals and wave soaring

Soaring Courses in ASK21 and Jeans Astir

Flatlands racing, abinitios to aces

Expert briefing and guidance for the private owner

Ferry deals with or without trailer

Worldwide travel insurance including gliding cover

Spread your wings in 1995 — for comps, camps and expeditions run by Brian and Gillian Spreckley

Contact Jill Burry, Steam Barn, Lasham, Nr Alton, Hants. Tel: 01256 381760. Fax: 01256 381171

UNSECURED*
LOANS
FOR AVIATION PURPOSES INCLUDING
GLIDERS & SAILPLANES
FROM £750 TO £15,000
For a brochure including our terms for competitive Aviation loans please write or telephone FREE



First Aviation Finance Ltd
Freepost (SW9090) London SW1W 0YA
0800 37 1491
Open: Mon-Fri 8am-8pm – Sat-Sun 9am-5pm
Age limit 20-67. Subject to status*.
A guarantee may be required. Licensed Credit Brokers.
Member of the Consumer Credit Trade Association.
Member of the Finance Industry Standards Association

WINCHING WIRE

- Available in stranded cable 4mm, 4.5mm and 5mm diameter
- High tensile galvanised steel
- Special coated wire for use on runway
- Tost release rings and weak links and splicing ferrules available
- Also cable parachutes and shock absorber ropes

BEST PRICES for gliding clubs – supplied by glider pilot

DAVID GARRARD
Bridge Works, Gt Barford, Bedford
Tel: 01234 870401

GLIDER/AIRCRAFT INSURANCE DUE?

Contact:
Tony Fidler

Glider pilot for 25+ years

30+ years insurance experience

Telephone/fax/write to:

ANTHONY FIDLER & CO
27 High Street, Long Sutton
Spalding, Lincs PE12 9DB
Tel: 01406 362462 (office)
or 363574 (home)
Fax: 01406 362124

SCHOFIELD AVIATION



SAILPLANE CONTAINER SYSTEMS
Lotmead Farm, Lower Wanborough, Swindon, Wilts, SN3 4AJ
Tel: 01793 790160 – Mobile 0831 405272

IF YOU WANT ONLY THE BEST!

GALVANISED CHASSIS AND POWDER COATED WHITE CLADDING MAKE OUR TRAILERS THE BEST VALUE IN EUROPE TODAY

Skywings

is the official monthly magazine of the British Hang Gliding and Paragliding Association. £27 per annum subscriptions from BHPA, The Old Schoolroom, Loughborough Road, Leicester, England LE4 5PJ. Tel: 0116 2611322

L23 "Super Blanik"
L-33 "Solo"
L13 "Blanik" spares
Peter Clifford & Co
Wallingford, Oxon. OX10 8EL • Tel & Fax 01491 839316

JOHN EDWARDS
BGA Senior Inspector
C of A Inspections
Repairs & Restorations
Watermill Industrial Estate
Aspenden Road, Buntingford
Herts. SG9 9JS
Tel: 0763 271612 (works)
0763 289460 (home)

C3 FLIGHT COMPUTER
Now with GPS interface for Garmin 55/100 and others
All usual flight computer modes plus numerous extras
9 Waypoints – 2 Separate Varios and Speed to Fly Directors – Cruise Damping and Dead Band (user controlled) – Audio Frequencies selectable – Electronic or Pneumatic Compensation (adjustable) – Statistics for last three flights
OPTIONS: GPS interface, fully configurable Rear Display Unit. Analogue Vario as extra readout.
NEW WIND EPROM will provide wind speed and direction.
Price: £1650.00 including GPS Interface
Prices may fluctuate due to the changes in the value of Sterling
For details call or fax Ernst on 01203 382190 or Frank on 0121 353 2146



ADVERTISERS' INDEX

Airborne Composities 211
Airport of La Seu D'Urgell ... 244
AMF Enterprises 241
Anglo Polish Sailplanes 194
Armstrong Communications . 239
E.W.Avionics 212
Baltic Sailplanes 242
Benalla GC 245
Black Mountains GC 237
Booker GC 237
Bristol & Gloucestershire GC . 238
BGA 226
Buckminster GC 238
Cair Aviation 240
Cairngorm 245
Cambridge Aero Instruments 212
Cambridge University GC 226
Centreline 193
Peter Clifford 248
Cotswolds Gliders 246
T.L.Clowes 242
D&M Engineering 238
Derby & Lancs GC 237
Distinctive Designs 239
John Edwards 248
Enstone Eagles GC 238
European Soaring Club 247
Faben Insurance Consultants 242
Anthony Fidler 247
First Aviation Finance 247
Flight Insurance 196
D.Garrard 247
Glider Instruments 221
Goodison Glider Instruments 239
HT Communications 221
High Country Gliding 246
Hill Aviation 209
Irvin GB 197
Joint Air Services 229, 245
JSW Soaring 201
Keepit Soaring Centre 228
Kenilworth International 208
Kent GC 237
Lasham GS 237
London GC 191, 244
London Sailplanes Ltd 208
Lyndhurst Touchdown Services 240
McLean Aviation 192
Harry Mendelssohn 190
Midland GC 238
D.Millet 246
Nevynn International ... 221, 245
Newton Books 244
Norfolk GC 237
North Yorkshire Sailplanes .. 240
North Wales GC 239
Oxfordshire Sportflying 240
Penningtons Accountants 246
Piggott Bros 226
Pilot Flight Training 205, 240
RD Aviation ..... IBC
Rematic 242
Repclif Chemicals 243
Rockey Mountains 239
S&G 226
Scholfield Aviation 247
Scottish Gliding Union 220
Segelflugschule 238
Sedgwick Aviation 198
J.L.Smoker 244
Severn Valley Sailplanes 239
Shenington GC 239
Skycraft Services 209
Sky Systems 246
Skywings 248
Soaring Oxford Ltd. 241
Southern Sailplanes .. 248, OBC
Southdown Aero Services 223
Ernst Specht 248
Sportavia 243
Stemme Motor Glider 197
Sunstate Soaring 239
Roger Targett 241
TaskNav 190
The Gliding Centre 227
The Soaring Centre 226
Thomas Sports Equipment .. 241
Brian Weare 228
Wells Design 245
C.P.Witter 246
Yorkshire GC ..... IFC
Zulu Glasstek 199

SOUTHERN SAILPLANES

For 33 years we have been sourcing materials and equipment for our own use and we have now decided to offer these products to the general gliding market. Below are just some of the products and manufacturers whose products we can supply:

WINTER (altimeters, ASIs, variometers, barographs), SABRE (oxygen regulators, cylinders, masks), CAMBRIDGE (variometers, GPS loggers), TOST (release hooks, tyres, inner tubes, hubs, axles, winching equipment), BECKER (radios), ILEC (total energy tubes), ICOM (radios), R. C. ALLEN (gyro horizons), EW (barographs, loggers), AIRPATH (compasses), GADRINGER (harnesses), IRVIN (parachutes).

Curved mylar, turbulator tape, wing tape, double sided tape, waterproof capping tape, aileron tape, bug wipers, hard wax polish, car-lack polish, tyres, inner tubes, batteries, cameras, resin, microballoon, gel coat.

We also make towing out kits including tail dollies, wing dollies.

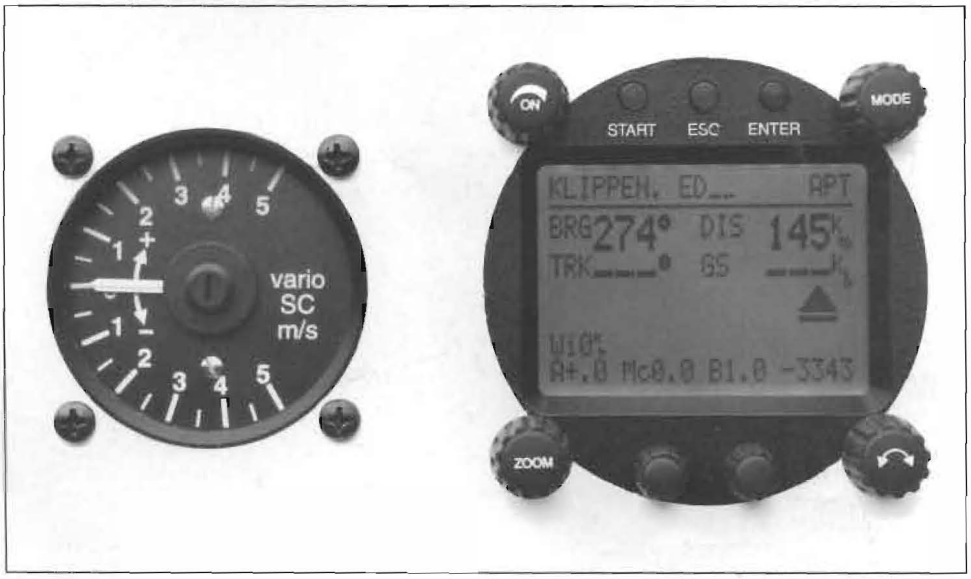
We consider our prices to be very competitive and if we don't have a part in stock a discount may be given.

SOUTHERN SAILPLANES
MEMBURY AIRFIELD, LAMBOURN WOODLANDS, HUNGERFORD, BERKSHIRE RG17 7TJ
Telephone: 01488 71774

RD AVIATION LIMITED

FILSER LX5000

INTEGRATED VARIOMETER/NAV/GPS SYSTEM

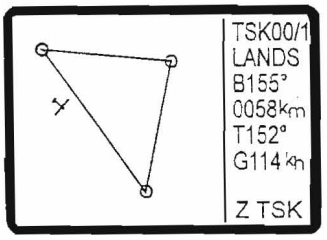


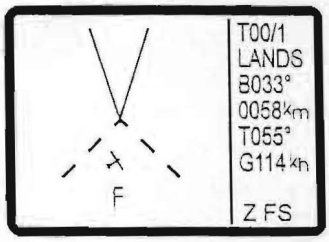


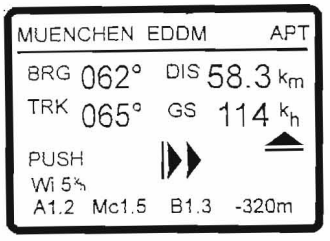
MAXIMUM CAPABILITY IN MINIMUM SPACE

- ★ Large Dot Matrix Graphical Display
- ★ TE-Probe or Electronic
- ★ Audio and Vario Response Rates Pilot Selectable
- ★ 5000 Airfields and 600 Waypoints user accessible with PC

£2468.09 + VAT = £2900







FILSER LX100 — **ELECTRIC VARIOMETER** — **AUDIO AVERAGER WITH FLASK 80mm** — **£246.60 + VAT = £289.75**

FREE 56-Page Catalogue

QUALITY SUPPLIES AND SERVICE

RD Aviation Ltd.
25 BANKSIDE
KIDLINGTON
OXON OX5 1JE

Tel: 01865 841441
Fax: 01865 842495
24hr Answerphone & Fax
SHOP HOURS:
0900-1830 Mon-Fri • 1000-1230 Sats.

FREE 56-Page Catalogue



Mike Young makes his first landing as the 1995 British National Standard Class Champion, in his Discus, of course.

Congratulations, Mike!

Take your first step to becoming a Natonal Champion – ask us for details of the Discus or any other Schempp-Hirth product

SOUTHERN SAILPLANES Membury Airfield, Lambourn Woodlands, Berks RG17 7TJ
Tel: 01488 71774 Fax 01488 72482 Evenings: 01488 682058 or 01488 668303
Mobiles: 0374 429404 or 0860 109947