74-1

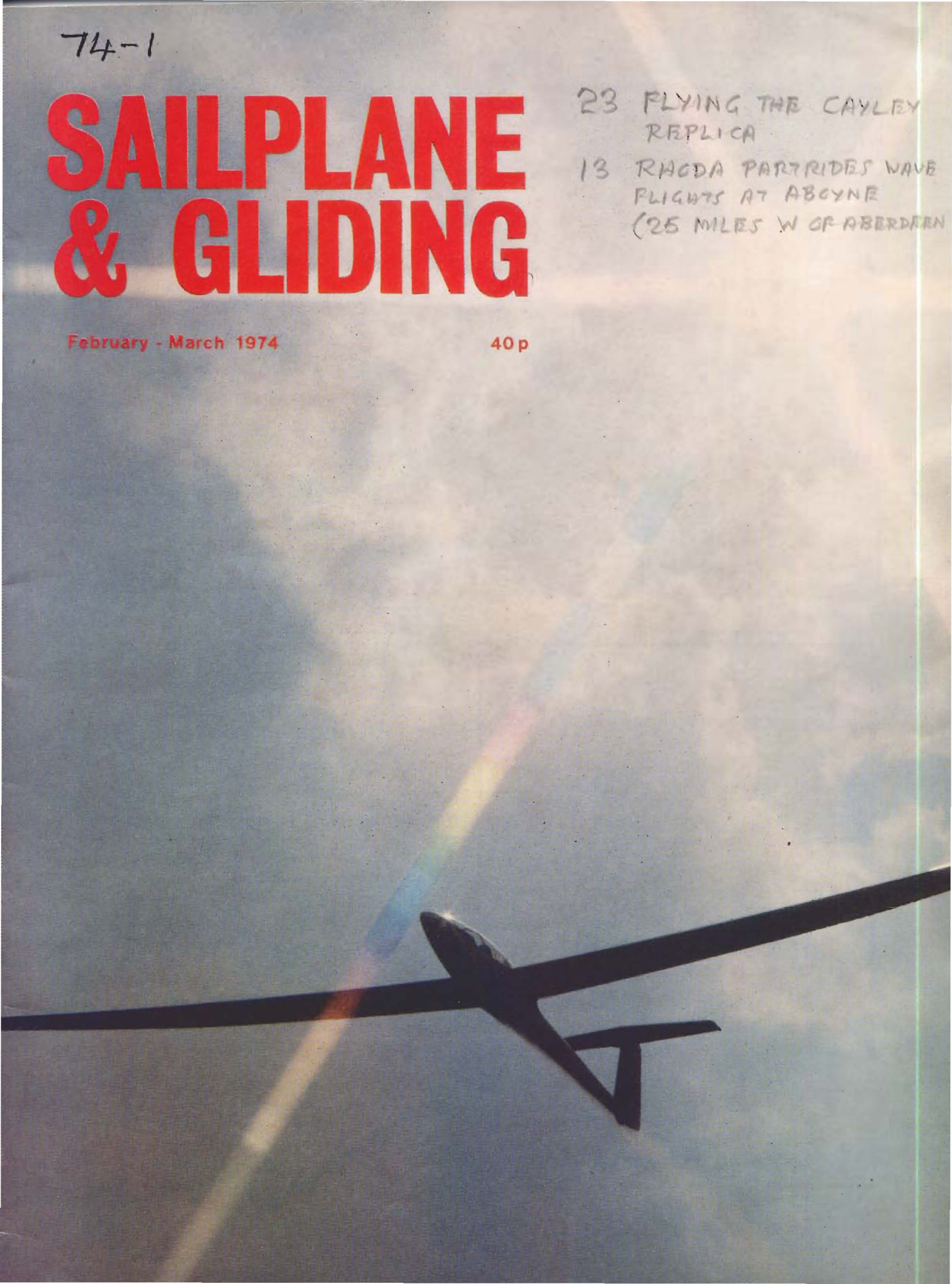
SAILPLANE & GLIDING

23 FLYING THE CAYLEY REPLICA

13 RHODA PARTRIDES WAVE FLIGHTS AT ABOYNE (25 MILES W OF ABERDEEN

February - March 1974

40p



8-2-74



There might be an energy crisis, and we have the latest comments on that by the Chairman of the BGA, Chris Simpson, on p. 21, but Derek Piggott looks doubtful whether this machine can fly, given any amount of launches. For the full story of his switch from a Kestrel to a Cayley, see centre pages.

Southern Soaring

UK AGENTS FOR PILATUS SAILPLANES

FLY WITH US

at Inkpen, where we will help you rig and launch. Aerotows available by Condor and Auster, or winch launch for that quick lift on to the ridge.

Holiday courses available all year round.

Training in Blaniks and Motor Falke

Solo in OLY 2B, Pilatus B4 and Blaniks

Phone or write:

SOUTHERN SOARING, Inkpen Airfield, Shalbourne, Wilts.
Telephone OXENWOOD 239 or 271

SOUTHDOWN AERO SERVICES LTD.

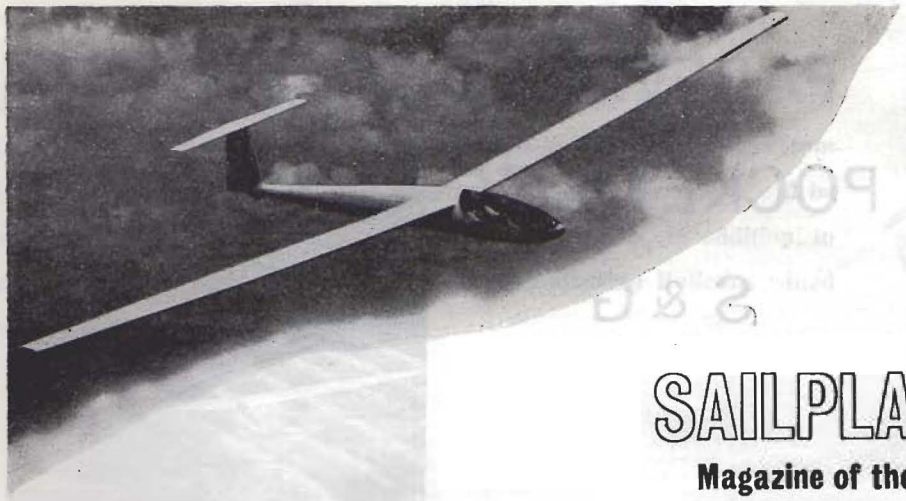
offers YOU a complete gliding service whether your sailplane is made of wood, metal or glass-fibre.

Big stock of aircraft ply, instruments, aero-tow rope, etc., etc
Send s.a.e. for price list.

Call in, write or phone—

KEN FRIPP,
SOUTHDOWN AERO SERVICES LIMITED,
LASHAM AIRFIELD, ALTON, HAMPSHIRE.
Telephone: Herriard 359 or 0256-83 359

Stockists for all
PZL Instruments and Equipment
Stockists for G.Q. Parachutes



SAILPLANE & GLIDING

Magazine of the BRITISH GLIDING ASSOCIATION

Farewell Pocket Size S&G. A. Yates 2
Latest from Waikerie. Rika Harwood 3
World Championships. A Review of 25 Years. Ann Welch 5
The Grassroots of Gliding. P. A. Wills 9
Coaching Corner
How Experienced Are You? W. G. Scull 11
Aboyne. Rhoda Partridge 13
Pilot Responsibility. A. D. Piggott 15
Sailplane News. Rika Harwood 16
A New Look at Instructor Training Programmes. J. Stirk 19
The Fuel Crisis. C. R. Simpson 21
The Cayley Flying Machine. J. Sproule 23
Gliding 1852 Style. A. D. Piggott 24
A Glider Pilot's Guide to Wave Forecasting—(Part 2). M. P. Garrod 28
Know Thyself Quiz. Platypus 30
BGA & General News
National Ladder Changes 32
Christmas Competition 32
Philatelic Covers 32
Gliding Certificates 32
Boomerang Fund 33
Obituary: Malcolm Laurie, CBE 33
Annual Statistics 34
Overseas News A. E. Slater 36
Your Letters. *H. Jones, A. E. Slater, R. Tindall, K. Emslie, J. Deakin, B. Goldsborough.* 38
Club News 40
Service News 43
Inter-Service Gliding Awards. E. G. Shephard 45

Cover: Ernest Hobart photographed Ted Lysakowski flying his Kestrel 19.

Editor: Gillian Bryce-Smith, 281 Queen Edith's Way, Cambridge, CB1 4NH. Tel. Cambridge 47725.
Consultant Editors: Alan Slater, Rika Harwood.
Committee: A. W. F. Edwards (Chairman), R. Q. Barrett, M. Bird, and P. Wills.
Advertisement Manager: Peggy Mieville, Cheiron Press, 8/10 Parkway, London, NW1 7AD. Tel. 01-267 1285.
Published by the British Gliding Association, 75 Victoria Street, London, SW1H 0JB.
Printed by Fivecourt Ltd., Great Bardfield, Essex.
VOL XXV NO 1 FEBRUARY—MARCH 1974

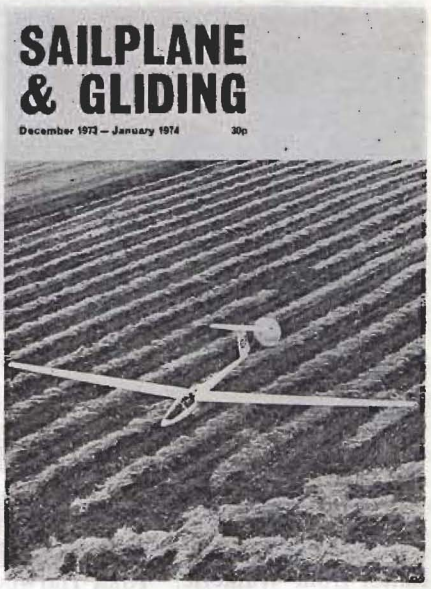
Index for 1973 will be included in the next issue.



The first S & G

FAREWELL POCKET SIZE S & G

ALAN YATES



And the last in the small format

MY shelf of ten binders of Sailplane and Gliding is complete. The new size from this issue will not fit on my bookshelf so it seems a good opportunity to survey the set.

The first in my binders was not strictly one of the series. It is entitled *The Surrey and Imperial Gliding Club Yearbook 1947-8* and begins with an editorial by Ann Douglas (now Welch) and has articles by Lorne Welch, F. G. Irving ("A&B Certs, winch driver" it says) and the results of the 1947 National Contests. It was the first British gliding magazine to have this pocket format but was not followed until February 1950 when a single volume under the title *Gliding* appeared, published by the newly formed Sailflying Press Ltd whose Directors were Philip Wills, Ann Douglas and (the late) Jacques Cochemé. It was not dated or described as No 1, but the substantial volume on good paper with articles by David Ince, Dudley Hiscox, Lorne Welch, John Furlong and the histories of 15 active gliding clubs had an obvious appeal.

The next issue was *Gliding Number 2 July, 1950* and was described as the "Official Organ of the British Gliding Association". The Editor was now Alan E. Slater who reported that "the first issue of *GLIDING*, which appeared early this year, has met with a reception which justifies its continuation as a quarterly journal". Contributors included Philip Wills and Alan Yates and an inset listed the entrants to the 1950 National Gliding Contests at Great Hucklow with the helpful remark that "the aircraft can be distinguished by the competition numbers painted on them".

Club News began in No. 3 in Autumn 1950 as did the tradition of a day by day account of the Nationals with mini Met maps. We were very proper in those days with mentions of Lieutenant Commander Tony Goodhart and Mr Frank Foster.

No 4 in the winter of 1950-1 recorded the first triple Diamond by John Robinson of the USA, the 21st birthday of the BGA celebrated with a fine party at the late lamented Londonderry House and, even then, an article on scoring in contests. Dick Scorer wrote the first of his many contributions on "What are lee waves?".

Volume II covered 1951 and the years passed until in 1955 (Vol VI No 2) it was announced that the BGAs *Gliding* had absorbed the long established *Sailplane and Glider*, which had once been edited by Doc Slater but latterly by Veronica Platt. The format and most characteristics of *Gliding* remained unchanged and Doc Slater now edited the one and only UK gliding magazine, which was in future to be published bi-monthly instead of quarterly. In the next year Rika Harwood joined Doc in a fruitful partnership.

So have matters continued until we reached Volume XXIV in 1973 with the same beloved pocket size, good quality paper and contents admired all over the world. Doc Slater had remained Editor until 1971 when Philip Wills paid a fine tribute (in Vol XXII No 2) to his 38yrs of editorship. Doc and Rika remain in 1973 consultant editors. After two years as Editor, George Locke handed over to Gillian Bryce-Smith in 1973.

Sailplane and Gliding has given thousands great pleasure over the years and will, of course, continue to do so. I, for one, will have great affection for the pocket size which served us for 25yrs.

As S&G goes to press, the World Championships are beginning on the other side of the globe. Rika Harwood has been sending news flashes from Waikerie to give readers the latest information and on her return will be writing a full account of the colourful weeks in Australia. In addition, to help set the scene, we have the first three Championship Bulletins edited by Ann Welch.



WITHIN 1½hrs of Rika landing in Australia, she was soaked by a storm, and rain and floods have made the Championships horribly reminiscent of Vrsac. The first contest day was cancelled through bad weather and the 69 pilots from 23 countries were given a rest day. The same happened on the second day.

But on the third day, January 15, a 168 mile triangle was set in terrible conditions with storms and low cloud-base. And our last news was that John Delafield (Nimbus 2) seemed to be among the first five in the Open Class, Jean-Pierre Cartry (Nimbus 2) of France in the lead.

By January 3 most of the teams were in Australia and flying with local clubs. The British contingent went to Gawler and as well as flying did quite a lot of fettling. George Burton quickly fell foul of the sun and is now wearing a cover to protect his badly burned nose.

Unfortunately for some, there was a national holiday when they arrived and they didn't get their gliders cleared at Port Adelaide, which means these pilots were having to do their fettling during the practice week. Even worse hit is Dick Johnson, USA, due to fly his seventh World contest. When I last heard from Australia, he was still waiting for his ASW-17, reported to be on a ship in the Pacific travelling at half speed to conserve fuel. Dick has been flying a Std Libelle during the practice week loaned to him by Charles Suter.

Klaus Holighaus and Hans Werner Grosse of the German team, practising in Australia since November, made a joint attempt on the world's first 1000km triangle. They ran out of daylight after covering 900km in 11¾hrs. The big problem with attempting a 1000km flight is the immense variety of weather conditions encountered over the course.

Wroblewski of Poland, current Standard Class World Champion, has retired from world contest flying but is crewing for fellow countryman, F. Kepka. Malagasy has withdrawn—Rika believes this is through lack of funds—and Yugoslavia has two pilots competing.

The youngest competitor is Tom Beltz, USA, at 22 years with S. Fujikura of Japan the oldest at 56. Roberto Sada of Mexico is on his honeymoon and the story goes that his mother-in-law is giving him a Calif A-21 as a wedding present.

Ake Peterrsson (Sweden) has broken his country's 500km triangle National record and Danish pilots Stig Oye and Ove Sorensen gained Diamonds with 500km triangles, Stig claiming the Danish National record with a speed of 89km/h.

Gliders are being towed by 12 Pawnees—the Wingeels can't be used as they have to fly too slowly and overheat. There are three new gliders in the contest, the Pik 20 (Sweden), the LS-2 (West Germany) and two Jantar Standards (Poland).

Estimated cost of the contest at this stage is approx $150000. The Site Manager at Waikerie, Rex Coats, led a team to prepare the airfield for the event, battling with drought then excess rainfalls and in the last few weeks they had to fight off a locust plague.

The first Bulletin gives hints on survival when landing out. The golden rule is to stay with the glider as this is easier for the air search observers to spot than a man walking. And it is compulsory for all competition pilots to carry at least two litres of water on each flight.

Competitors are also warned that the formidable wedge tailed eagle, which has a wing span of more than three metres, may share thermals up to 8 and 10000ft. While they might be useful in indicating lift, they are liable to make angry demonstrations, possibly even attacking the pilot or cockpit area.

With Adele Orsi (Kestrel 604), Italy have the first woman to enter the World Championships since 1956 and also the first two-seater team, M. Cattaneo and S. Serra (Calif A-21), in the Open Class since the two-seater Championship was abolished as a separate contest.

Additional information to the provisional entry list printed in S&G, December, p443;—Argentina's team, R. Rizzi and A. Urbancic (Std Libelle); Canada, J. H. Firth (Std Libelle), R. F. Mamini (Kestrel 19) and D. B. Webb (Std Libelle); Mexico, M. Kun (Phoebus) and R. Sada (Std Libelle); Yugoslavia, J. Pintar and F. Strukelj (Std Cirrus).

A. Schubert of Austria is flying a Nimbus 2; France—M. Mercier and J. C. Penaud (LS-1D), J. P. Cartry (Nimbus 2) and F. Ragot (ASW-17); Italy—G. Perotti and F. Piludo (Std Libelle); Spain— A. Orleans-Borbon (Std Libelle); USA—B. Greene and T. Beltz (Std Cirrus); West Germany—K. Holighaus (Nimbus 2) and H. Reichmann (LS-2).

SOUTHERN SAILPLANES

(RALPH JONES)

MEMBURY AIRFIELD, LAMBOURN, RERKS.

Tel. Lambourn 71774

SOLE U.K. AGENTS FOR EUROPE'S MOST SUCCESSFUL SAILPLANE MANUFACTURER,

SCHEMPP HIRTH K.G.

IN CURRENT PRODUCTION:-

NIMBUS II - STD. CIRRUS - OPEN CLASS CIRRUS

THESE YOU WILL KNOW AS TOP PERFORMERS WITHOUT US TELLING YOU.

Coming soon:-

Janus High Performance 2 Seater GRP Sailplane

Motor Nimbus I Retracting Engine. **We think that this will be one of the first true Motor Sailplanes with real competitive performance and convenience of operation**

Contact us for prices and delivery dates

REPAIRS: We provide a first class overhaul and repair facility at Membury.

IN STOCK: Most glider instruments, construction materials, accessories, e.g. Winter Barographs, 6 way Airline connections, Brunswick type T.E. Units etc.

K 7. 2 Seater Sailplane, immaculate condition, 10 years, C of A.

K 8. Sailplane almost as new.

Both with full instrument panels. Can be seen at Southern Sailplanes. Ring us. Tel. 71774.

SCOTTISH GLIDING UNION

Portmoak
Scotlandwell
by Kinross
Scotland

Telephone
Scotlandwell
243

THE WAVE SITE

Excellent Hill, Thermal and Wave soaring in beautiful surroundings

Full accomodation available with catering and bar

Flying 7 days per week all year round

Resident Instructor

Aerotow and Motor Falke facilities

Summer Holiday Courses from April to September

Visitors and visiting aircraft welcome

Advance bookings necessary in writing to the Secretary

I DON'T THINK THERE WILL BE A

DORSET REGIONALS '74

SO I'M RUNNING THE REGIONALS AT

LASHAM

INSTEAD

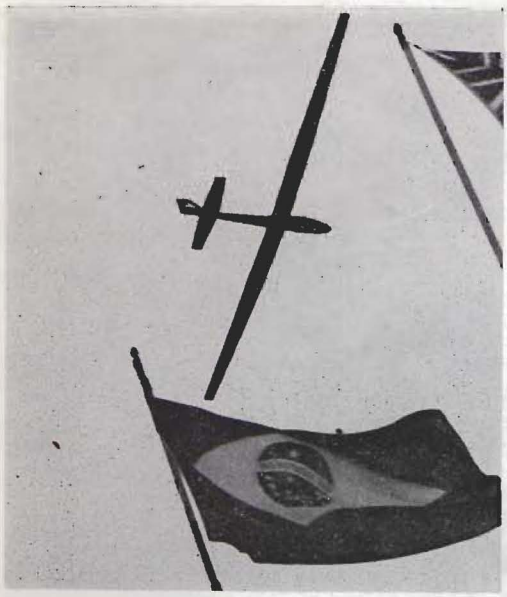
SAME DATES

6th to 14th JULY

APPLY:
RICK KNIGHT,
LASHAM GLIDING SOCIETY,
LASHAM AIRFIELD,
ALTON,
HANTS.
Tel. HERRIARD 270

ENTRY LIMITED TO 35
FIRST COME, FIRST SERVED

ENTRY FEE £40



A Review of 25 Years

World Championships

ANN WELCH

STILL under the guise of International Competitions, the first post-war World Championships were in the Swiss Alps in 1948. It was the first task championship with the first closed circuit turning points, manned by frozen observers on the peaks. There was also an altitude task—the last—since there was only one cloud on the day. It sat directly over our heads and steadily filled up. Nine countries entered a total of 28 aircraft, up to six per country being pemitted. The British Team was really two, the entry from BGA and that of the RAF from Germany. Flying were Philip Wills and Kit Nicholson (Gull IVs), Donald Greig and Lorne Welch (Olympias), and Jock Forbes and Pete Mallett (Weihes). Launching was by winch, with aerotows for the "heavy" Kranich.

After the drabness and rationing of war, it was in holiday mood that we set off for the land of bright snow and cream cakes. But it ended in great sadness with the deaths of Kit and Donald in two unrelated accidents on the same day on the Italian side of the Alps. The winner was Pelle Persson of Sweden (Weihe), whose remarkable goal flight 300km along the spine of the Alps to Geneva started him off so well that he was still competing in 1972, 24yrs later.

1950 saw us in Sweden, the winner's country. It was a small but well organised Championship with solemn briefings outside in the morning sunshine. We were billeted in the local school and drank vast quantities of milk, mainly because Sweden was dry at the time. Without radio, retrieve crews had to develop psychic qualities because it was all too easy for pilots to land half way down one side of 100 mile long lakes, with the trailer halfway down the other side.

Our team was Philip, Lorne, Pete and Jock. We had minor problems such as Philip's trailer breaking in half over a humpback bridge with the Weihe wings sympathetically following suit, and Pete's canopy coming off in flight. The Weihe wings were repaired the same day by a fantastic craftsman who worked by eye with perfect accuracy, and Pete's canopy fragments were found in a field and laboriously stuck together to give the Oly a pop art air. There was a fabulous distance task over the Northern forests with night sunshine. Local boy Nilsson, the final winner, went furthest to a tiny clearing, and





1948. Top. *The Swiss WLM coming up to the turning point on Muottas Muragl.* Below, *Donald Greig and Ann Welch.*





1950. Left, *Billy Nilsson, Sweden's 1950 winner.* Right, *Early morning rigging at Orebro - mainly Weihes.*

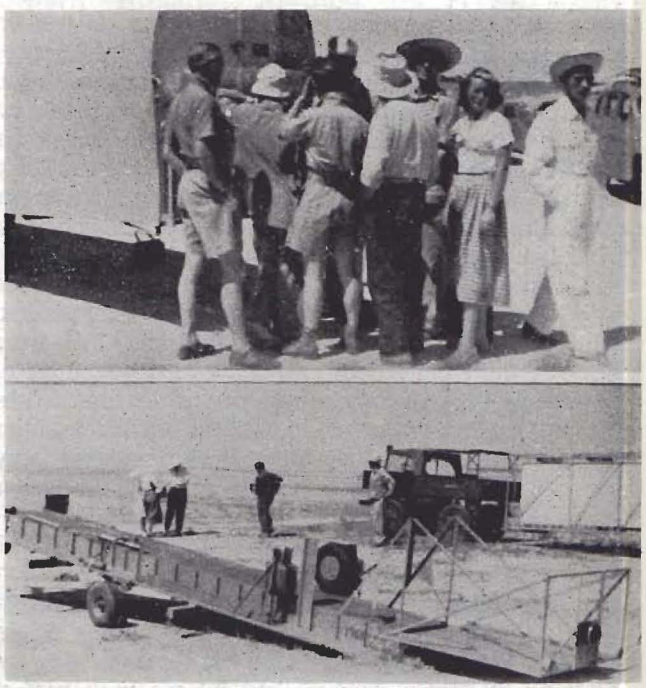
Lorne's retrieve in John Sowrey's 1928 open 3 litre Bentley was cold.

Sweden was a country of law and order with funny moments like when I free-wheeled a borrowed bike down Orebro High street with Kitty Wills on the back, and we were stopped by a policeman with a drawn sword. Only children were allowed two on a bicycle, he said.

From the cool cleanness of Sweden we went to the dust of Madrid in the hottest month of the year. Spain has changed a lot since 1952, for then ingenuity and stamina were needed to survive. After arrival we had to write the rules—in four languages; the main bridge was up between Madrid, where we lived, and the airfield, the packed lunches and supper bags of cooked omelet or fish delivered by open truck were unacceptable in the heat; and no one had realised that you cannot run a World Championships *and* have afternoon siestas. Aerotowing was full of interest since the tugs opened up as soon as they were hooked on to something, charging into the flying dust and swerving to avoid crews chasing their bouncing droppable wheels. The telephones were almost totally inaudible with incredible delays; two teams gave up after waiting nearly two days to hear from their pilots. The British team of Philip, Lorne, Jock, Geoffrey Stephenson and Frank Foster rose above it all, thanks to beautiful new Pye Bantams. Philip (Sky) won, Jock was third and, in line with the times, this meant that the 1954 Championship would be in Britain.

It was; at Camphill. Instead of heat and flies there was cold and wet; instead of survival of the fittest there was order and organisation. Madrid was aerotowing and thermals while Camphill, 500ft nearer sea level, was winch launching and hill lift. Lorne and I flew in the two-seater class with the prototype Eagle, which was no match for the Jugoslav Kosava; it swept the board with 1498pts in hand. Young Gerard Pierre (Breguet 901), who was second in Spain, now beat Philip into this position in the Open Class. Teams lived in a fleet of caravans on site, which gave shelter from the rain and an unexpected increase in the gliding population.

To Pierre's homeland for 1956. St. Yan was a Championship with a carefree Gallic air in which French wine flowed, Denmark landed in the middle of the local market place without hurting anyone, Turkey's rudder fell off in flight with no further damage, and everyone vanished into a massive thunderstorm over the field with no collision. La belle France also produced flying on the grand scale with Distance on a line south over mountains with the Mistral whistling. Approaching darkness



1952. Top, *British Team having a think.* Below, *American trailer with hydraulic springing and weighing 200lb. On the back of a Unimog on which the tow bar had been bolted to both the chassis and thesuspension, towing the on dirt roads was interesting.*

eventually brought down the leaders at Cuers, 242 miles, feeling they had done well, but the redoubtable MacCready went on to a night landing at a lighted military airstrip on the shores of the Mediterranean. Flying a borrowed 901, he was second only on the first day. After that he stayed first, winning with a lead of 1085pts. In their final appearance as a Class, the two-seaters were won by Nick Goodhart and Frank Foster in the best Eagle built, No 11.



1956. Top, *Nick Goodhart and Frank Foster, World Champions Two-seater Class.* Bottom, *opening ceremony St Yan, France.*



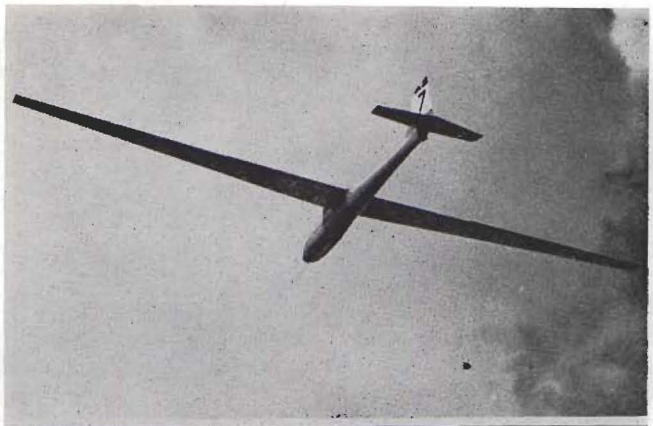
1954. Young Pierre with crew.

We did not go to MacCready's America for 1958 but in the opposite direction, through the Iron Curtain to Poland. It was a stimulating contest, introducing the Standard Class, as well as having pilots all spying in each other's cockpits for signs of rumoured electronic thermal locators—as unpredictable as the hot air they were supposed to find. The organisation was excellent but the water undrinkable, so survival was on beer. We lived in tents, a big one for each team, about which we were briefed "the international ladies will have their own tent, but should they wish to sleep with their manly crews the screens will be provided". We indented for screens—which promptly fell down on the international lady. Poland set the pace for the Standard Class, Witek winning in a Mucha. The Open, beginning to show future exotic tendencies, was swept up by Haase (HKS 3) of Germany, with Nick (Skylark 3) second.



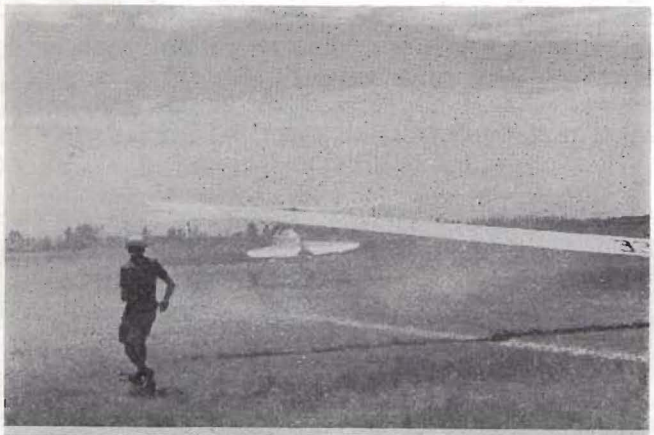


1958. Left, *early morning rigging Leszno.* Right, *first Standard Class winner, Adam Witek.*





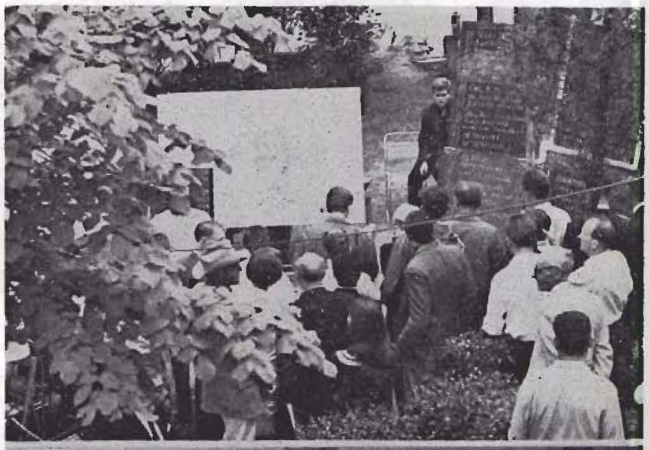
1960. Top, *Nick's 419,* Bottom, *Tony, the Standard Goodhart.*

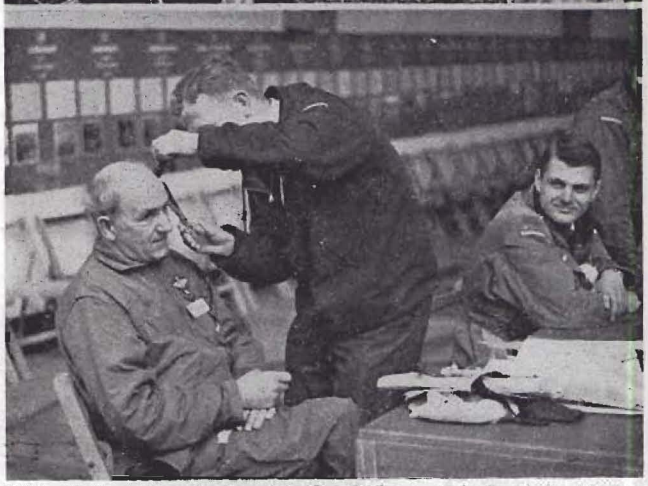




1963. Above, *take-off into the dust.* Below, *Nick with the essential equipment for pampas outlandings.*

1960 saw the British heading East again, but this time only to Butzweilerhof airfield on the outskirts of Cologne. The Standard Class had now grown to nearly double the size of the Open, and had produced the Foka. It was won, however, by the oldest competitor, Heinz Huth, flying a K-6. Both Goodharts were flying. Tony landed his Skylark 2 in the Beethoven Park in Cologne, telephoned Control and was quickly retrieved. The rig and relaunch took six minutes and in no time at all Tony was back in the Beethoven Park. He telephoned in, but this time had a long wait, an official having thrown away the "duplicate" message. The Championship finished with an alcoholic boat trip on the Rhine and a win for Argentinian Hossinger, ensuring a southern hemisphere expedition for the winter of 1963.





1965. Top, *the results board in South Cerney's leafy glade.* Bottom. *cowboy Jensen (Denmark) having a short back and sides before briefing Note the turning point information in the background.*

It was the year to go. The snow was falling over England as the Team congregated in Heathrow's Terminal 3, and it was still lying when we returned at the beginning of March. The British-initiated railway town of Junin was centred on thousands of square miles of flat pampas. It was all light opera, pilots of spirit flying a brightly painted Staffel of Fleet Finch, and Stearman biplanes did the towing. They then flew about over the Pampas in the afternoons collecting gliders, summoned by their pilots flashing issue heliographs. The stage was set for this friendly and fascinating Championship with the world waiting on the doorstep of the local Bank which was closed, due to a national crisis. The first

act was the opening procession of about 30 Deux Cheveux cars parading through the streets of Junin city. Sticking up through the sunshine roof of each car like verticalised sardines were pilots and Team managers, queen-waving to 65,000 cheering people—for 2½hrs.

Argentina gave us probably the last big Distance task, over 700km to the north, with two days of aerotowing to get everyone back. Makula's 716km helped him and his Zefir into Open first place, while Huth successfully defended his Standard Class title, still in his beloved K-6.

With recent Championships in both Poland and Germany, it fell to Britain to look after 1965. RAF South Cerney became an international village for three weeks. Local families adopted a team and everything worked smoothly—except the weather. Fortunately, even in June, South Cerney was able to turn on the central heating. Once again the contrast was great; from the hot, empty pampas to the cuddly villages of the Cotswolds, where foreign crews were constantly confused by signs to Bourton-on-the-Water and Mud on Road. It was the largest of the Championships with 86 gliders, Wroblewski, Poland, winning the Open Class in a Standard Class Foka. Henry of France took the Standard Class in his pencil-thin Edelweiss.

1965 was the last pre-glass year, the last World Championships with observers at turning points, and fortunately the last one with vast and expensive base radio stations. Why some of the aerials neither brought down passing gliders nor toppled on their crews remains a mystery. South Cerney saw the end of a great era of Championship flying. The great glass revolution was on its way.

The Grassroots of Gliding

PHILIP WILLS

I AM writing this article before Christmas, and it won't be appearing until February, by which time King Feisal may have turned it into a pipe-dream for the future, after the North Sea has come to the rescue. But if there *are* going to be Comps in 1974, Competition Enterprise is laid on and rarin' to go.

The 400 questionnaires I sent out which have resulted in what is now to be called "Competition Enterprise" to be held by the Devon & Somerset Club at North Hill, June 22 to 30, (the timing, of course, is to give us the longest possible days for distance before crops have grown too high for outlanding), produced over 100 replies—since 10 per cent is the standard experience, this is a remarkable result.

The comments and letters that came in provide an excellent opportunity to find out what motivates gliding people. Quite obviously gliding appeals to different people for different reasons, or a different mix of reasons, and the BGA as the central body, has the difficult job of serving the interests of all of them, hence the immense value of this enquiry.

The replies cover the entire spectrum. At the infra-red end, Wilfred Sparrow, owning a T-31, wants to come to a "jolly", but shares a trailer with someone else. However, they promise they will always manage to get back somehow. At the ultra-violet end, Frank Enstein writes (and you can almost here a Dalek-like voice saying) *"Fun?* Gli-ding for *Fun?* Non-sense. The only thing I want to do is *Win!* You should be ex-ter-min-ated".

To start with the "Jollies"—34 people gave first choice, 30 second or third choice, but only eight replies were *exclusively* for a Jolly.

The Devon & Somerset Club are going to run a Task Week the week before Competition Enterprise, and Camphill also run a similar Task Week. These are pretty well Jollies, so perhaps those who exclusively want this could write to one or other. The D&S one could also be used as a practice week for those pilots entering Competition Enterprise who might wish to spend a longer holiday in this delectable part of the world.

Going to the other end of the spectrum, the "not interesteds", the reason most given was that, whilst the respondent would like to enter, he wanted to continue to fly against the best pilots (it remains to be seen if we get a goodly number of such pundits at North Hill). Of course, many who did not reply at all clearly were entirely happy with the existing system, largely confined to racing, and the reasons for this are well known, a minimal "luck" factor, and minimum retrieve exertion and expenses (though I'm a little doubtful about the chap who, leaning against his £6000 glider, says he could not afford 100 gallons of petrol).

Next, 20 people gave first choice, 28 second choice for a rated Regional. These included the Managers of two large clubs, who believed many of their members would be interested.

Personally I feel that the recent absolute ban of open-ended tasks (except the Cat's Cradle) in Regionals is a mistake, and at least these 48 people seem to agree with me. I cannot believe that the winner of the occasional Free-Distance flight is not also a good pilot in races, in fact your World Champion should be tested in every possible flight discipline. But after we have (petrol permitting) tested pilot competence in an unrated competition, we can then perhaps decide whether to have a complete glass wall between the two types of contest, or whether we should allow a leak between one system and the other, perhaps by applying a 70% factor instead of the existing 80% one to the resultant scores.

And so we come to what is being organised: an unrated competition to include open-ended tasks, pilot selected starts, and re-lights—34 first choices, 30 second and third. And what luck! A club with a site new to most of us, a beautiful site in lovely romantic country, with a soaring slope laid on for good measure, a club-house, hanger and a long way from both Scotland and

Germany. (Yes, if they are laid on in time, we hope to make use of the Farglide cross channel arrangements). A League 1, for those who want to set their sights so far, and a League 2 for those who want to Have Fun in Wood, including anyone in glass who prefers more relaxed tasks. League 2 participants will be given a variety of tasks each day from which to select one suited to their particular gliders. John Fielden for task-setter.

The Key Man

One of the unexpected points that came out of the replies was that pilots cleave to their favourite task-setter, for he is the man who really sets the key of the meeting. As Keith Mansell wrote "The difference between a serious Jolly and a light-hearted unrated competition is probably slight. Similarly, a serious unrated competition would be little different from a Rated Regional except for the rating aspects" So it's all up to the task-setter, and in the replies, two task-setters were particularly mentioned—John was one. The other of course, was whichever of our band of devoted task-setters is now reading these lines.

When I say the task-setter is the man, of course he is really only No 2 in importance. The vital people are those who organise the meeting—the club itself. For the essence of any meeting, however splendid the tasks, lies in the quiet efficiency of the underlying organisation.

As Nick Goodhart wrote "Must be aerotow, must not be from a peat bog or slightly levelled granite crag. Warm time of year". And Mike Bird "There's nowt romantic or fun about a £5000 prang".

At this point can I thank everyone who wrote, and say how sorry I am I could not reply individually to each, particularly as some were so thought-provoking that they would have needed almost a book-long reply.

What we are trying to find out is of enormous importance. As in all other sports, International competition has remorselessly driven International gliding towards a standard of professionalism that is almost glossy. In doing so, it has restricted the freedom of choice of the pilot. We must of course compete with this, but in doing so we must not ignore the interests of those who glide for different reasons. Someone wrote "Fun gliding is not sport". This is a very deep and disturbing remark. So per contra, sport gliding is not fun? Stop. Think. Look out.

WINTER BAROGRAPHS

MAIN STOCKISTS:

THERMAL EQUIPMENT LIMITED

Lasham Airfield, Alton, Hampshire

Telephone Herriard 359 or 0256-83 359

How to get "SAILPLANE & GLIDING"

"Sailplane & Gliding" can be obtained in the UK at all Gliding Clubs, or send £2.75 postage included for an annual subscription to: British Gliding Association, 75 Victoria Street, London SW1H 0JB. Single copies, including post 40p. Enquiries regarding bulk orders of 12 copies or more, at wholesale prices should be made to the British Gliding Association.

OVERSEAS AGENTS

CANADA: T. R. Beasley, Soaring Supplies, PO Box 621, St Laurent 379 (MTL) PQ. (Single copies US $1.25 or $7 annually.)
HOLLAND: J.Th van Eck, Noordvliet 6, Maassluis.
SWEDEN: Flyg. Biblioteket, GPO Box 2, S-260 70 Ljungbyhed.
USA: Please apply direct to British Gliding Association. Payable in either Sterling or Dollars (See Canada). International Money Orders preferred.
AUSTRALIA: Peter Hanneman. Soaring Imports Pty Ltd. 11 Cranbrook Place, Illawong, NSW 2232.
Existing subscriptions will be allowed to run out at the current rate

COME AND SEE . . .

a new BGA tie . . . . books . . . . badges . . . . accessories.

We are open from 09.00 to 17.00 (including lunch time!) Monday – Friday. Or write for a "What to Buy" leaflet to:—

BGA,
Artillery Mansions,
75 Victoria Street,
London, S.W.1.



CRYSTAL ENGINEERING LTD., 13 Pound Crescent, Marlow, Bucks. Telephone Marlow 5740 (automatic answering service)
PETER JEFFERS BERT PAGE PETER ROSS

SCHEIBE TANDEM

Two-seater. First three places in 4th German Motor Glider contest 1973. Feathering propeller and cockpit heater. L/D 27:1. Delivery 8 months, price DM45,000. Also SF-25C Falke, delivery 5 months, price DM42,000.

Both have 60 hp Limbach motor with electric starter and generator. Demonstrations arranged at your site without obligation.

Also completely new single seater SF-29 with engine in nose. L/D 28:1. Price approx. DM30,000

VAT additional on the above prices, which are ex-works West Germany



coaching corner

BILL SCULL, National Coach, will be writing regularly on various aspects of gliding and instructing. In this issue he asks the question——

HOW EXPERIENCED ARE YOU?

THE trouble with gliding from the safety point of view is that we never do enough of it. Anyone who has been gliding for a few years will probably have had a period when he (or she) thought of himself as "experienced". This delusion may occur more than once of course. If you have 20hrs in your logbook, then you will not realise how poor a pilot you were until the same logbook has 50hrs in it.

Informed opinion differs about levels of experience which are critical. Some say 10, 100 and 1000hrs, others 20, 200 and 500. Accident statistics bear out the 150-200hr stages. Evidently no hard and fast rules apply, it's very much an individual thing with factors such as age, learning ability and the rate at which experience is gained being significant. What I want to do is examine as many of the factors as possible and weigh them accordingly. If by so doing I can heighten your awareness of the areas in which you are most at risk, and you in your turn can add to your experience or be more careful, then an accident or two may be avoided.

Take for example hours and launches; consider two pilots each with 50hrs. (1) has 400 launches and the other 120. The former has flown at a winch launch site with little opportunity to contact lift and little soaring know-how, the latter at a ridge or all aerotow club. To compare these two pilots is difficult enough and becomes even more so when you see how long it has taken them to gain this experience. Pilot (1) has taken 4yrs, pilot (2) 15 months or even less. Pilot (1)'s involvement in gliding is considerable and although he may have considerable awareness of operational matters, his soaring airmanship is poor. Place him two miles downwind of the airfield in a 15kt wind, climbing at an average of 1kt in an Olympia 2, then this will be all too apparent. So evidently the nature of experience must be related to the task, and the hours and launches must be considered in conjunction with the timescale of gaining this experience—and incidentally its continuity. (Instructors checking visiting pilots should note!) To highlight this point compare three pilots each with 100hrs; the time scale respectively 1yr, 3yrs and 10yrs. In terms of training as an instructor, I would choose the middle one. He has flown at a rate which should have allowed him to improve his skill each year and has been around long enough to learn a lot about gliding. He will, typically, be much better than the other two.

Now there have been changes around the gliding scene over the past 15 to 20yrs which also markedly influence "experience". Consider the number of types flown. An established club's fleet of years ago may have had as many as six or seven types in it, two types of two-seater and solo gliders ranging from Cadet I or Tutor, through Prefect or GB II, Olympias and Skylarks. A club pilot in this of environment gained experience, whether he was aware of it or not, by virtue of the number of types flown. Once he became a private owner he still tended to progress from type to type, thus broadening his experience some more. Contrast this pilot with the product of a present-day club. Trained on K-13s, he subsequently flies the only club solo glider, a Pirat or K-8. If by then he is hooked he buys his own glider; he has to, there is no alternative. The trend within the club is followed in private ownership and whereas once upon a time he would have graduated through Olympia and Skylark to Darts, he now may buy a 15m glass-fibre glider.

So our ability to cope with a different type of glider is influenced to some extent by the number of types flown. However, if the types flown have similar performance and handling, then the ability to fly a glider accurately with very different characteristics can in no way be guaranteed. If you are thinking of buying your first 15m glass-fibre glider, then you should discuss with

an experienced instructor the suitability of that glider in the light of your *adapt*ability and experience. The bad habits picked up in one glider might make it very difficult to fly another, for a time at least.

One other factor influencing a pilot's ability is the number of sites from which he has flown. Although this is less obviously connected with ability, it is evident that a pilot who has flown from a number of sites is much more likely to have a flexible attitude in terms of circuit planning and approach control. The "one-site" pilot will tend to be strongly influenced by secondary references, roads, airfield boundaries etc, which will mean a lack of flexibility and a reduced tendency to think each situation out on its merits.

The message then is that no one is as experienced as he thinks. Certain factors influence ability:

1 Aptitude—about which you can do little.
2 Launches and hours—if you have a lot of one and few of the other, be aware of your limitations.
3 Types flown—a large number may afford some protection in converting to a different type, a small number may not. (If you are about to change type, read or re-read Howard Torode's excellent article "Type Conversions" in S&G December 1973.)
4 Time scale—how long have you been gliding and at what rate? 10hrs per year is dangerously low, you never become good enough to realise how bad you are. In contrast, a pilot who does 60 or 70hrs in his first season may have ability ahead of his airmanship.

What you must do is try to appreciate the areas where you lack experience and safeguard yourself accordingly.

On a more practical note, by the time you read this the season will be just about to start. How much flying have you done through the winter? Is it enough to really keep in practice? I do not believe that skills deteriorate all that much, even if you fail to fly from the end of October until the beginning of March, but what is evident is that such a pilot faced with an emergency or difficult situation fails to cope. The evidence—the appalling accident rate at the beginning of the season. The trap I believe is the false sense of security engendered by one's ability to fly quite well, even after a long lay-off.

For the pilot who, because the club flying regulations dictate, flies at least every three weeks so as to avoid having to be checked, realise that a "float around" may keep you in practice as far as basic handling is concerned, but only that. Recent practice of any exercise is the keynote for success. If you went solo last season and are now "off checks", how long is it since you had a cable break or stalled or spun? If the answer is a number of months, then it is too long—the same number of weeks would be more realistic to constitute recent practice.

If you are aware of your limitations, your lack of recent practice, the gaps in your experience, then at least your state of mind, your awareness of the risks, may serve to protect you.

* * *

In the next article in this series I'll talk about stalling and spinning and attendant problems from both the instructors and the pilots viewpoint.

BGA
Assistant National Coach

APPLICATIONS are invited for the position of Assistant National Coach.

The successful candidate will be required, after an initial period of training, to work with the National Coach in the field of Instructor training, examining and standardisation. Qualifications are a full BGA rating, a PPL and good experience of club operations. In addition, an aeroplane instructor's qualification would be an advantage.

Starting salary will be in the range of
£2,000 — £2,250
plus expenses

Please apply with full details of experience and qualifications to

THE BGA
ARTILLERY MANSIONS
75 VICTORIA STREET, LONDON. S.W. 1

marking envelopes for the attention of the General Secretary

MOWBRAY VALE
INSURANCE BROKERS

LET US QUOTE FOR YOUR GLIDER - TUG - CLUB FLEET - CLUBHOUSE - HANGAR OR **ANYTHING** ELSE THAT IS INSURABLE.

SUPERIOR COVER. BEST RATES

ACCIDENT AND SICKNESS COVER FOR GLIDER PILOTS AT **NO LOADING**

REPRESENTED AT LLOYDS, ALL LEADING COMPANIES

RING CAROL TAYLOR AT
THIRSK 23018
(Northallerton 3586 24 hour answering service)
or write to:
48a Market Place, Thirsk, Yorkshire.

ABOYNE —

RHODA PARTRIDGE describes her autumn wave hunt which gave her Diamond height and a claim to the two UK feminine records for absolute and gain of height, held by Anne Burns since 1959.

FIRST thing to say about Aboyne is that it's too damn far. Second thing to say is that it's worth every weary mile. Glass Broomstick and I set off from Cardigan, West Wales, on October 19. We stayed the first night at Beattock. Next day over the Devil's Elbow and one of the loveliest drives I've ever done. Blue sky, snow on the mountains, bonfires of autumn colours. Arrived at the airfield at 3.30pm and promptly got my beautiful new trailer stuck in the gateway. If you arrive for the first time at night it makes sense to leave the trailer in the lay-by. Whatever you do, don't go straight ahead through the gate.

Day 1. It rained and I wasn't sorry because I was pooped after driving 560 miles all by myself. Day 2. Got a site check and was relieved to find that the strip isn't as difficult to fly from as it looks from the ground. It's east-west, 600yds, about 4yds wide, a wall at the west end, a 15ft drop at the east end. Bushes to the south, rough ground to the north. Sounds awful doesn't it? But oddly enough it really isn't difficult to operate from, even with a Std Cirrus being flown by me. Day 3. Airborne in Glass Broomstick. A pleasant hour in marginal wave. Day 4. A beautiful wave flight to 14000ft. No Diamonds. Day 5. A wild rotor tow under a cloud that looked as wicked as a Portugese man of war. Oxygen hose lashing about like a rattlesnake and the mask beat me sharply across the face as though I hadn't enough problems. Off at 2500 and a bouncy low point, then my first experience of "off the clock" lift and I shot up through the slot like a champagne cork. Fast to 10000. Forward a wave, looks good to the north, forward another wave, and another, slide along to where it looks best and there I am with it made. 16500 and 6kts up. At 17000 the cloud pattern changes and I'm in 10kts down. Scoot wildly about trying to get free but am at 13000 before I escape. Am also lost? Beaver about and get to 15000 again but my oxygen is nearly finished. See two silver pennies in a dark slot. The lochs. Go rocketing in, get my bottle filled, get in line but when its my turn the tug goes to refuel and there's not much daylight left. Gold C height for the seventh time.

But I did get a trophy. An ecstatic Cobra pilot radioed from 19000ft that he'd got his Diamond, and "message to Rhoda. My knickers are hers". I was delighted to hear it. He'd been boasting about the glories of his Enkalon Pile Long Johns and I coveted them. I've got them. It was quite a day. Five Diamonds and 15 people above Gold C height. Day 6. A nice 1½hrs thermal soaring. Day 7. Frustration. A strong southerly with quite a bit of west. The tug had a job to clear the wall so they changed ends and launched to the east so the tug could fall over the 15ft drop instead. I didn't mind the cross-wind, but what about the downwind component? Finally Alan Middleton said, "I'm not happy about launching a Std Cirrus in this" so I derigged and explored the beautiful countryside, admiring the golden leaved silver birch woods, trying not to look at the sky and thinking, "was I chicken or sensible?" The tug went to Milltown at midday so I couldn't have launched in the afternoon. Two Diamonds.

Day 8. More frustration. Took-off at 10am. Released, nicely set up in lift at 1500 and was soon nicely set up in sink. A piddling circuit and didn't get another chance because the tug went to Milltown at 12.30. It was a magnificent thermal day. You could stay up as long as you liked. Oh, curses! Day 9. A westerly gale. A really insane tow (oxygen hose stowed this time). One chap lost the tow at 400ft over the loch. Off the clock to 8000. Pushed forward at VNE to a likely cloud, lost 6000ft and my cloud only gave zero sink. I spent 1½hrs trapped above a valley, field picked, until the lift built to 9600 and I managed to get back to the site. The most turbulent landing I've ever had. Right down to when the wheel touched. Four hours. Most of the gliders were around 10000 until late when a K-8 got collected by the top system and whisked up fast to about 18400. Day 10. Grey and still. The sky full of the rags of yesterday's rotor. Day 11. Absolutely quiet. A touch of easterly. In the afternoon wave developed and we wandered around the sky at about 6000 and landed as the light went. Day 12. Occluded front. Duff. Day 13. Wave developed briefly and the K-7 contacted. We all launched excitedly and did circuits. Day 14. A site Duration record 8hrs 20min. I got to 6500 but two pilots got 12000. Tug to Milltown in the afternoon. Day 15. No tug, so off to visit the Cairngorms Club hoping to get a winch launch and some ridge soaring in their T-21, but the rain sheeted down. They are at the bottom of an impressive ridge which works to 3500 but they don't often contact wave. Day 16. A boisterous northwesterly. Snow and rain and too rough

to get the tug back from Milltown. Day 17. Like yesterday but Alan managed to get the tug back. No gliding. Oh dear! and tomorrow is my last day.

Day 18. Low cloud, wind south-west, warmer. Don't feel a bit like flying. Rig and then go and buy presents to take home. When I get back they are in wave but not very high. I launch for duty, pull off in rotor at 2000, bounce about up to 2400 then vicious sink. I push west through it and get down to 1800 without a hope of making it back. More wild bounces but I'm climbing. At 3000 the bouncing quietens and I'm climbing at 6kts. Lose it at 10000, find it, and lose it again at 14000 then a super climb to 17000 and lose it again (damn it!), and find it and get 3kts to 19700 and lose it, and spend a lot of time trying to creep up to 20000. Come to a halt again and am starting to shake. The canopy is covered with lacy frost, the cloud has covered the site so I pull up from 70kts to 35 for an extra few feet, open the brakes and come down. Jump out and kiss Glass Broomstick on her nose and congratulate her. She's impeccable. So neat and steady in turbulence and that wonderful high speed performance. I've done it. I just don't believe it. Two Diamonds. Day 19. Head for home in a roaring gale. Thanking my lucky stars for my low profile glass-fibre trailer, she doesn't wag and she doesn't mind lorries passing her. So there you are. That's my Aboyne trip.

Aboyne at ground level

Now I'll tell you about the club. Facilities. A rickety caravan with a gas cooker at the launch point. An Elsan, which is not much patronised. Accommodation. Luxury hotels, bed and breakfast establishments and some beautifully equipped holiday cottages. Various prices. Social life, terrific! We took over the bar at the Boat Inn. Non gliding locals had their backs to the wall! There were dozens of us and we really had a good time. The Boat does a four star gourmet high tea of such plentitude and succulence that I never saw anyone finish everything on the table. Price around £1 and heaven knows how they do it.

Tourist attractions. Exquisite scenery. Skiing in winter. Pony trekking, water skiing, walking, wild life parks in summer. Criticisms. It would be nice to have the runway surfaced, an inability to get launched brings out the worst in one. (Alan says he'll have four tugs on the site in March.) I think we expect too much of the club. We pour north like lemmings in October and in March. We chew up the site and complain of the mud we create. We litter the rigging area with tape and cigarette packets and chocolate wrappings. We interfere with club operations and we curse horribly when we can't get launched. "After we've driven all that way." There's wave all the year round and a good thermal day in summer gives a 7000ft cloudbase. How can we expect a small club to provide Lasham-like facilities for two months in the year? To fly from Aboyne you should be reasonably experienced. Something like Silver C, 100hrs and competent at aerotowing.

There were corrupt suggestions in the bar that I should write gloomily about the place to put people off, so that we could keep it to ourselves. It's no good, I just can't do it. It was one of my very nicest gliding holidays.

SOAR AHEAD WITH A 'BLANIK'

Unsurpassed in Performance and Reliability Fully Aerobatic
Now with Improved Airbrakes



Delivered U.K. £3,150 and Duty £165 (including instruments)

1,700 Blaniks manufactured and production continuing

Get with it—join the 'BLANIK' set and progress in the 70's

Distributor for U.K., Eire and Canada:

Peter Clifford Aviation Limited, Oxford Airport, Kidlington, Oxford

Tel. Kidlington 4262 Cables: Cliffair, Oxford

Sole Exporter for Czechoslovak Aviation Products:

Omnipol Limited, Washingtova 11, Prague 1 Czechoslovakia

MORE ABOUT SWINGS AND ROUNDABOUTS

PILOT RESPONSIBILITY — a psychological problem

A. D. PIGGOTT

NINETEEN-SEVENTY-THREE has been the year for swinging and groundloop accidents and each must be analysed to see if there is a new lesson to be learned. The latest one at Lasham has certainly made me re-think.

In this case, the young girl pilot started the launch with another glider standing only a few yards to the side and just ahead of the take-off point. With normal take-off her glider would have cleared the obstruction, however, it should have been clear to the pilot and to everyone at the launch point that with either a swing or a wingdrop there would almost certainly be a collision, and that it was dangerous to launch. Nevertheless the glider did take-off, it did swing and there was a collision.

Why didn't the pilot refuse to go? It would seem the easiest thing in the world for her to say "Move that glider, it is too close", to have released the cable and refused to launch.

Where there is a slight risk in the event of a swing, the pilot would be said to have made a simple error of judgment or taken an unnecessary risk. However, in a case as blatant as this one, I think we must look further for the factors influencing the pilot. There were a number of significance.

When students are learning to glide, the instructor is teaching them not only the technique of flying a glider, but how to think out and make decisions and judgments in the air. The final stages of training amount to the handing over of all the responsibilities for safety to the student. Ideally the student should be making these decisions and choosing his actions in the interest of safety and efficiency.

By setting the student a set of problems during the final flights before solo, the instructor can test this ability to think logically and deal with situations as they arise. An experienced instructor will stop helping the student at this stage and will refuse to comment until after the flight. In this way, the pilots can gain confidence by knowing that *they* made the decision and that they were sensible ones. The relationship between the pupil and the instructor is built up during training until the pupil can accept his errors without feeling too embarrassed.

This single factor is often the overriding one determing the instructors with whom a particular student will or can fly, and those whom they will avoid like the plague. Towards reaching the first solo stage, therefore, the pupil must either achieve a standard of flying which does not leave room for criticism, or must learn to accept the particular instructor's comments as fair and helpful.

Apart from other students at the same stage of training, the beginner who is at all shy or retiring will hardly be on speaking terms to the rest of the members at the launch point. They all seem such experts and it is only the favourite instructor who seems to understand his feelings and problems.

In the air, the decisions are relatively easy and concern the student and instructor only. On the ground, however, the situation is not so simple. Even with ground handling someone must take charge. Faced with a group of competent looking men, who can blame a younger and perhaps shy person, especially of the other sex, from letting them take charge? It then becomes problematical whether the young pilot will take command of the situation and prevent a stupid accident or an unnecessary risk being taken. It seems so easy for an experienced pilot to say "take that wing" or "don't hold the tail down", but think of the mental pressures on the shy person who is only too aware of his or her own inexperience and yet should take control and tell the other handlers what to do when they believe the others know best.

Inhibiting situation. Whereas in the air a person may make good decisions and behave responsibly, on the ground he may feel that each move is being watched and criticised by the other members. This will make him less decisive and may inhibit him against giving orders or taking charge of the situation.

Having drawn attention to the problem, the question of a solution now arises. Many incidents and accidents of this nature would be prevented by expert supervision of every flight. However, 100 per cent supervision, even of early solo flying, is impracticable for 365 days in the year as there are bound to be moments, as with this particular accident, when the instructor's attention is diverted.

The real solution is to train pilots to accept responsibility, whether they are sitting in the aircraft or are merely by-standers, at the launch point. The more timid personality must be encouraged to take charge and to give orders. When there is an opportunity during training for the pilot to decide whether a situation is safe or otherwise, he must be taught to assume that the worst will happen, and then to assess whether there is a risk or not.

Surprisingly few pilots have ever swung badly on take-off or landing and, therefore, they tend to assume that it will not happen to them. Normally the instructor is inclined to emphasise the "all clear above and behind" without making the student think consciously about the way in front. Too often the instructor may allow a take-off when there is an object ahead and to one side which would certainly be a hazard in a crosswind, and to an inexperienced pilot in any wind direction. It is important to make the student aware of the subtle difference between safe at all times and safe in particular conditions. Above all it is vital for every club member to have the old adage "safety first" indelibly imprinted on his mind. In other words if in doubt, don't.

With all the types of accidents the signaller, wingtip holder, or indeed any person at the launch point, has the right and *duty* to shout "stop". The mature glider pilot is one who would never hesitate to make a fool of himself in the interests of safety.

sailplane news

RIKA HARWOOD

Now a Slingsby 22m Kestrel

KESTREL 19 owners will soon be able to buy a kit to convert their gliders to 22m. Slingsby Sailplanes announce the introduction of the Kestrel 22, a development of the Kestrel 19 to 22m span, which will be available from July as a factory finished aircraft or as a kit of parts to convert the 19. For fuller details, see the advertisement for Slingsby Sailplanes on p27.

Glasflügel Club-Libelle

"TO SUIT club training methods through good characteristics especially easy away landings for inexperienced pilots.

"To suit advanced cross-country training up to Diamond standard.

"To suit conversion training to modern high performance glass-fibre gliders in both classes".

All this and more Glasflügel have taken into account in their design for the Club-Libelle with which they hope to have found a replacement for the training and intermediate gliders which are not suitable for high performance flying and advanced training.

The Club-Libelle, based on the Std Libelle, has a roomy cockpit to accomodate all sizes of pilots, a fixed wheel, trailing edge flaps cum airbrakes and T-tail. Its performance lies in the 35:1 bracket.

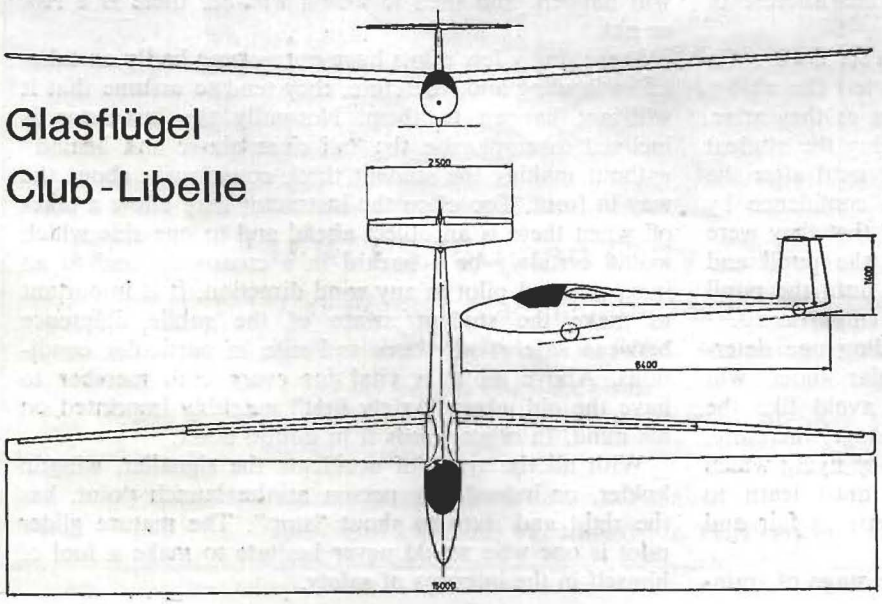
Price without VAT is quoted at DM22.000 which is still competitive with the current Standard Class glider costs. Details from Slingsby Sailplanes.

Technical data Club-Libelle	
Span (m)	15
Wing area (m^2)	9.80
Wing loading (kg/m^2)	33.7
Aspect ratio	23
Empty weight (kgs)	200
All up weight (kgs)	330
Glide angle at 90km/h	35
Minimum sink at 67km/h (m/sec)	0.56
Maximum speed (km/h)	200

Schempp-Hirth Two-Seater Janus

A GA drawing of the glass-fibre tandem Janus is now available from the works and we have been told that the prototype is in an advanced stage of construction. Details from Schempp-Hirth, 7312 Kircheim-Teck, West Germany.

Technical data Janus	
Span (m)	18.2
Wing area (m^2)	16.6
Wing loading (kg/m^2)	28 to 37
Aspect ratio	20
Empty weight (kgs)	370
All up weight (kgs)	620
Max L/D at 95km/h	39
Minimum sink at 75km/h (m/sec)	0.61
Maximum speed (km/h)	220

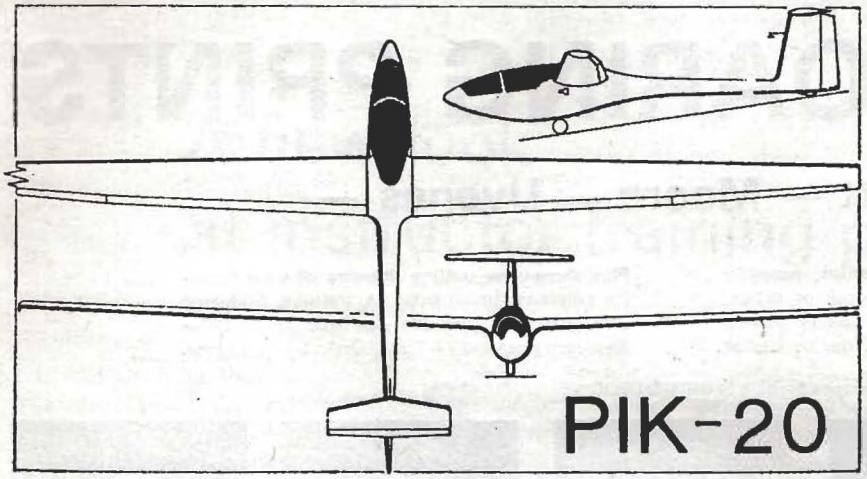


Laister USA Standard Class Nugget

SINCE the prototype Nugget flew in 1971 (S&G Oct-Nov, 1971 p404), Paul Bikle has carried out a large part of the test and evaluation flying on the first production model and flown it in various competitions, comparing well with the better known Standard Class sailplanes. The manufacturers claim that comparison flights with a Std Cirrus put the Nugget's glide angle at about 37:1. The Std Cirrus was flown at a wing loading of 6.1lb/ft^2 while that of the Nugget was 6.6lb/ft^2. It has low touch down speed and without water ballast, which can be jettisoned in 50 seconds, it occurs at 31.5 kts. A modification to the flap drive system has now been incorporated to provide 90° flap which maintains a high descent rate after rotation of the trailing edge flap for landing.

Its general handling and flying characteristics are reported to be very good and straightforward and according to Paul Bikle, the designers are close to accomplishing their goal of producing a Standard Class sailplane superior to any in the world. The Nugget is constructed of Chem-Weld bonded aluminium alloy, has a T-tail and provision for 84 kg water ballast. Details from Laister Sailplanes Inc, 2714 Chico Avenue, South El Monte, California 91733, USA.

Technical data Nugget	
Span (m)	15
Wing section	Wortmann
Wing area (m^2)	10.13
Wing loading with ballast (kg/m^2)	35.87
Aspect ratio	21.3
Empty weight (kgs) (equipped)	210
All up weight (kgs)	362
Glide/Angle at 64km/h	38
Maximum speed (km/h)	233



PIK-20 Standard Class Sailplane from Finland

A NEW company Molino Oy of Helsinki have taken over the firm K. K. Lehtovaara who used to produce the well-known Vasama sailplanes.

The design and construction of two prototype glass-fibre 15m sailplanes started in June 1971/1972. The first was scheduled to fly towards the end of 1973.

The cantilever wings are fitted with trailing edge flaps cum airbrakes and have provision to carry about 80kgs of water ballast. It has a T-tail and retractable undercarriage. Information from Molino Oy, Teuvo Pakkalantie 12, 00400 Helsinki 40, Finland.

Technical data PIK-20

Span (m)	15
Wing section FX67-K-170/150	
Wing area (m^2)	10
Wing loading (kg/m^2)	30
with ballast (kg/m^2)	38
Aspect ratio	22.5
Empty weight (kgs)	215
All up weight (kgs)	380
Max L/D at 97km/h	39.5
Minimum sink at 72km/h (m/sec)	0.58
Maximum speed (km/h)	240-270

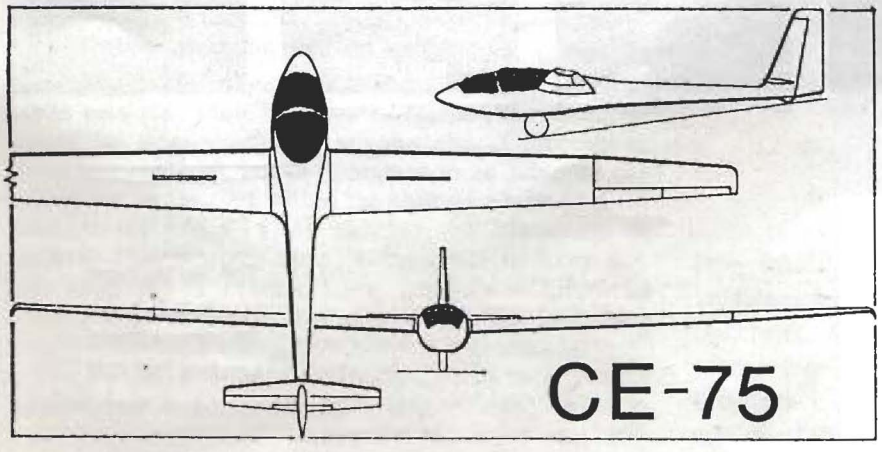
Sagittaire French Two-Seater

CERVA (Consortium Européen de Réalisation et de Ventes D'Avions) is a newly formed company and is owned in equal proportions by Siren SA and Wassmer Aviation, the well-known French aviation companies.

The CE-75 Sagittaire is currently under construction and the prototype was scheduled to fly at the end of last year. It has a glass-fibre foam sandwich structure, fixed tailplane and retractable undercarriage. The seating for the pilots is staggered, that for the instructor being 0.30m to the rear. It is assumed that only one set of controls are fitted although the report in Jane's **All the World's Aircraft** does not refer to this.

Technical data CE-75

Span (m)	18
Wing section Bertin E55 166	
Wing area (m^2)	18
Wing loading (kg/m^2)	29
Aspect ratio	12
Empty equipped weight (kgs)	310
All up weight (kgs)	530
Glide angle at 100km/h	38
Minimum sink at 75km/h (m/sec)	0.65



SAILPLANE & ENGINEERING SERVICES LIMITED
Holmfield Road, Buxton Derbyshire
Adjoining A53

Ring Buxton 4365 NOW

C's of A REPAIRS
REFINISHING

LIBELLE TRAILERS, FUSELAGE TROLLEYS, RUDDER LOCKS, WING COVERS

ALUMINIUM STEEL TUBE TRAILERS FOR ALL TYPES

FIRST CLASS WORK AT THE RIGHT PRICE

COOK
ELECTRIC VARIO

EASY TO INSTALL IN MODERN GLIDERS
FAST RESPONSE WITH IDEAL DAMPING
NO ZERO SETTING REQUIRED
RELIABLE AND ACCURATE
DELIVERY FROM STOCK
QUICK SERVICE AND REPAIR
ECONOMICALLY PRICED
COOK TOTAL ENERGY AND AUDIO UNITS AVAILABLE

J. HARDY INSTRUMENTS LTD.
25 Dimple Road, Matlock
Derbyshire Tel. Matlock 3269

CONGRATULATIONS !

— to S & G on the new format
— to discerning pilots who use J. S. W. GLIDE CALCULATORS.

Eighteen models in stock; to suit Gruman to Kestrel, new improved construction; knots, mph or metre.

£1.75 (UK); £2.00 (Europe)
£2.20 elsewhere (air post paid)

J. S. W. Calculators
11 Galaxie Road
Cowplain, Portsmouth PO8 94T
England.

SUPER SOARING PRINTS

— Aldott — Moore — Uveges —

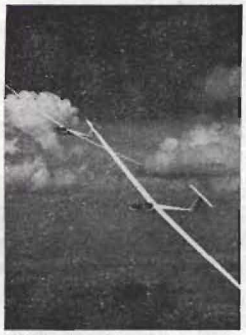
The great shots, the popular ships, superbly lithographed for framing in home or office. Big, 11" X 15" format, finest quality papers. £ 1 each, post and VAT paid. Order by Code#.

Plus three-view outline drawing of your favorite sailplanes (most popular, training, Standard and Open class available—see list). 11" X 15"—85p each post and VAT paid. Order by type name.

Cheques payable to BRITISH GLIDING ASSOCIATION



Phoebus © R. L. Moore #M-1



12 s' Duel © S. A. Aldott #A-1



ASW-12 © S. A. Aldott #A-2



Std. Cirrus © S. A. Aldott #A-3



Diamant © G. Uveges #U-1



LS-1 © Dita Aldott #A-4



Std. Cirrus © S. A. Aldott #A-5



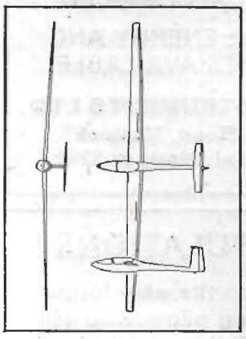
JLS-1 © G. Uveges #U-2



ASW-15 © R. L. Moore #M-2



CU © G. Uveges #U-4





LS-1 © Dita Aldott #A-7



Dart © S. A. Aldott #A-9



Std. Libelle © R. L. Moore #M-3



Ka-6 © G. Uveges #U-3

Three views available:

Blanik, Phoebus A,B,C, Libelle Std/301, Kestrel 17/19, 604, LS1, Std/Open Cirrus, Ka-6, Ka-8, AS-W 12/15/17, Diamant, Salto, Nimbus II, Pilatus, B4, Caproni



The Soaring Press
c/o B.G.A.
75 Victoria Street
London, SW1 OJB

Distributors outside North America

CFIs are being invited to write on any facet of their job or the sport in general. JOHN STIRK of the Doncaster & District Gliding Club starts off the series with——

A new look at instructor training programmes

I USED to think that CFIs had everything to do, but I was mistaken. I had never before been asked to write an article for S&G. Well now I have perhaps we are back to the original statement.

As the one to start these articles, I wouldn't want to shake the foundations of the BGA, but I do think a completely new look should be taken at our instructor training programmes and the way we are using our most important assets—our two National Coaches.

For the last few years, the vast majority of the Coaches' time has gone on giving a basic training in instructional techniques to pilots put forward by CFIs. This training can, by its very nature, be only superficial because of (a) the duration (nine days); (b) the intensity (everything is on the syllabus but often the advanced exercises are missed due to lack of time) and (c) the lack of opportunity to practise the exercises on real pupils.

Please note that these reasons make no criticism of the Coaches or of the extent of their nine day course. As a result, however, of this kind of rapid one shot training, much more is left to the CFI and the club to make a good instructor out of the prospect than I believe was originally thought.

My current view is that we are using our Coaches to do the easy end of the job, although I do accept that it is hard work, leaving the CFI and the club to take on the more difficult task of making the prospect an instructor. This job entails checking and correcting knowledge of exercises, and deciding on relative priority of points to push. I have had several cases of instructors coming back from these courses overstressing minor points in exercises at the expense of main points—most likely because they themselves had been weak on the point before attending the course.

It entails monitoring the attitude with pupils and their results, and watching and guiding their performance when in charge of a situation (launch point organisation, a persistent low turn pilot, etc).

The part that the CFI plays in training an instructor cannot be done easily by anyone else. Other senior instructors can help, but the standard to be achieved can only be set by the CFI within the club. But how does the standard for one CFI compare to the Movement in general? This is where the Coaches could be more usefully employed in assisting CFIs, not only in follow up training to instructors newly off a course, but in helping to give refresher training to established instructors.

The sort of assistance I visualise could most readily be given when the club is operating normally at weekends. This is when the instructor meets his true self-endowed environment and conditions for appraisal and help are at their best.

To make sure the weekend doesn't become just a friendly get together and a renewal of acquaintance, some formal programme should be evolved. This programme should include time to be spent flying with instructors who have been instructing some time; time spent specifically with instructors who have been on courses in the last 18 months or so; time looking at organisation and safety, flight briefings and perhaps in the evenings, discussions on the days events. At the end of the weekend a chat with the CFI would be called for. The whole tone of the weekend must be one of "help" rather than "check", otherwise it wouldn't be accepted by the instructors who must enter into the arrangements freely.

I am sure many CFIs will not relish the idea of a Coach snooping around their club and perhaps making criticism, but what alternatives are there to provide further training for the instructors? The ones I can think of are (1) to have five or seven day refresher courses by Coaches for instructors selected by CFIs on a rotational basis at centres currently running basic instructor courses. The disadvantages I see with this sort of arrangement are

(a) It removes the real pupil involvement. This is fine for basic training courses but not for a further course.

(b) With one Coach's time spent on follow-up training, I doubt if the frequency of refresher courses could be better than for each instructor to attend once in every five years.

(c) The time and cost to the person receiving training.

(d) Again the system keeps the Coaches away from the majority of clubs. I haven't seen a Coach for 18 months and I don't think one has flown from my site for over two years. This isn't because I haven't any problems or that I haven't asked for assistance—I have.



John, who started gliding in 1954, has been the CFI at Doncaster for nearly ten years. He shares a Std Libelle and has a Gold C and one Diamond.

Perhaps the new Chairman of the Instructors' Committee should check with his committee and Coaches that their services are available before making the open offer he does in the Editorial in the "BGA Instructor 23". Just so he doesn't get upset, I may say I do agree in general with his article. I do think the possible reasons given* for not producing glider pilots with a sufficiently high standard are true and that the solution to these problems can only lie in more training at the club site, preferably with the Coaches' help.

Another alternative (2) is to insist on renewals for rating to be by test, as with power flying. This just throws the onus for standard back to the instructor and his CFI and, in my view, gets completely away from the "help" attitude. A parallel to this situation which exists at the moment is the motor glider instructor rating tests where no help exists. Instructors are tested on exercises they do not in general teach and, in consequence, the failure rate is high and CIF's have problems "persuading" their instructors to enter for the test.

Assume the "weekend instructor training scheme" could be made a success, and I'm sure it could, would it be possible for the Coaches to work it? There are about 45 civilian clubs with memberships of over 50, if clubs smaller than this who can only have one or two instructors could fit in with a friendly neighbouring club, then it would only require one Coach to do a complete series of courses every 12 months

The other Coach could still then concentrate on basic instructor courses, perhaps using club professional instructors more than is done at the moment. I am sure in practice the Coaches would want to rotate between the two types of course. A repeating sequence occurs every eight weeks which using the two Coaches would include eight weekend courses, five nine day courses and would give enough time for extra days before and after the weekend for rating tests and days off.

Before launching into a full programme of such courses, two things would be necessary. More support for the scheme by CFI's, even if accompanied by modifications, and a few trial weekends to sort out the best programme.

*Possible reasons given by Don Spottiswood, Chairman of the Instructors' Committee, in the Editorial are— (a) Club organisation and the day to day pressures upon the gliding instructor are such as to prevent him applying in full his skill as an instructor and the techniques in which he has been taught and tested. (b) The detailed techniques taught to assistant instructors have not kept pace with recent changes in glider performance and handling characteristics. (c) More importantly the new techniques referred to (b) have not been sufficiently well disseminated to and assimilated by those instructors who have been at the game for some time. (d) Supervision by CFIs of pilots under training and of qualified solo pilots is often inadequate: frequently because internal pressures within clubs and "club policies" detract from the CFIs ability to effectively control all flying from his site.

This article does raise some interesting points which will be answered in the next issue.



IRVIN TYPE EB. 69 LIGHTWEIGHT PARACHUTE ASSEMBLY

A compact parachute designed for low-profile gliders fitted with moulded reclining seats.
The EB.69 is suitable for Libelle, ASW-15, Phoebus, Standard Cirrus, Kestrel and Nimbus sailplanes, and certain light aircraft.

For full details write to SERVICE MANAGER:
IRVIN Great Britain Limited
Letchworth
Herts.
Tel. 6262
Telex 82198

IRVIN

WHEN YOU WERE LAST UP IN THE AIR, COULD YOU HAVE WALKED HOME?

Our experience says that 60% of you might have had great difficulty in doing so if it had been necessary to use your parachute!

This being a direct result of poor maintenance, overdue inspection and re-packing.

To ensure your safety, contact us for favourable rates on all the services your parachute needs.

R.S.A. PARACHUTE CENTRE
THRUXTON AIRFIELD
ANDOVER HANTS.

Tel: WEYHILL 2124

The Fuel Crisis

Since our last issue, the fuel crisis has escalated with its grim effect on the pattern of weekend gliding. But the BGA hasn't been idle. Chairman, CHRIS SIMPSON, explains the situation below and as we go to press is arranging another meeting with the Minister, having collected information from clubs on the extent of Sunday gliding and the types and quantities of fuel used.

WHEN I wrote my Christmas message I little realised that within such a short space of time the country would be in the throes of a fuel crisis, the like of which had not been seen before.

In early December I was called by the Minister of Aerospace and Shipping, at very short notice, to a meeting of all the bodies representing general aviation. The Minister's greatest concern was for the financial consequences, both for individuals and organisations, which would result from any action on his part to restrict fuel consumption.

The meeting was followed by another meeting 24hrs later at which I put forward figures showing the effect on the gliding movement of varying courses of action which the Minister had previously indicated he might take. These courses ranged from a total ban on all private flying (as in South Africa) to a 10% reduction in fuel supplies. I pointed out that a total ban on Sunday flying would be very severe and that a cut in fuel administered by the BGA would be very much the lesser evil. This view was unfortunately not shared by any of the other representative bodies.

From the restrictions that the Minister announced the following day, namely a ban on the use of fuel for Sunday launching and a 50% cut in fuel for tugs, it is evident that he regards the situation as very serious indeed, since he had been made fully aware that if restrictions were imposed at this level for any length of time they would result in the redundancy of professional employees and the severe financial embarrassment of both clubs and commercial organisations connected with gliding.

The Minister requested that the restrictions be accepted voluntarily in order to avoid the exercise of legal powers to this end. He indicated that if voluntary acceptance was ineffective, he would not hesitate to use his legal powers. Consequently the bodies concerned agreed to voluntary acceptance.

It is abundantly clear that the hardship caused by the Sunday ban is entirely disproportionate to the fuel saved and, furthermore, that it is very strongly resented indeed when similar restrictions have not been imposed on any other sport. I am currently pressing these aspects of the restrictions strongly with the Minister.

I fully realise that the quantity of fuel saved by stopping winch or car launching on Sundays is so small as to be absolutely ludicrous. I calculate that our Sunday winch and car launching fuel consumption is annually less than that of 75 family cars. The petrol consumed by Sunday football spectators on a single Sunday must exceed this. Nonetheless I would strongly urge that temptation to break the ban in this respect be resisted, since in the long run this could harm the very good relations which the gliding movement has in other fields with the Department of Trade and Industry.

I can only hope that by the time you read this the situation has improved.

A copy of the last letter sent to the Minister, Michael Heseltine, by our Chairman.

January 7 1974

Dear Minister,

FUEL EMERGENCY

I set out below the substance of the points which I wish to make at our forthcoming meeting.

(1) Smaller clubs capable of operating only on Saturdays and Sundays are hit particularly hard. Such clubs have always tended to be more active on Sundays than on Saturdays, since many club members work on Saturdays. In consequence, a ban on Sunday giding means that there is a cut of some 60%-70%. If this is continued for any length of time, such clubs will inevitably founder.

(2) The impact of the three day working means that many club members who have to work all Saturday can no longer glide.

(3) The gliding section of the Shropshire Aero Club can no longer fly at all. It normally operates on Saturdays and Sundays from Sleap Airfield, which, on weekdays, is used for vehicle testing. The three day week means that vehicle testing is now carried out on Saturdays.

(4) The fuel, used for winch and car launching, is not aviation fuel but ordinary petrol and diesel. It is not, I believe, subject to specific restriction in any other field.

(5) The Air Training Corps, which affects approximately 30% of all United Kingdom glider launching, is continuing to operate on Sundays.

(6) There is very strong resentment that other sports, many using much more petrol and diesel fuel per participant, are not subject to any specific restrictions. Examples are power boating, waterski-ing and go-karting. On Sunday January 6, 84000 people travelled to watch football matches. In view of the rail strike, the amount of petrol used was comparable with the gliding movement's total annual requirements for winch and car launching. The Newcastle and Teeside Gliding Club recently had the galling experience of watching a Sunday motor cycle hill scramble take place on the hillside from which they usually glide.

(7) We have been able to make more accurate calculations of the fuel used by civilian and service gliding clubs for glider launching in a year.

Aerotow	100000 launches	150000 gallons Avgas
Winch and car	250000 launches	50000 galls. petrol and diesel

D. G. C.

Aviation Services Ltd

DONCASTER AIRPORT DONCASTER

Telephone Doncaster (0302) 56066 or 55861

Specialists in Glider & Ultra-Light Aircraft C's of A. Repairs & Sales. Craftsmen in Wood, Metal & Glassfibre.

- Speedy high quality, low cost C of A on all Gliders and Motor Gliders
- Collection and delivery service throughout Gt Britain.
- Glider & Light Aircraft sales and service
- B.G.A. Senior Inspection Approval

Let us quote you for your next job

(8) There are 16 self-launching motor gliders, of which 15 are two-seaters used for training purposes. They will operate on ordinary four star motoring petrol and collectively use approximately 10000 gallons annually. For each launch, they use slightly more than a winch or car launch and much less than an aerotow. If aerotow launching on Sundays were to be replaced by winch or car launching (and I should strongly stress that this is not possible for many clubs) then the total annual consumption of petrol and diesel fuel used would amount to no more than 20000 gallons—the equivalent of about 65 family cars.

(9) All gliding clubs operate on a very slender financial budget. Already some have dispensed with the services of some of their professional staff and unless there can be a more equitable distribution of fuel, the redundancy rate will escalate.

(10) It is clearly evidenced from the correspondence that I have received that the gliding movement is most anxious to co-operate in saving fuel, but it is equally clear that the prohibition of Sunday flying is a very unjust means of achieving this. I believe that the Government have been anxious to avoid petrol rationing for the motorist on the grounds that this will cause greater hardship than it avoids. The ban on Sunday flying is surely contrary to this concept.

(11) The BGA has, I believe, a very fine record of co-operation with your Department and if you will lift the ban on Sunday glider launching we can certainly administer a scheme which will ensure the consumption of fuel at a level which you may require, but will at the same time be fair to the gliding movement as a whole.

(12) The average gliding club member is not wealthy and it is quite reasonable to assume that increased petrol costs, together with reduced economic growth, will produce, regardless of any other measures, a substantial reduction in the consumption of fuel for glider launching.

(13) It is perhaps not as widely appreciated as it should be, that participants in gliding need to devote a whole day to it, even if the end product is only a short flight. Unlike power flying enthusiasts they cannot book a flight in advance.

(14) I enclose copies of a selection of the letters that I have received.

Stop Press: The Sunday ban has been lifted in all respects except for aerotowing.

Alcohol and Flying

THERE were three fatal light aircraft accidents last year in which alcohol consumed by the pilots were contributory factors. Because of this, the Civil Aviation Authority has issued a further warning to pilots of the consequences of flying after drinking with the reminder that it is an offence under Article 44 (2) of the Air Navigation Order, 1972.

Even small amounts of alcohol in the blood can produce a measurable deterioration of performance of skilled tasks, and recent in-flight research has confirmed that a single alcoholic drink can lead to a significant loss of performance, although the individual may not consider himself affected.

It is equally important to remember that the effects of alcohol remain in the blood for a considerable time.

THREE COUNTIES AERO CLUB LIMITED

Blackbushe Airport, Camberley, Surrey
(ON A30 TRUNK ROAD — 45 MINS. FROM LONDON)

Special Courses for Glider Pilots to obtain Private Pilot's Licence

Silver C conversion from £62

Normal Courses for Private Pilot's Licence

Night Flying — Instrument Flying — R/T

Frasca Flight Simulator

Board of Trade Approved Courses 35 hours

Residential Courses available

Licensed Bar. Diners Club Credit Cards accepted

Barclaycards accepted

C.F.I. Derek Johnson
YATELEY 3747 (Management) 2152 (Operations)

Become a regular reader of S&G

Take Out a Subscription

SEE PAGE 10

Gliderwork
C of A OVERHAULS and REPAIRS
by L.Glover. senior inspector



Husbands Bosworth Airfield, Near Rugby
Tel: Husbands Bosworth 375

New Inn, Pembridge
(NR. SHOBDON AIRFIELD)

Fully residential 14th century Inn set in delightful surroundings in the county of Herefordshire

Telephone Pembridge 427

THE CAYLEY FLYING MACHINE

The background to the Anglia TV programme "A Magnificent Man and His Flying Machines. The story of Sir George Cayley the true Inventor of the Aeroplane"—shown in December. One of the Cayley man carrying gliders of 1852 was built to test Sir George's theories. JOHN SPROULE starts the account.

THE CAYLEY man-carrier project started last spring, as a result of my 1970 flying activities in the Brompton Dale with my 1853 "riding rudder" glider replica. Anglia Television were giving consideration to the making of a documentary film about Sir George Cayley, and their researches at the Royal Aeronautical Society library had led them to me as an accessible maker and flier of Cayley gliders.

I was accordingly invited to design and supervise the construction of one of the much larger man-carriers and at a preliminary meeting at the Royal Aeronautical Society in London, with Mr. Lacey of the Science Museum and Mr. Charles Gibbs Smith, the Cayley historian, it was agreed that we should build the monoplane machine as depicted in the 1852 issue of Mechanics Magazine. I had suggested this particular aircraft to build as it was one out of a rather vague bag of Cayley biplanes and triplanes which was most accurately depicted as to general lay-out, and which Cayley had described in an accompanying article.

Back to the Basics

The task of turning the above general information into something which one could ask someone to build, however, necessitated a considerable amount of detail design, as Sir George, understandably preoccupied with experiment, did not furnish anything for posterity which could be described as a set of working drawings. In these circumstances it was essential from the outset to formulate a set of rules, eg, to recreate the machine in the Cayley manner as far as was possible—and only to specify materials, etc, which could have been available in 1852. In other words—no use of plywood or plastics or gas welding and so on. In the Cayley notes there are various clues and items of information which, in the design of the replica, became almost biblical texts.

There is, for instance, a description of the use of glue in laminating the tension-spoke wheels and also the remark that "cross-bracing is the secret of a light and rigid structure". These indications of Cayley's knowledge were the go-ahead therefore, for us to use these valuable aircraft practices.

When it came to actual manufacture, there was only one organisation to recommend to Anglia as suitable builders, and that was Ken Fripp's outfit at Lasham. Ken and Mike and their helpers, Fred Stickland and Alan Baigent, tackled the job with great enthusiasm when my drawings were completed—and made a beautiful job of the machine. The important matter of the sailwing and tail surfaces was most expertly tackled by Rockall Sails Limited, of Bosham, Hants. Needless to say, the machine worked out a fair bit heavier than the original, as Sir George was the true originator of the art of weight saving in aircraft construction. In fact his stated weight of 300lbs odd with pilot on board, would have been very difficult to achieve with the safe and repeatedly usable article which it was necessary to design for Anglia's purpose. We did manage, however, to keep within Sir George's wing loading limit of 1lb per sq/ft of surface. In the light of experience I have no doubt that a Mk 2, and better still a Mk 3, would show a considerable saving in weight and an improvement in flying performance.

Regarding the flying of the replica, it was my original intention and recommendation to proceed with great caution with the machine "in ballast" as described by Cayley. In the event, Derek Piggott emerged as willing live ballast from the start and our preliminary tows at Lasham indicated that the structure was not likely to collapse around him; I was fairly happy therefore, to go along with this. Both Derek and Ken Fripp were just about the two most sensible and experienced individuals I could have been associated with in this exploratory activity, and for me it was the greatest pleasure to work with them.

As to what we learned, I think the main achievement was that we established that Sir George Cayley's configuration was a stable one which did not need ailerons and which would respond to the simple steering oar (incidentally, we called it the "influencer"!) There is no doubt in my mind in the light of our experience, that had Sir George been able to lay his hands on a Volkswagen engine with propeller in 1852—he could have anticipated the Wrights by over 50yrs. It would be fun to try this some day, to see.

The sight of Derek Piggott in flight across the Brompton Dale in a Cayley man-carrying glider on the afternoon of July 20, 1973—some 120yrs after such a feat was last performed—was an unforgettable aeronautical experience. I would not have missed being part of the enterprise for worlds, and we owe a great debt to Anglia Television for making it possible. We also met the nicest and most patient chap in the world—Harry Aldous—who led the Anglia filming team.

Gliding 1852 Style

A. D. PIGGOTT

EARLY in 1973 I was doing an odd job to one of our gliders in Ken Fripp's workshop when the Anglia TV unit arrived to film the construction of a replica of Sir George Cayley's 1852 man carrying glider. I was introduced to Harry Aldous, the director, with the comment from Ken that flying such a machine was just the kind of thing I enjoyed—something new.

When Anglia made the proposition that I should indeed attempt to fly in the replica, I was content to leave the design and construction in the very competent hands of John Sproule and Ken. It wasn't until the machine was being finally assembled in the workshop that I thought it was time to see for myself whether it looked practical and airworthy.

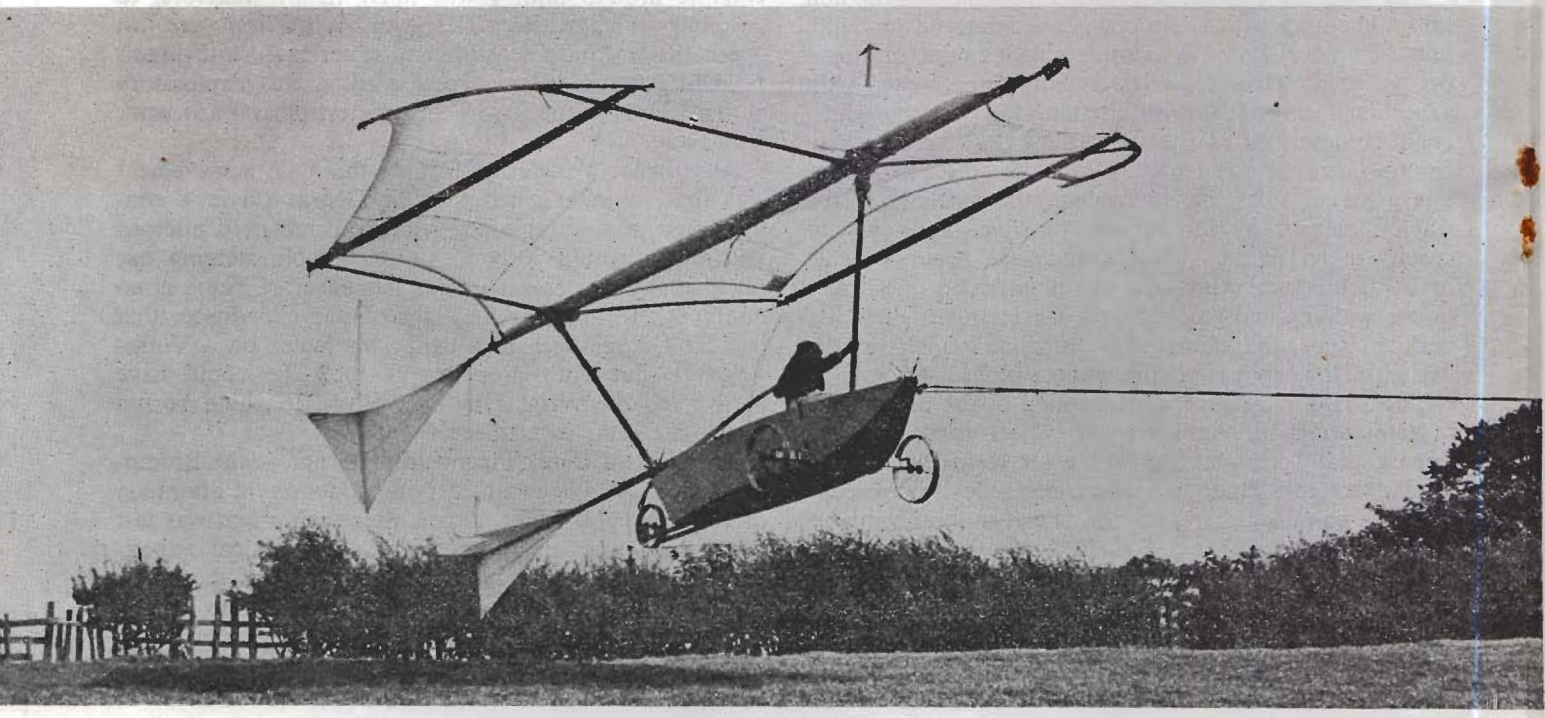
We soon agreed that the obvious seating position was athwartships, eg facing to one side looking forward as in the manner of steering a boat, and some model tests by John indicated that the pilot should sit as far forward as possible. As this put me out of reach of the long oar-like handle of the "influencer", I agreed that, since it would take a day or two to make a new one, I would make the first trials with the control lashed down. In other words, I would sit aboard and just go for the ride with no control except the cable release.

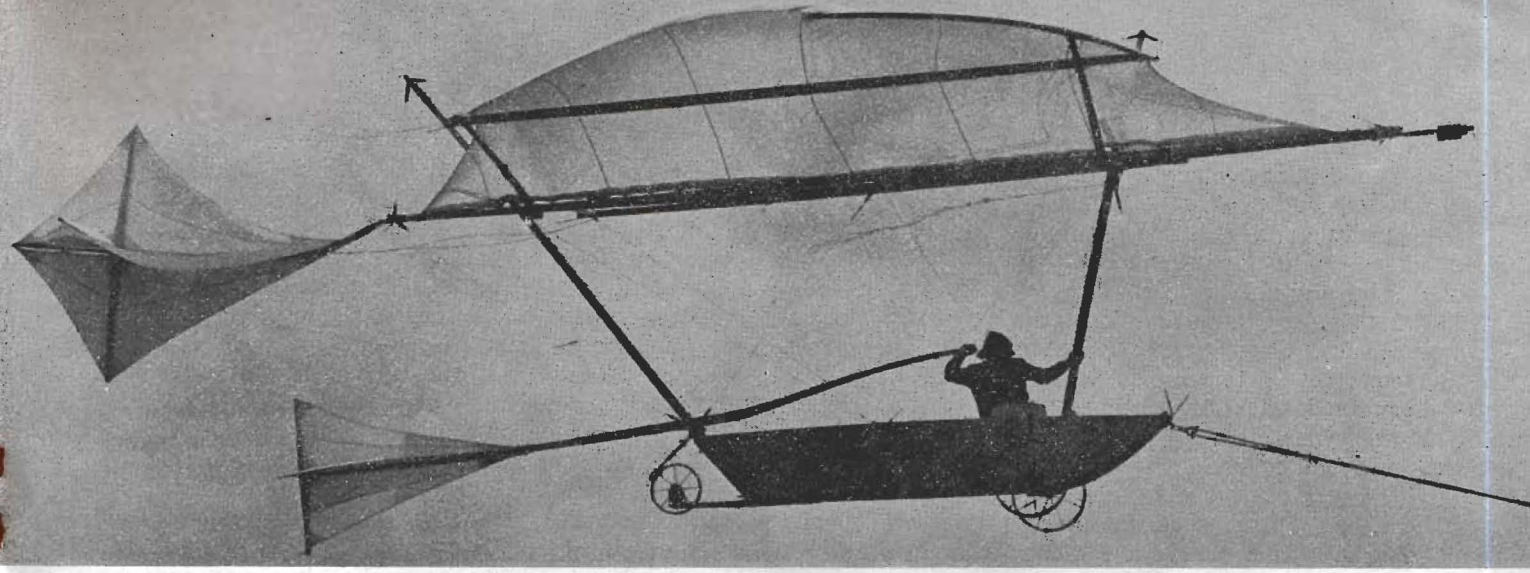
On the first two or three taxy runs towed behind Ken Fripp's car, the machine refused to leave the ground. The only real lesson learned was that the aircraft was most sensitive in yaw and would weathercock violently into the slightest crosswind. We also found that the machine was substantially made and quite practical in many respects.

It was clear from these first tests that the ground incidence was insufficient, for it wouldn't lift off (even at 25-30mph). A quick solution was to fit a smaller rear wheel and this lowered the tail by about eight inches.

Next time, off she went, flying beautifully and stably in a graceful hop. The take-off speed was still rather high and the next modification was to increase the wing incidence still further by blocking up the central fore and aft wingspar.

The effect was immediate. On the next flight I climbed so rapidly that Ken lost sight of me from his Volvo driving seat and in a matter of seconds I was up at 30-40ft, climbing at an alarming angle.





By this stage, we were rigged up with a radio mike and being filmed, so that everyone except Ken knew exactly what was going on. The commentary was quite amusing, changing from my mentally calm patter as the aircraft righted itself after a slight wing drop, to a call to Ken (far too far away to have heard me) suggesting that he slowed down a bit. Then, by which time I was up almost 30ft, he slowed down altogether and the tow went slack. My voice became more and more excited saying "faster, faster".

There were a few seconds of deathly hush as the machine nosed down gently and sank rapidly into the ground with a very solid thump. However, the damage was confined to an axle and tail boom which were broken by the shock of landing. I was pleased to have insisted on a good seat back and safety harness and a little surprised at not getting hurt. Also it was fortunate the machine was easily repaired.

The following week we moved to Holme-on-Spalding Moor airfield near Hull, with the idea of having extra room and privacy for a few more towed flights. By this time the longer oar handle had been fitted to the "influencer' so that I could, at least, hold onto something and go through the motions of attempting to control the flight.

Primitive Control

I should explain that the "influencer" consists of a cruciform tail forming a rudder and tail plane fixed to the end of the wooden shaft and universally pivoted so that it could be moved up and down and from side to side to produce elevator and rudder effects.

Qu'te frankly, we didn't expect miracles from such a simple system.

Our hopes of a really long stretch of smooth grass for some long car tow hops were shattered when we arrived at Holme-on-Spalding. The grass was under water and studded with lethal looking landing lights. It was soon apparent that Cayley's tension spoked wooden wheels were to be put to severe test on the rather rough concrete of the runways.

The wind and weather during our stay proved very fickle and changed each time we were l'ned up ready for take-off. We changed runways several times on each of these sessions only to find ourselves foiled again and again—we must have walked the machine for miles.

We made two non hops, failing to get off the ground at almost 35mph, a terrifying speed sitting so close to the ground with the roar of the wooden wheels on the concrete. Something was radically wrong, but what?

Obviously it had to be the set of the sail or wing incidence, but it wasn't so clear how and why it had changed from previous flights. We then reasoned that, unlike most aircraft, it was more or less impossible to rig the sail-wing consistently because of the problems of measuring the incidence on the flexible structure. However, a few adjustments on the appropriate turn buckle to raise the leading edge soon produced the desired results.

Camera Attack

The first hop after these adjustments was exciting because, shortly after getting airborne, the machine swung off and headed straight for the nearest camera! By this time we had digested the lessons of the first high hop and provided Ken with a receiver to listen to my commentary. On this occasion he kept going, so that I sailed over the fleeing cameraman with the helm hard over which, to my surprise, produced a gentle turn.

The flight ended with a very reasonable landing and we were all relieved to have at least one good hop for the cameras, and to find that the "influencer", did indeed influence the flight.

As a final effort at Holme-on-Spalding, we moved the machine as far as possible down the runway for a really long flight under tow to get as much experience as possible with the unfamiliar form of control. Actually the movements of the steering oar seemed quite natural when sitting side-saddle, and as far as I could tell, I didn't make any false moves. This hop lasted about 20 seconds and was reasonably under control throughout. Unfortunately the wind changed again after this and we walked yet another mile or so to the new runway.

Unknown to us, the wheel bearings had been burning off their grease during these long treks and because of the very high speeds on the ground. It was on the next and final hop things went wrong.

Just as the take-off was started the wind must have swung a fraction, but instead of weathercocking as on previous occasions the aircraft swung slightly further out of wind and begun to turn. We ran along at high speed on the outer edge of the port wheel at a precarious angle

and finally left the ground. It was soon apparent that this time the machine was not rolling itself level and I was worried about getting higher in case it rolled into an even steeper position. I therefore released smartly and landed, still on the one wheel.

Gradually and gracefully she tipped further and further until we came to rest on the wing tip—if you can call it that. There were a few seconds stillness and then a report like a gun as the port cross spar snapped. It wasn't until later that we discovered the partially seized bearing which had stopped the aircraft weathercocking during the take-off.

The next day we were scheduled to be at Brompton Dale, near Scarborough, the original flying ground and home of Sir George Cayley, where we were to attempt to re-enact his historic flights.

We hurriedly packed the glider into the trailer, said our farewells to our hosts at Spalding Moor (their hospitality and co-operation were unforgetable) and drove off to Scarborough. I went ahead to take a look at the Dale as I had never seen it before, and also to see Sir George's workshop which is still in good repair.

Forebodings

My first sight of the Dale filled me with forebodings, for it is a very small valley only hundreds of yards across and with quite steep sides in places. As we had never tried anything but an autotow with the replica, we had no idea how far it would go on the bungey launches we proposed to do. It seemed almost certain it would either sail across and fly into the steep slope opposite, or else trundle down the slope at speed and roll over without getting airborne at all.

Either looked potentially dangerous and I was glad to be well insured and, as yet, uncommitted to making a manned flight in the valley. All I could visualise was an accident of some kind with me in the middle of the bits!

Next day, while Ken rushed off to Slings to repair the spar and borrow a bungey, we rigged the beast and got most of it together by the evening. Incidentally, it takes about 8hrs for three men to assemble completely. Not a glider you would want to land out!

John Sproule flew his replica of Sir George's 1853 "Riding Rudder" model and we had time to get acclimatised to the look of the valley. Everything would depend on the wind direction and for once conditions turned out to be ideal.

The next day was one of feverish activity, rigging the sail and preparing for the flight. There were various pieces of activity to be filmed, including a re-enactment of the famed coachman getting out of the pranged glider and hobbling back up the hill to tell Sir George alias Fred Strickland) that he wanted to give notice.

So when all was ready came the moment of truth. Would the Cayley fly in free flight? Could all this have happened back in 1853 or was it just folklore and fable?

About the only advantage our machine had over Cayley's was the use of standard turnbuckles on the wires and an experienced pilot instead of a coachman. All the materials John Sproule had specified were available in the old days.

When all was ready, all available hands were put on the bungey. With four a side and two holding back, I called out the orders "walk", "run" and away we went. The Cayley left the ground against the 10mph breeze in about a fuselage length. It made a graceful hop with a perfect landing near the bottom of the slope. A historic moment and a great thrill to all present.

After acting the Jonah for the past few days and warning the film people that we couldn't guarantee more than one hop, all was well after all and it was clear that, with luck, we could carry on all day!

For the next flight we tried to anchor an Ottfur hook so that it could be used to release a rope holding the aircraft back while the bungey was being stretched. However, this wasn't a great success as it either operated too early or pulled out before the full launch power had been developed. The flight was short but sweet and once again, what with one thing and another, I had failed to give a commentary while in the air. This was hardly surprising. In the old days, bungey launches in a primary glider were always known as "ten second blackouts". You try and describe a six or seven second flight coherently!

By this time our lusty team of farm workers had long overstayed their lunch break, so we were left with just enough bodies for a car bungey crew. The bungey was made fast to Ken's car by a length of rope, and once again Fred and another heavy dug themselves in as anchor men.

Now if you are going to use car bungey launches, there are one or two fundamental rules. Always put plenty of rope between the car and the bungey and the glider and the bungey, so that in the event of a breakage the ends don't snap back into either the car or glider. We just had no time for this kind of refinement.

It was past lunch time and at any moment this would mean a stop to filming and perhaps some rain to prevent flying. I was again briefed to try a commentary and I started off well with a bit about doing my CB SIT CB, (well, checking my oar was moving freely!) Then I gave the order "take-up" and over my shoulder saw, to my horror, Ken's car roaring off at high speed down the slope. I was mesmerised, watching the stretch indicator on the bungey tighten up, wondering whether the thinning elastic would break. John Sproule fortunately yelled "release" to the anchor men at the moment critique and I shot off into space, climbing rapidly.

Up with the oar for full down elevator and the Cayley nosed over, in towards the hillside opposite. Full down oar to round out and crunch as we arrived very solidly back on the ground. The tail boom collapsed and the undercarriage axle beam was broken again, so this was to be her last and longest free flight.

The commentary? You've guessed it, nothing but the roar of the wheels, then silence until the final crash followed by a small voice saying "oh dear".

On playing this back, the Anglia sound man nearly paralysed himself with laughter.

What a wonderful experience for us all to look back on. Almost 130yrs ago, the Yorkshire coachman had been the first person to be carried in a scientifically designed, heavier-than-air aircraft, and only he and I can put Cayley monoplane into the back of our logbooks!

Kestrel 22



Super performance 22 metre span glider available either as kit to convert your existing 19 metre Kestrel or as an original purchase.
Maximum L/D over
50:1 at 55 knots 27:1 at 100 knots

For further information write to:

SLINGSBY SAILPLANES

Kirkbymoorside Yorkshire England YO6 6E2
Tel: Kirkbymoorside 31751-6, Telex 57911

A Glider Pilot's Guide to Wave Forecasting - Part 2

Michael Garrod (meteorogical office)

Wind at 850mb (kt)								
60	7.0	6.5	6.0	5.5	5.0	4.0	3.5	
50	8.5	8.0	7.5	6.5	6.0	5.0	4.0	2.0
40	10.5	10.0	9.5	8.5	7.5	6.5	5.0	3.0
30	14.0	13.5	12.5	11.0	10.0	8.5	6.5	3.5
25	17.0	16.0	15.0	13.5	12.0	10.0	7.5	4.5
	−10	−5	0	5	10	15	20	25

Fig 1 Values of L_{850} (lapse rate/wind factor) T_{1000}-T_{700} (°C)

Wind at 500mb (kt)								
100	30	30	30	25	20			
80	40	35	35	30	30	25	20	
60	50	50	45	40	35	30	25	
50	60	60	55	50	45	35	30	
40	75	75	65	60	55	45	35	20
30	105	95	90	80	70	60	45	25
25	125	115	105	95	85	70	55	35
	20	25	30	35	40	45	50	55

Fig 2 Values of L_{500} (lapse rate/wind factor) T_{700}-T_{300} (°C)

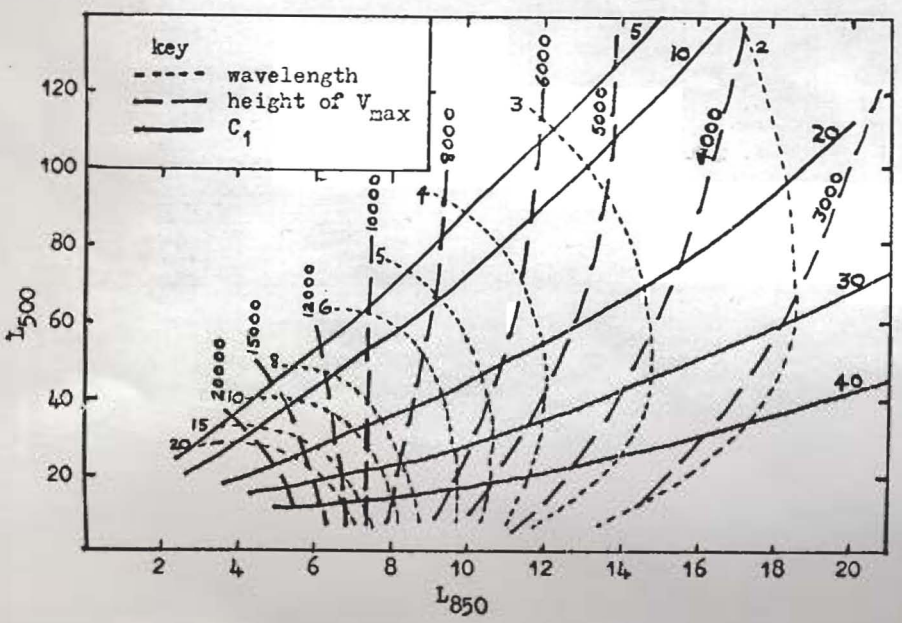


Fig 3 Graph for determining wavelength, height of maximum vertical motion and maximum vertical motion factor C_1

Pressure (mb)	Temp (°C)	Wind (kt)
1000	6.2	—
950	—	320 22
850	—	320 30
700	− 5.7	—
500	—	315 46
300	− 49.1	—

Fig 4 Upper air sounding for Stornoway midday March 23 1972

T_{1000}-T_{700}	T_{700}-T_{300}	L_{850}	L_{500}	Wavelength	Alt of Vmax	Vmax
11.9	43.4	9.5	43	6nm	7500ft	396ft/min

Fig 5 Values obtained from Fig 1-4

IN the last issue I described ways of assessing the probability of the existence of lee waves without reference to upper air data. However, even though one may judge correctly that lee waves are present, their height and intensity cannot be determined in a similar manner. These two factors are of importance to the glider pilot, who does not wish to waste time and money on prolonged aerotows, and failing to find wave lift.

To calculate the details of atmospheric wave motion in two dimensions, from a purely mathematical approach, is a formidable task. Given vertical profiles of temperature, wind and density of the air, combined with the profile of the ground initiating the wave motion, the height and magnitude of primary and secondary waves may be calculated. However, this is complex, and time consuming, and quite impractical for everyday use.

A much simplified though correspondingly less accurate method, applicable to the lower levels of the atmosphere, has been devised by Casswell[1]. It requires three values of wind and temperature respectively, readily obtainable in a few minutes from any Met forecast office. These are as follows:

(a) The wind speed in knots at 950*, 850 and 500mb (U_{950}, U_{850}, U_{500}) and direction.

(b) The temperature in °C at 1000, 700 and 300mb (T_{1000}, T_{700}, T_{300}).

An additional piece of information is also necessary, namely the height

of the tropopause. If it is at or above 300mb, there are no complications. If below, it will be necessary to obtain a theoretical value of T_{300} as if the tropopause were above 300mb. In technical terms, this is a value of T_{300} derived from "an extended line of the tropospheric temperature curve".

Though not relevant to the Casswell method, it is useful to obtain the height of the base of any marked inversion(s) between ground level and 800mb. (The base of an inversion will give an indication as to the likely level at which wave may first be encountered from below.)

Having obtained T and U values, there are several factors to take into account before proceding with the calculations. Marked wave activity is unlikely to occur if the 950mb wind is less than 20kts, and/or has a direction which lies outside an angle of 30° to the perpendicular to the hill(s). Any variation of wind direction with height exceeding 30° will also inhibit wave motion. Subject to these conditions being satisfied, proceed as follows:

(a) From (T_{1000}-T_{700}) and U_{850} obtain L_{850} (lapse rate/wind factor) on Fig 1.

(b) From (T_{700}-T_{300}) and U_{500} obtain L_{500} (lapse rate/wind factor) on Fig 2.

(c) Transfer values of L_{850} and L_{500} to the graph (Fig 3). At the point of intersection read off wavelength (nm), altitude of maximum vertical motion (ft) and C1 (a factor dependent on hill height, here assumed to be 1000ft).

(d) Multiply C1 by U_{950} to obtain the average maximum vertical motion in ft/min (Vmax).

Without going into great detail, let me describe what these four steps represent. L_{850} and L_{500} are proportional to the lapse rate of temperature and wind speed in their respective layers. Fig 3 takes into account the difference in these lapse rates and the wind shear with height. The wind at hill top height (defined here as U_{950}) is proportional to the maximum velocity (Vmax).

It must be immediately apparent that simplification has introduced the possibility of large errors. As it stands, this procedure will not produce consistent results if used indiscriminately throughout the British Isles. Satisfactory results may be achieved at one particular site, provided C1 is given the correct dimensions. This may be checked by comparison of observed and theoretical rates of climb. For example, if the calculations give an average maximum rate of climb of 300ft/min, and 500ft/min is observed, then the value of C1 should be adjusted by a factor of 5/3. With several such checks the C1 lines on Fig 3 may be redrawn. The lines of wavelength and height of Vmax will apply in any area, being independent of hill height or profile.

Fig 4 gives a sample upper air sounding for midday March 23 1972, and Fig 5 the values obtained by the Casswell method. On this occasion wave was occurring in central and eastern Scotland, permitting climbs to altitudes in excess of 15000ft.

Should you require to forecast waves at a particular site by this method, you will need the co-operation of your nearest Met forecast office. It is best to discuss your requirements in advance with the officer in charge, so that calls for upper air data can be dealt with quickly and efficiently.

You could be in his place by Spring 1974

JANTAR



JANTAR 19m Sailplane Winner of 19m Cup at Vrsac 1972—48:1 glide angle at 59 kts. All glass fibre—very easy to rig. £6,600 Ex Works with instruments. Delivery 4 by end of March 1974. Demonstrations now.

COBRA 15 15m sailplane 1:38 glide angle—Price with full set of instruments ex altimeter £3,500 Ex Works—Delivery 2-3 months.

PIRAT 15m 1:33 glide angle. Price £2,632 Ex Works—Delivery 2-3 months.

BOCIAN IE Two-seater £2,662 Ex Works.

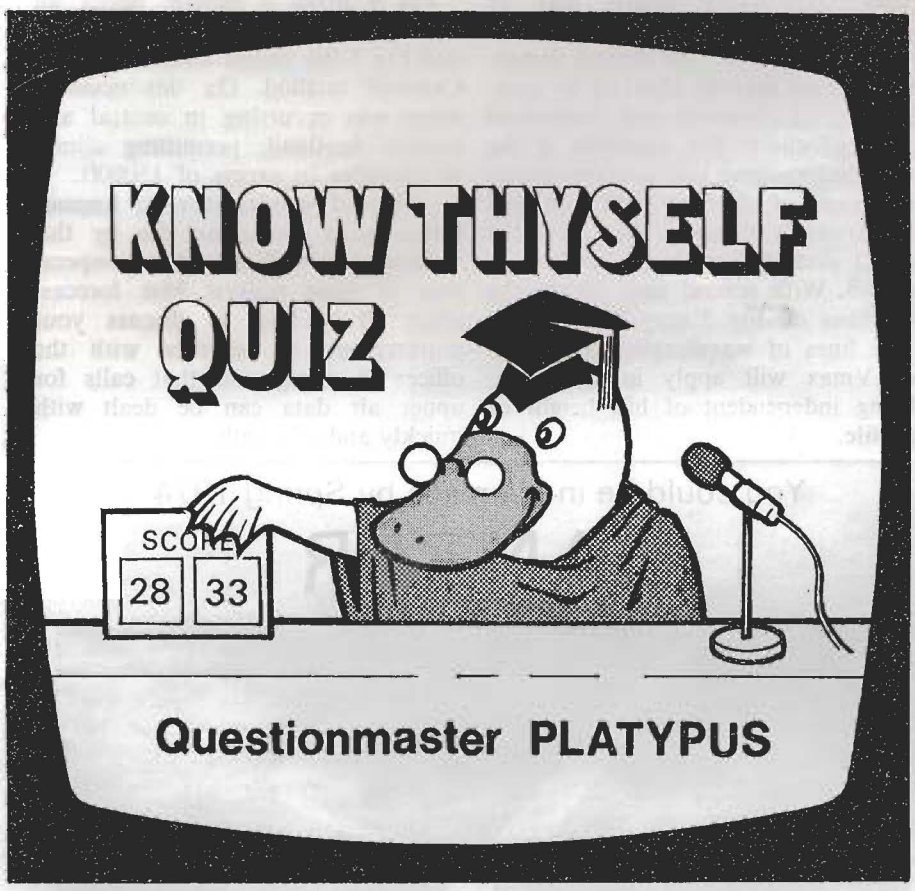
All delivered to Booker Airfield, Marlow, Bucks.

Polish Tug Aircraft **WILGA 35.** Full British C of A. Very cheap to operate. Special leasing arrangements. £9,000 Ex Works with spares.

PZL instruments in stock

For PZL Instrument repairs send direct to:
GLIDER INSTRUMENTS, 5 GLENDEVON ROAD, WOODLEY, READING, BERKS.
Tel. Reading 696491

For full details contact JOHN STRUGNELL at:
DALTRADE LTD., 181-183 WARWICK ROAD, LONDON, W14 8PU
Telephone: 01-370 6181 or evenings Bourne End 23458
Sole Exporter — Pezetel Ltd. 4a Czestochowska Street, Warsaw, Poland



I SUGGEST you do this quiz twice; once on your own and once as the willing victim of your friends' verdicts. Let's see what they think of you! (Come to think of it, that's a terrible idea. Forget it.)

1 A fellow competitor enters cloud in an airway and completes the task. You are the only pilot in the vicinity, but obey the rules and get sunk. Do you:
   (a) Denounce him to the judges?
   (b) Tell him privately that you will report him if he does it again?
   (c) Say nothing and do nothing?
   (d) Decide that everyone cheats and start breaking the rules yourself?
   (e) Put treacle in his compass?

2 Roughly how many retrieves have you done for other people in an average year since 1970?
   (a) Three or more a year on average.
   (b) One or two a year on average.
   (c) Less than one a year on average.
   (d) Can't remember when I last retrieved anybody.

3 What is the greatest length of time you have ever stayed in the same syndicate? (Same **people**, not same glider).
   (a) Over five years
   (b) Two to five years.
   (c) One season or less.
   (d) I have always been a one-man syndicate.

4 Divide your total crashery by the number of years you have been gliding since solo. How much is your annual average crashery costing you (or your club or insurance company)?
   (a) Over £100.
   (b) Between £10 and £100.
   (c) Under £10 per year average.
   (d) Nil.

5 Have you ever held office in a club or BGA committee?
   (a) Yes and still do.
   (b) Have done, but not at present.
   (c) Never have done.

6 Whereabouts are you on the BGA Rating List?
   (a) Not on Rating list
   (b) Below number 50 on the list.
   (c) In the top 50.
   (d) What Rating list?

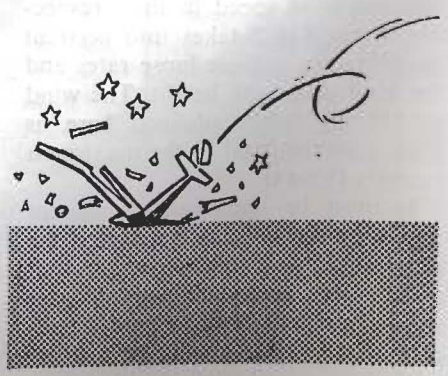
7 Your plans to fly one afternoon are disappointed. Jim, after a bit of extended local soaring, has landed the Dart without damage only two miles from the site, but in a very inaccessible field. When you eventually get to him, do you?
   (a) Commend him sincerely for the fact that we have one intact Dart, and make no mention of the fact that there will be no flying for you today?
   (b) With outwardly good humour, rib him in front of other members about his choice of field?
   (c) Ask him why he was too windy to glide it out back to base?

8 How often have you been grounded or put back on the two-seater for bad flying since you went solo?
   (a) More than ten times.
   (b) Between three and ten times.
   (c) Once or twice.
   (d) Never.

9 It is a brilliant April day. The sap is rising and barn doors are sharing updraughts with the first swallows. Your partner, bless him, is in the process of gutting the cockpit so as to put in a different shade of upholstery and lubricate a squeaky rudder pedal. Do you:
   (a) Believe that there is nothing finer in the world than messing about in gliders, and while we are about it why don't we swing the compass, reline the wheel brake and generally redo last month's C of A?
   (b) Help him fix the squeak and then get the plane in the air, having promised to help with the mauve corduroy that evening?
   (c) Threaten him with a meat-cleaver so as to persuade him gently that flying days are not for fettling?

10 How many cross-country miles have you done in an average year since your Silver C?
   (a) Under 50.
   (b) Between 50 and 500.
   (c) More than 500 miles per year.

11 As you are rigging on a 200km record day, you notice a hairline crack in the airframe. If it is



grounded, both today's flight and maybe all of next week's holiday will be ruined. (If it comes apart in the air, the holiday, the glider **and** you will be ruined.) The only person qualified to pronounce on airworthiness matters is away for the day. Do you:

(a) Ground the glider immediately (if need be, by hiding the main pins) until the inspector arrives?

(b) Fly it yourself then report it to the inspector and other pilots afterwards?

(c) Convince yourself it is trivial and say nothing, though someone else may fly the glider without knowing about it?

(Don't be pedantic and ask how serious a crack or whereabouts? Just imagine one that would make you do a sharp intake of breath. Sufficient for you not to want to send your mother up in a crate like that.)

12 How often do you get lost on cross-countries?

(a) Almost invariably.
(b) Occasionally.
(c) Hardly ever.
(d) Never go far enough to get lost.

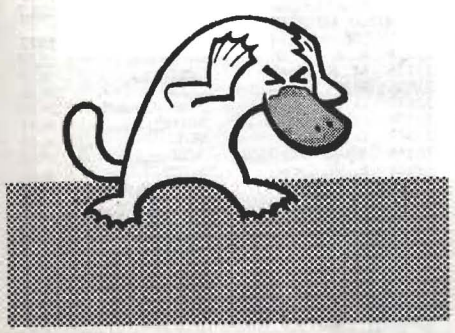
13 Have you ever been an instructor?

(a) Yes, and I still am.
(b) Yes, but not at present.
(c) Never.

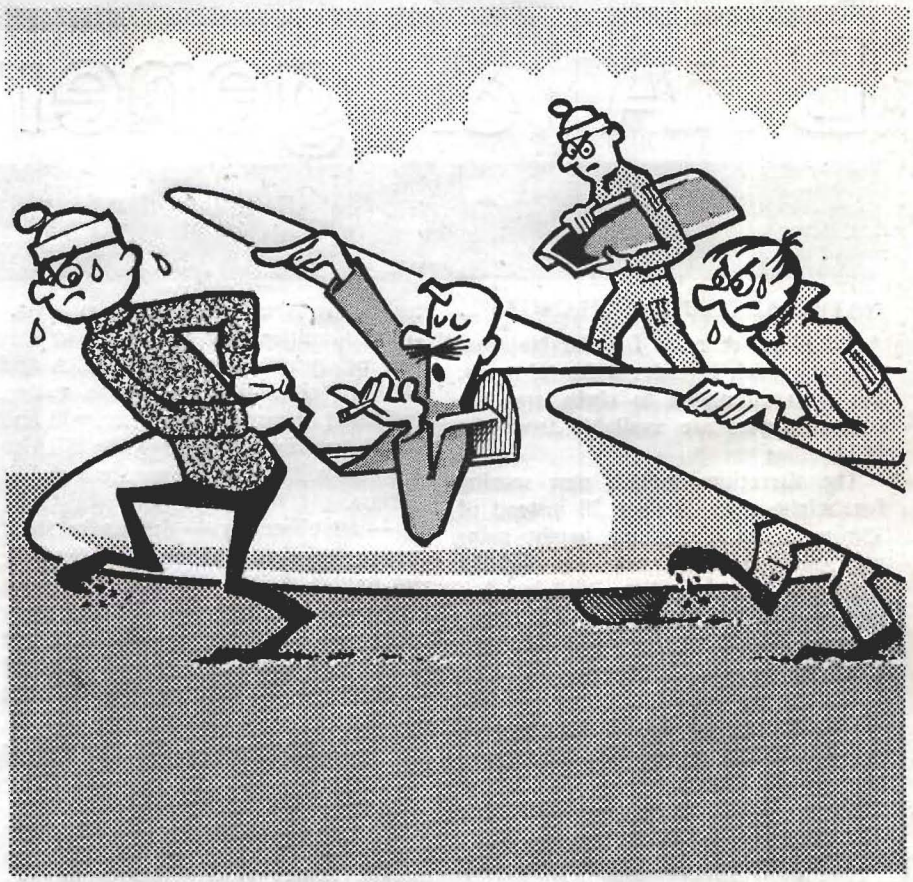
14 Be Frank! (If you don't want to be Frank, be Mike, I don't care.)

(a) I'm a damn good pilot.
(b) I'm a lousy pilot.
(c) I'm not nearly so good a pilot as I'd like to be.

Before marking your card, check it through and ask yourself, "have I been really honest? How many miles or retrieves or crashes did I really do?"



PETER FULLER



SCORING

Watch out—this is a multi-dimensional quiz. The two scales are **A**, Altruism **vs** Selfishness. **B**, Punditry **vs** Peasantry.

Scale A: First, select all the prime number questions. (If you don't know which are the prime numbers, go to the bottom of the Peasantry scale.) Now award yourself two points for every **a** circled, one point for a **b** and nothing for any other letter.

Scale B: Turning to the non-prime number questions, award yourself one for a **h**, two for a **c** and nothing for any other letter.

Now the question is to see whether you are an Altruistic Pundit, a Selfish Pundit, an Altruistic or a Selfish Peasant.

SCALE A—Score 0—5: You are an egotistical, ruthless, narcissistic self-centred bounder. You will go a long way (But no one will come and fetch you.) You are a menace to your club, your partners, your insurance broker and any aircraft within a 50 mile radius. Your only virtue is unashamed honesty, which may very well be a thinly disguised form of arrogance. Watch it, mate.

Score 6—10: Well, I suppose we can say you are human, anyway. Only moderately venal, greedy and anti-social. Par for the course, in fact. All the same you are imposing a little on your more easy going friends.

Score 11—14: You my friend are being used. Everyone else treats you like a doormat; you probably have "welcome" stencilled on your backside. It is high time the worm did some turning. You are much too nice for those other cads.

SCALE B—Score 0—5: Peasant.

Score 6—9: Salt of the earth like me.

Score 10—14: Pundit.

If you are a selfish peasant, your main consolation is that you are in good company; however, a combination of bad manners and bad flying is potentially lethal. If you an Altruistic Pundit, and if your friends score you likewise, you're a rare jewel in the crown of your club. If you are a Selfish Pundit in the extreme rank of both scales—well, only cowardice and the laws of libel prevent us from naming names. But we've got your number and hope your ears are burning. If you are an Altruistic Peasant, then you may discover that you have more punditry in you than your fellow members have given you the chance to develop. Workers of the world, unite!

Note: This scoring is entirely arbitrary Platypus scoring. No responsibility is taken by the BGA or anyone else for fisticuffs, lawsuits or prangery resulting.

BGA & general news

NATIONAL LADDER CHANGES ..

A NEW set of rules for the National Ladder, which includes a few changes, has been circulated to clubs and additional copies are available from the BGA office

The alterations include new scoring for height gains (divisor 20 instead of 15); no more than three height gains may score and distance scores have been slightly changed (multiplying factors) with respect to the "peculiar" task, eg only closed circuit "peculiar" tasks (declared) may use a factor of 1½.

For the uninitiated, a "peculiar" task is any course other than a straight goal, out and return, or triangle, with up to four turning points.

Up to December 4, there was only one entry for the current year—W. S. Y. Stephen of Aberdeen University with 340pts. The next date for entries will be Tuesday, February 5.

JUST NOT GOOD ENOUGH

THE Flying Committee is seriously disturbed at the poor standard of a number of claim forms and certificates that arrive at the BGA office for approval. This involves a lot of extra work by the BGA staff and the Flying Committee in untangling anomalies and writing extra letters for more evidence. Most of the problem is caused by simple carelessness, or just unawareness of the problem. But it is a short step from carelessness to where some unscrupulous indidual may take advantage of an observer to put forward a spurious or distorted claim.

In the last year, the Flying Committee have withdrawn the Observer's Certificate in several instances of neglect. Some of these cases have involved claims arriving at the BGA fully signed up but with no details of the pilot, aircraft, place or type of launch.

Others have involved height claims where, on checking, there was little or no evidence to support the Observer's signed estimate of the gain of height. Some claims are submitted which have unusual features which are not mentioned in any covering letter by the Observer, and these features appear during the laborious checking process.

The Committee wish to state that it is their policy on behalf of the BGA and CIVV to take a firm line on this matter. Inefficient or careless Observers will find that the privilege to act for the BGA in this way will be withdrawn for a period of time.

So — all observers — don't take short cuts — take your time over checking and signing claims — and if you notice any unusual feature, no matter how small, tell the BGA, even if you just scribble it down on a rough piece of paper. It may not matter, but we want to know.

IAN STRACHAN,
Chairman Flying Committee

CHRISTMAS COMPETITION

THE response to the Arm-Chair Pilot's Christmas Competition excelled in quality rather than quantity. If one started at the Scottish Gliding Union (everyone did — funny how southwards is "downhill"), the shortest route led ultimately to the Cambridge University Gliding Club's site, via Newcastle, Yorkshire, Derby & Lancs, Midland, Gloucester, Oxford, Bristol, Portsmouth, Southdown, Surrey & Army, and London. Gordon Herringshaw, of Birmingham, was the only competitor to offer this solution, and is thus the winner. Several entrants left Oxford out of the southward part and inserted it between Surrey & Army and London on the northward part of the route, thus adding three millimetres to the total trip!

Mathematical readers will recognize the task as the "Travelling Salesman" problem; there is no known method of solving this in the general case, but if the above solution is not correct I'll eat my Arm-Chair.

The second part is the "Shortest Electrical Network" problem, and it is known that it can be solved by listing all the pairwise distances in order of ascending magnitude and then allocating paths to them until the network is complete, any path which completes a loop being omitted.

A. P. Porter's was the only correct solution to this problem; D. Holland preferred to link Surrey to Oxford rather than to London, thus using an unecessary millimetre of airspace! As the above explanation defines the correct solution, we won't draw it, and as Gordon Herringshaw is outright winner of the competition, we won't need to use the play-off question, which would have been "what network would have been agreed if gliderway junctions not at gliding sites were allowed?".

The Arm-Chair Pilot.

PHILATELIC COVERS

TO MARK the 14th World Gliding Championships being held at Waikerie special envelopes have been produced by the BGA in collaboration with the Royal Air Force Museum at Hendon. Illustrated in colour with a Kestrel-19, the commemorative covers will all have been flown in Australia by the British team and each one will be individually signed by a team pilot. The Australian eight cents stamp showing a DH Fox Moth of 1934-7 vintage will be cancelled with a Waikerie postmark.

We also hope to have a limited number of the envelopes flown by a 1974 World Champion after the competition has ended. These will undoubtedly become real collectors' items.

Both the ordinary and the "World Champion" covers will be available towards the end of March and details of how to order will be in the next issue of S&G.

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	Name	Club	1973
33	D. G. Lee	Four Counties	24.10
34	C. Garton	Surrey/Hants	6.11

DIAMOND DISTANCE

No.	Name	Club	1971
1/58	S. J. Redman	London	20.7

DIAMOND HEIGHT

No.	Name	Club	1973
3/174	R. I. Lloyd	Chilterns	9.10
3/175	M. K. Norris	Chilterns	9.10
3/176	R. W. A. Miller	CGS	24.10
3/177	D. G. Lee	Four Counties	24.10
3/178	C. Garton	Surrey/Hants	6.11
3/179	D. Irving	SGU	6.11
3/180	Rhoda Partridge	Midland	7.11
3/181	P. W. Lever	SGU	6.11
3/182	P. J. Evans	S.W. District	24.10

GOLD C HEIGHT

J. R. Osborne	Crusaders	7.10
R. Gordon	Surrey/Hants	9.10
S. N. Longland	Cambridge Univ	22.9
M. J. Cowburn	Surrey/Hants	9.10
B. Docker	Surrey/Hants	9.10
S. G. Olender	Hambletons	1.9
E. E. Hatch	SGU	9.10
B. H. Bryce-Smith	Cambridge Univ	22.10
C. Brown	Derby/Lancs	21.10

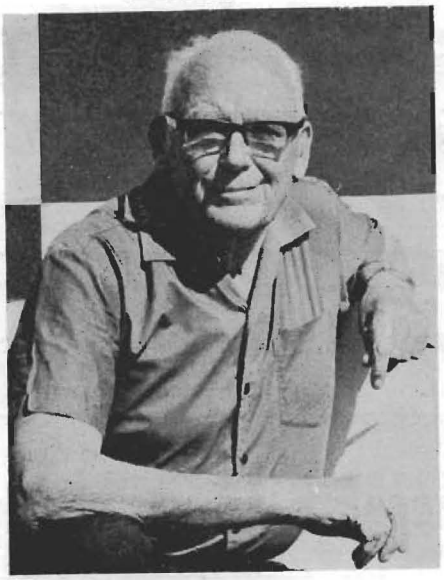
M. D. Collins	Surrey/Hants	22.10
A. M. Southwood	Essex	21.10
C. C. Rollings	Airways	21.10
Angela Smith	London (1972)	28.12
P. Smith	Chilterns	8.10
E. C. Wright	Chilterns	9.10
A. C. Stone	Chilterns	9.10
R. L. Lloyd	Chilterns	9.10
M. K. Norris	Chilterns	9.10
R. B. M. Henderson	Deeside	24.10
A. E. Burgess	Bicester	27.10
J. H. Welsh	S.W. District	9.10
J. Mitchell	S.W. District	9.10
D. G. Lee	Four Counties	24.10
T. Gadzinski	SGU	11.11
D. P. Sillett	Anglia	24.10
C. J. Ratcliffe	Staffordshire	5.11
D. West	Imperial College	9.10
H. A. Torode	Imperial College	9.10
Liz Kieley	Four Counties	8.10
P. G. Abbey	Bicester	24.10
B. C. Moore	Bicester	24.10
G. K. Fryer	Surrey/Hants	30.9
C. Beer	Kent	21.10
D. Webber	Bicester	8.10
I. D. Parker	Imperial College	9.10
J. M. M. Gentry	Imperial College	9.10
P. W. Lever	SGU	6.11
P. J. Evans	South West District	24.10
J. E. Masters	Essex/Suffolk	9.10
P. Brimelow	Hambleton	4.3
J. D. Pullen	Hambleton	3.3
J. Scarsbrook	Deeside	7.11
J. L. G. McLane	Yorkshire	30.8
J. E. B. Hart	Yorkshire	1.9
A. Townsend	Northumbria	2.9

SILVER C

No.	Name	Club	1973
3528	P. Moore	Fayence	29.7
3529	R. V. Mitchell	Yorkshire	30.8
3530	J. T. Potter	Clevelands	2.9
3531	N. T. Whiteman	Surrey & Hants	22.9
3532	P. S. Whitehead	Cambridge Univ	29.9
3533	B. C. Dixon	Inkpen	30.9
3534	K. Mitchell	Wrekin	30.9
3535	G. N. Figg	P'boro/Spalding	22.9
3536	D. J. Edwards	Two Rivers	20.5
3537	P. Fenelon	Eagle	30.9
3538	A. Coates	Cambridge Univ	22.9
3539	J. W. Delanoy	P'boro/Spalding	4.8
3540	Z. Marczynski	Polish	26.8
3541	A. J. Keen	Four Counties	8.10
3542	J. D. Burn	Fulmar	8.10
3543	J. Bugden	Four Counties	8.10
3544	E. M. Handley	Fulmar	9.10
3545	M. H. Thomas	Cambridge Univ	11.10
3546	P. J. Bealey	London	29.9
3547	Janet Janson	Cornish	21.9
3548	J. Peacock	W. Germany	3.6
3549	F. G. Fermor	Aquila	24.10
3550	J. E. Marsters	Essex/Suffolk	9.10
3551	J. R. Osborne	Crusaders	14.10
3552	H. P. O'Kerwin	Crusaders	4.11
3553	C. J. Ratcliffe	Staffordshire	5.11
3554	D. S. Watt	Airways	22.9
3555	J. W. Slater	London	9.11
3556	J. H. Taylor	Bristol/Glos	11.11

OBITUARY

Malcolm Laurie, CBE



MALCOLM LAURIE, President of the Oxford Gliding Club, life member of Surrey and Hants, tug pilot, instructor and private owner, died on November 30 aged 72. Malcolm never spared time to become a personality in gliding — he was too modest, and too busy either flying or helping his club, usually with great generosity at times when it was most needed. When flying with Surrey he bought a Tiger Moth and gave it to the club when they needed a tug. In 1959 he became Professor of Forestry and joined the Oxford Club. Since then his help to this club has been of the utmost generosity, freely and enthusiastically given. He provided a tug so that the club could have aerotowing and when later towing was prohibited by the Ministry of Defence, he organised a strip. Last year he led the building of a tug hangar, doing much of the work himself aided, of course, by his wife Kitty.

Few people knew that Malcolm got his A&B at Dunstable on a Dagling in 1932. After a long period in India on forestry work, he made his first cross-country from Redhill and his Silver distance flight from the Mynd in 1949. Gold distance and Diamond goal flights followed in 1961. He has been an instructor since 1952.

That he loved flying is obvious from his meticulously kept logbooks, complete with barograph traces and the names of everyone of the hundreds of pupils that he flew with. As a tug pilot, he would take infinite trouble to find the best lift for the pilot on the back. His PPL dates from 1936, and he also had a night rating.

Malcolm Laurie was, in fact, a great leader because he could see immediately what needed doing in the club, and set the pace to get it done. His enthusiasm was infectious, his kindness ever present, and he was known to shout at someone only once — from 1000ft up in the two-seater at the man who had parked his car on the landing place.

Oxford Gliding Club

THE BRITISH GLIDING ASSOCIATION

AGM

DINNER DANCE AND TROPHY PRESENTATION

Saturday March 9, 1974

Cairn Hotel, Ripon Road, Harrogate

BUFFET LUNCH & RECEPTION 12-1.30pm £1.20

AGM 2.00pm *AFTERNOON TEA 4,30pm*

DINNER DANCE 7.30 for 8.00 pm £3.75 (VAT inc.)

Overnight accommodation available at reduced rates from the Hotel. Please apply direct.

For tickets apply, The Secretary

Yorkshire Gliding Club, Sutton Bank, Thirsk, Yorks.

THE BOOMERANG FUND

THE Boomerang Fund has now reached £3657.16 with £851.10 being donated between November 6 and December 18. This is a most encouraging increase and our thanks to you all.

Blackpool & Fylde Gliding Club
Cooke, C. F. & Garnett, P. S.
Deeside Gliding Club
Eagle Gliding Club
French, J. D.
Goodhart, H. C. N.
Harmsworth, G.
Harrison, K. A.
London Gliding Club
Reed International Ltd.
Roberts, J.
Stevenson, J. N.
Veitch, A. G.
Willis Faber & Dumas

WHO SAID THAT?

FROM "Sayings of the Year" in the last issue of *The Observer* for 1973: - "Here we are again with both feet firmly planted in the air". A glider pilot just launched for his umpteenth attempt on a duration record? No. Mr Hugh Scanlon on his Union's attitude to the Common Market? Yes.

ANNUAL STATISTICS OCTOBER 1, 1972 — SEPTEMBER 30, 1973

NAME OF CLUB	AIRCRAFT					LAUNCHES		HOURS		KM CROSS-COUNTRY		FLYING DAYS		COURSES		MEMBERSHIP		
	CLUB MG	CLUB 2S	CLUB 1S	PO	TUG	GLIDING	MG	GLIDING	MG	GLIDING	MG	TOTAL	SOARING	NO:	PUPILS	MALE	FEMALE	NON-FLYING
Albatross	1	1	1		1	647	137	46	50			32	6			30	1	12
Angus		2	2	1		5311	253	594	66	60		106	30			53	5	5
Aquila		2	2	1		2406		272		277		73	8	1	8	36	8	3
Avro		2	2			4436		514		175		123	32			148	14	5
Bath & Wilts		2	3	11	2	3129		1196		3156		83	51			97	7	7
Blackpool & Fylde		2	3	3		1894		491		100		70	54			105	11	
Borders (Milfield)		1	2	1		1627	8	189	9	50		73	9	1	9	53	5	1
Bristol & Gloucestershire		2	4	17	2	6686		3155		22591		256	161	22	177	194	28	62
Buckminster		2	2	4		4386		1224		550		118	63			58	5	4
Burton & Derbyshire		2		5	1	3542		702		65		129	59			104	5	21
Cairngorm		1	1	1		1807		305		550		114	56	13	69	31	1	10
Cambridge University		2	4	17	2	8061		2795		16976		256	156	8	40	219	14	30
Cornish		2	2	6	1	4905	8	985	5	555		195	56	23	160	62	8	41
Cotswold		3	2	8		4184		816		1305		111	50			81	10	17
Coventry	1	3	2	29	4	6404		2951		14050		213	77	33	157	292	24	25
Cranfield Institute of Technology		1	2	7	2	1352	8	832	6	5130						100	4	
Deeside		1	1	2	1	2319		1519		800		207	95			39	6	
Derbyshire & Lancashire		4	4	20		7172		1622						13	187	180	7	110
Devon & Somerset		3	2	15	1	7842	31	1502	13	2701		196	106	9	74	174	12	28
Devonshire Soaring Club		2	1		2	1098		271				26	20	6	36	35	2	
Doncaster & District	1	1	4	11	1	4890	1720	1307	540	1540	480	34	30	7	75	135	7	48
Dorset		3	2	10	1	4734		1218		2280		118	50	2	14	162	10	178
Dumfries & District		2		2		150		75								26	2	7
Enstone Eagles		1		14	1	2250		717		2060		95	60			64	4	
Essex		2	2	15	1	6042	30	1572	10	6817		119	71			193	8	10
Essex & Suffolk		2	1	5	2	2030		906		1151		92	31	3	20	54	4	
Glamorgan	(NO FLYING DURING THIS PERIOD)															17	3	
Glasgow & West of Scotland		1	1			(included in SCOTTISH GLIDING UNION figures)										19		
Hambletons			2	2	2	5469		902		940		90	45			118	12	
Herefordshire (6 month period only)	1	1		2	3	1228	520	550	300	2000	1200	130	65	24	92	56	4	
Highland		2	1	1		1508	156	270	39	295		85	39			24	6	1
Inkpen	1	2	2	14	2	4988		2500		18000		209	152	27	103	113	7	
Islay		1				611		58				41	7			16	2	
Kent		4	2	11	1	11047		1882		3500		274	112	32	296	180	20	45
Kirknewton		1				101		66		44		27	24			11		2
Lakes		2	1	5	1	3431	33	571	21	730		39	9	8	64	57	8	8
Lasham Gliding Society	2	4		73	4	14262		1750	1400	12645		315	157	117	189	206	22	229
Imperial College			3	1		383		423		2850		119	57			69	4	9
Polish AFA			3	2		632		590		8560						35		22
Surrey & Hampshire			11			4900		2488		10445		321				290	24	40
Scout Association	1	1				1813		266										
Lincolnshire		3	1	4	1	2917		380		300		75	21			35	6	4
London		4	5	52	4	13848		4941				260	160	29	182	379	19	55
Midland		3	3	15		11412		3120		2850				19	319	143	15	39
Newcastle & Teesside		1	1	5	1	1741		332		20		90	70	6	40	54	1	6
Norfolk	1	2	1	4	1	1954	1328	800	457	109		20	8	4	20	99	5	20
Northumbria		3	2	12	2	7807		1023		250		245	90	16	50	125	8	
Norwich Soaring			1	2	1	273		377		2200		180	54			13		
Ouse		2	2	8	1	5924		844		1608		148	23			109	10	16
Oxford		2	2	8		4363		1069		1292		117				79	8	18
Peterborough & Spalding		2	1	8	2	2435		1025		1050		122	70	4	24	40	4	6
Rotherham & District		1	1	4		3419		297		100		112	30			58	8	4

Scotitsh Gliding Union	1	4	5	20	2	9165	613	5143	299			309	176	21	156	265	15	53
Southdown		2	2	5		4685		730		470		114	43			123	18	39
South Wales		2		8	1	3818		810		1400		120	68	2	12	84	4	
Staffordshire		2	2	5		1160		60				55	12			54	6	
Swindon		2	3	8	1	5258		910		9700						75	6	6
Tiger Club Soaring Group				1	4	250		104		250						10	1	
Trent Valley (1972 figures)		2	1	4	1	4253		540		1000		106				63	4	3
Ulster & Shorts		1	3	3	1	699	50	291	23	700		60	25			50	5	
Universities of Aston & Birmingham		2	1			400		38		88		23	15			23	4	
Universities of Glasgow & Strathclyde		1				444		25				25	7			15	1	
Upward Bound Trust		3	1			1761		140				49	18	(continuous)		25		
Vale of Neath		2		2		1314	12	112	1			6	1	1	12	25	2	28
Welland		1		1		971		102								30		
West Wales	1	2	1	1		1683	1050	232	290			52	15	12	48	30	2	50
Wolds		2	1	2		5586		529		118		171	56			120	30	
Worcestershire		2	1	10	1	4321		1711				98	162	21	137	88	8	3
Wycombe Gliding School:	1	3	9	22	3	10923	1277	7888	711	28700	2700	310	200	24	112			
Airways																190	20	
Thames Valley																204	16	
Yorkshire	1	2	1	18	2	6871	1700	4245	900	7320		345	300	22	220	237	43	60
CISAVIA:																		
Defford Aero Club		1	1		1	1669		128				52	13			69	5	2
RAE Farnborough		2	2	1		3781		626		473		125	63			83	4	19
Civilian Total	13	131	131	550	68	274792	8934	78664	5140	192946	4380	7878	3618	530	3102	6932	601	1411
SERVICE GLIDING CLUBS																		
Army Gliding Association:																		
Kestrel		2	4			7230		1079		5800		99	55			44	5	36
South West District		4	4	1	1	3800				3500		100	31			73	3	
Royal Air Force GSA:																		
Anglia		2	2	1		4648		805		495		124	59			66	8	
Bannerdown		2	2	3		4600		854		2938		82	34			86	9	
Bicester		6	13		4	17587	2151	6847		46721		269	156	12	200	800	20	
Chilterns		2	4			4316		1025		2987		140	100			57	8	
Clevelands		2	6	4	4	8325		2594		6667		187	40	7	65	160	20	
Cranwell – RAF College		1	1	3		4079		705		7000						70		10
East Midlands		2	2	1		5135		773		1135		10	4	2	16	46	2	
Fenland	1	2	2	1		6796		1076		2105		130	49					
Four Counties		2	4	3		6584		2563		29022		134	83	2	25	87	4	6
Fulmar		1	2		1	2431		389		854						46	8	
Humber		2	2	2		4199		651		2192		84	25			48	6	16
Mawgan Vale		2	2			2230		269		16		150	30			40	2	14
Mendip		2	1	1		2049		255				104				57	3	
Wrekin		2	3	2	1	5752		1168		3620		175	50			80	10	3
Royal Naval GSA:																		
Culdrose		2	2	1	1	4474		712		1100		105	47	2	32	63	12	
Heron		1	4	2	3	3144		871		1883		95	51			36	4	
Portsmouth Naval	1	3	3	1	3	2497	450	738	190	579	3560	142	22			166	12	3
Thunderers		1	2			386		48				23	7			20		
SERVICE TOTAL	2	43	65	26	18	100262	2601	23422	190	103614	3560	2153	843	25	338	2045	136	88
CIVILIAN TOTALS C.F.	13	131	131	550	68	274792	8934	78664	5140	192946	4380	7878	3618	530	3102	6932	601	1411
SERVICE & CIVILIAN TOTAL	15	174	196	576	86	375054	11535	102086	5330	301560	7940	10031	4461	555	3440	8977	737	1499
OVERSEAS:																		
Eagle (Army Germany)		2	6			4585		975		6701		10	3	1	16	110	13	9
Phoenix (RAF Germany)		3	3			5371		872		1419		114	69			59	10	
Two Rivers (RAF Germany)		3	7	1		7950		1961		10168						69	6	10
Crusaders (RAF Cyprus)		4	3		1	3734		670		780		107	74	2	12	70	10	20
Overseas Total		12	19	1	1	21640		4478		19068		231	146	3	28	308	39	39
ATC: 1 Centre – 28 Schools	1	138	13			172045			307									

overseas news



Photos: McGeorge

Tim Biggs on a final Glide.

Below. *The Competitors.*

TIM BIGGS WINS AGAIN

TIM BIGGS of South Africa and his Nimbus 2 were a winning combination for the second year running at the Rhodesian Nationals held in October at Warren Springs near Salisbury. He was way ahead through the Championships, finishing at the top of the Open Class with 11888pts.

There was a succession of excellent flights with the Sports Class obviously becoming a growing feature of the Nationals.

Sadly, October 12 saw the tragic death of Carl Hall making a local flight. He had recently moved to Salisbury and his loss is a blow to Rhodesian gliding.

Final results, Open: Tim Biggs (Nimbus 2), 11888; 2, Ted Pearson (Cirrus), 9647; 3, Barry Turner (Libelle), 9527; 4, Dick Bradley (SHI), 8947.

Standard Class: Ted Pearson (Cirrus), 11302; 2, Dick Bradley (SH1), 10390; 3, Geoff Ford (Cirrus), 9873; 4, Ludi Pio (ASW-15), 8701.

Sports Class: John McGeorge (K-6), 5897; 2, Harvey Quaile (Dart), 5794; 3, Mike McGeorge (K-6), 5342; 4, John Attwell (Olympia 463), 4797.

CLUB CLASS INTERNATIONAL

THE International Club Class Competition, which was to have been held at Oerlinghausen in June, has had to be postponed owing to a proposed NATO exercise covering the whole of West Germany, and will now be held at Oerlinghausen from July 28 to August 10, 1974. **(Der Adler)**

Please send news and exchange copies of journals to the Overseas Editor: A. E. Slater, 7 Highworth Avenue, Cambridge, CB4 2BQ, England.

SOCIALIST INTERNATIONAL

IN the third of the contests between East European countries, which have been held at intervals of a few years, the first three places in the Open Class were all taken by Czechoslovakians, each flying a Kestrel-19; Smolka was the winner with 82pts (evidently reckoned on a different system from FAI). Other types flown in this Class were: 3 Cobra-17, 3 Cobra-15, 2 A-15. In the Standard Class two Poles headed the list, Zientek with 82pts and Pozniak with 81; the Cobra-15 type took the first seven places except for an ASW-15 in fifth place, and other types were: another ASW-15, four Foka-5s and two Orlik-35s.

A special Class for women had eight entrants, all but three from Czechoslovakia, including the winner, Hudova, with 51pts gained in a Cirrus-17. An East German, Morgner, came third, and a Pole and a Russian tied for last place with 17pts. Types were three Orliks and one each of Cirrus-17, Foka-5, Diamant-18, Cobra-15 and Phoebus-C (by the Russian).

Nations represented were Czechoslovakia, Poland, East Germany, Hungary, Rumania and the Soviet Union.

(Flieger Revue)



ITALIAN CHAMPIONSHIPS 1973

REPORTS in **Volo a Vela** of the 1973 National Championships at Rieti show that, among 56 participants, six were from abroad: two from UK (Justin Wills in Standard Class and David Carrow in Open) and, all in Open, two from Austria and one each from West Germany and Switzerland. The tasks in both Classes were: five out-and-returns (one of 304km), five triangles (one of 341km) and one "prescribed area".

In the Standard Class N. Perotti (ASW-15B) won with 10061pts, followed by L. Brigliadori (Libelle) 9972, A. Pronzati (Libelle 203) 9302, and J. Wills (Libelle) who won on three days, days, 9220 total points.

Open Class winner W. Neubert (W. Germany, Kestrel 604), 9896; Adele Orsi (Kestrel 604), 9733: A. Schubert (Austria, Kestrel 17), 9437; O. Fahrafeller (Austria, Kestrel-17), 8811. D. Carrow (Kestrel-17) came 18th.

GLIDING FORECASTS IN NW GERMANY

TELEPHONE enquiries for special gliding forecasts, laid on at Düsseldorf for the Niederrhein-Westfalen province of West Germany, numbered 14003 during the six-month period April-September 1973. The number per month was greatest in May at 3078 and fewest in September (1534), and the greatest number of enquiries on a single was 180 on a day in May. **(Luftsport)**

ST. AUBAN LIVES IT UP

SAINT AUBAN sur Durance, the pioneer French wave site, is still going strong. Flights during the three months July-September 1973 included 15 Gold C heights, 10 Diamond heights, and 43 other flights above 3000m. Cross-countries totalled 24431km. **(Aviasport)**

MIRAGE RAMS CIRRUS

AT Borkenberge airfield, near Halten in Westphalia, a sailplane pilot, flying a Cirrus, was making his landing approach at the end of a task during a competition, when at 300m he was rammed from behind by a Belgian Mirage jet fighter. The fighter pilot ejected and landed safely, but the sailplane pilot was killed. The incident, reported by **Aerokurier**, took place in June last.

RECORD 100KM TRIANGLE

THE FAI has recognised as a World Record the speed of 159.24km/h put up by Klaus Holighaus, of Kircheim/Teck in West Germany, flown at Samedan in Switzerland on August 14, 1973. **(Aerokurier)**

HEINI DITTMAR STRASSE

THE first World Gliding Champion, Heini Dittmar, who won the first international gliding contest, held on the Wasserkuppe in 1937, has had a street named after him.

It is close to the Essen-Mülheim airport, from which he took off on April 28 1960 in a light aeroplane of his own design, the Möwe, on a flight which ended fatally. The Mülheim Aero Club had been agitating for several years for this to be done, and a photograph in **Luftsport** shows the previous name of the street, crossed through by a black line, to have been Kemperhofweg. Heini, with his elder brother Edgar, brought out the handsome gull-winged Condor in 1932, and an improved version, the Condor II, came to England in 1938. In 1934 Heini Dittmar put up a world gain-of-height record of 12030ft in Brazil in his Condor, beating Robert Kronfeld's record of 8494ft set up in 1929.

DEMISE OF A FAMOUS NIMBUS

THE Nimbus 1 in which Klaus Holighaus set up a world speed record in Texas, just after the 1970 World Championships, was bought by the French Air Force about two years ago, but is now no more. Recently a pilot, approaching to land, tried to fly a complete circle with 90° flap. The Nimbus "fell like a stone to the ground and became a heap of fragments". **(Der Adler)**



Type 780 Parachute Assembly. This assembly is SLIM. By using our new low bulk, low porosity 17' (5.2 m) para-conic canopy in this assembly we have available a parachute pack measuring only 19" high (482 mm), 12" wide at top (304 mm), 15½" wide at base (381 mm), 1½" deep at top (38 mm), 3¼" deep at base (82 mm), weight 17½ lbs (8 kgs)

Type 719 Parachute Assembly. Our standard assembly considered to meet the majority of needs in this field. Incorporating the well proven 24 ft. (7.32 metre) canopy. Weighs approximately 18½ lb (8.39 kgs.). Size 23" × 13" × 5" (584 mm × 330 mm × 127 mm).

ARE YOU SITTING COMFORTABLY

Our main aim is comfort - with 8 hour flights now commonplace, the harness of any parachute must be comfortable to the wearer. Our range of four specially designed parachutes for light aircraft and sailplanes meets all known requirements. Two versions not shown here are the 737 shoulder pack and 758 which is basically similar to the 719 but 3" shorter in length.
We are also manufacturers of the well known Type Z and Light Aircraft Harness ranges for 25g and 12g stresses.

RFD-GQ

RFD COMPANY LTD — GQ

RFD-GQ Limited, Godalming, Surrey, England.
Tel: Godalming 4122 Telex: 85233

your letters

TURN AND SLIP INDICATOR

Dear Editor,

It is with great pleasure that I have just read a new book, "Free as a Bird", written by one of our foremost sailplane pilots Philip Wills. I congratulate the author on having done a splendid job of work, but feel it necessary to comment on an error of great importance to all pilots, sailplane and power.

On page 17, paragraph two, line two also page 196, paragraph seven, line two, reference is made to an instrument on the blind flying panel as a "turn-and-bank indicator". The correct name of the instrument is TURN AND SLIP INDICATOR and the word "bank" should never be used in association with it. The original name was "turning indicator", but for some reason unknown the term "turn and bank" became common usage amongst pilots of many degrees of experience.

Use of the word "bank" often led to misconception of the use of the instrument, and how to fly on it. The bottom needle indicates "rate of turn", (not angle of bank), and the stick is the control to use in relation to the reading required, when making a turn. The top needle indicates "slip in" or "slip out", and the rudder is the control to use for it. "Slip in" occurs when there is too little rudder in relation to aileron, and "slip out" occurs when there is too much rudder in relation to aileron. When the top needle is central on the scale during a turn, then an accurate turn is being made.

Sometime about the year 1947 an Air Ministry order was promulgated which changed the official name of the instrument from "turning indicator" to "turn and slip indicator" and it is highly desirable that the correct official name be used at all times, also that pilots of aircraft become fully skilled in how to use this most valuable aid to making accurate turns, particularly under conditions of poor visibility.

London. HERBERT JONES

ANIMAL FLIGHT

Dear Editor,

The price of the book "Animal Flight" by C. J. Pennycuick, reviewed in our June/July issue on p213, was given as £1.20. This refers to the hardback edition, but there is also a paperback edition, likewise published by Edward Arnold, issued at 60p. In this form it is No 33 of the Institute of Biology's "Studies in Biology".

Mr Christopher Chapman, of Aston University, writes to point out that the figure of 6.3%, quoted by Dr Pennycuick as the oxygen intake of a flying budgerigar, is actually the percentage of the total air breathed in; if expressed as a percentage of the oxygen breathed in, the figure would be 30%, which agrees roughly with the other figures I quoted in the review. Mr Chapman doubts whether Dr Pennycuick's formula for flapping birds, according to which there is a limit to the size of a bird capable of flapping flight, can be applied also to human flapping flight, which according to the formula should be impossible.

He writes that the birds "are limited to a thin wing design, the tensile strength of bone, and direct muscle power. As these restraints do not apply, the numerical units could well be different for man-powered flight." He refers to a recent article in the "Scientific American" comparing the energy cost of transport by both machines and animals, according to which a man on a bicycle is about three times as efficient as anything else.

There is one more doubtful point that I forgot to add in the review: on p59 Dr Pennycuick states that the albatross "soars in slope lift along the windward face of a wave." He is not the only scientist to have said so; but, in fact, a fully-grown wave travels almost as fast as the wind, so the upcurrent up the slope is neglible. The front slope of the wave, on the other hand, lifts up the comparatively stagnant air in the wave trough, and this is where sea birds have often been observed to soar. The air in the trough does not move along with the trough as a body, because its lower layers are slowed down by friction against the smaller wavelets and ripples which advance much more slowly than the main wave; the strongest upcurrent is therefore close to the surface of the advancing wave front.

Cambridge. A. E. SLATER

CONSERVATION AND GLIDING

Dear Editor,

With talk of fuel shortages in the near future and a practical certainty of restrictions by 1980, the outlook will undoubtedly be grim for sporting activities using any significant amount. It would mean that assuming that aviation can continue, albeit at a greatly reduced rate, gliding would be regarded far more as a stepping stone to further aviation, as in inter-war Germany, and less a purely pleasure sport. The already existent tendency towards the formalisation of arrangements and the professionalisation of instruction will presumably be enhanced. Fuel conservation would clearly also mean a virtual cessation of aerotowing, and therefore the need to make the most use of wire, and where possible bungey launching.

I was trained on a flat site almost entirely by winch launching and on more than one site many unnecessary limitations became apparent. As for hardware, an underpowered winch that judders all the way is false economy in terms of fuel per minute of flight, and in soaring conditions the important quantity is fuel per minute of still air flight over 500ft. A simple but extremely valuable soaring aid is to place three windsocks around the field, so that by their comparison a thermal may easily be located. These two considerations would make a great difference in terms of flying time gained per unit fuel used. (Also a stationary device for retrieving the cable would be far more economical than a tractor, whose use at present may cost more than the launch).

Human limitations can be even more frustrating than natural or hardware ones. Some clubs have insisted that the first to turn up must necessarily fly first, or be relegated to the bottom of the list, regardless of the fact that he may lose his only soaring chance, thus penalising early rising. Of

course, if this rule does not hold, then others may fly—they may simply want to practise landings. Secondly the limitation to one launch which exists at many places discourages wire launching. More enlightened clubs allow two wire launches on a soaring day to count as a pilot's "turn". Finally, nothing is more encouraging to people to do their share of the work than to have equipment that normally works and organisation which, when appropriate, keeps things moving.

In addition, unusual opportunities should be taken to the full. In particular, cloud flying and wave soaring should be carried out whenever possible, and for special reasons like these normal time limitations should be removed. There will be many other days for circuit bashing. Similarly, if the CFI overrides the flying order as determined by list or ballot for a club aircraft this would in general be to make best use of the conditions, perhaps very exceptionally for other reasons. If opportunities are not taken, no one else will have them; they will simply be wasted.

In these days the worst frustrations resulting from the need for fuel conservation could be removed, while we might play a greater part in serious aviation.

Salisbury, Wilts. RICHARD TINDALL

"WAVY WINGS" REJECTED

Dear Editor,

Mr Tindall's suggestion for wavy wings (S&G, Oct 1973, p383) is a typically naive proposal, and only worth comment because most readers cannot be expected to analyse and reject it for themselves. The action of airflow over sand is to move it downwind, blowing it off the front face and depositing it in the reversed flow region to the lee. Over water the airflow raises waves by making the water bob up and down, pushing down on the front face and sucking up the rear face. These movements of sand and water both take energy from the airflow and hence produce more drag than a solid surface would.

If you carved a solid surface into dune or wave shapes, these also would suffer raised pressures on the front faces, and reduced ones on the rear faces, so producing a large form drag. You might expect a compensating thrust from the skin friction of the forward flows of the boundary layer under the reversed flow bubbles, but even this has to be driven by the external flow. Thus the wake shed from the trailing edge will be at least as thick as that from the basic smooth aerofoil, and probably thicker because of the greater surface area of the dips. So the wavy wing will produce more form drag, and probably more skin friction.

You can be fairly sure that it is not worth trying because nature could have, but has not, adopted it. Fish, dolphins and whales have a fairly smooth surface finish, not as smooth and polished as a glass glider, but then this is not necessary from the low drag point of view. A matt finish without steps or blobs is all that is required; remove dead flies, mud and raindrops by all means, but polishing is a complete waste of energy. At this stage I am sure someone is muttering "birds' feathers". But when birds are flying fast their feathers are kept sleek and unruffled, so that their laminar boundary layer is not spoiled. Birds are so small, and fly so slowly through thin air that it is easy for them to retain laminar flow everywhere, and they need to do so to keep their drag as low as possible. When they arch their wings to fly slowly for landing, a laminar boundary layer would stall too easily, so they allow their feathers to ruffle to make their boundary layers turbulent to delay their stall down to a lower speed.

Lytham St. Annes, Lancs. KEITH EMSLIE

CHOPPED-OFF COMPS

Dear Editor,

Most Competition pilots only manage one week per year. The effort and expense of entering is spread over very few flying hours. I would like to appeal to Competition Directors to take the last day more seriously. Some are very good but others use the slightest flaw in the last day's weather as an excuse to cancel.

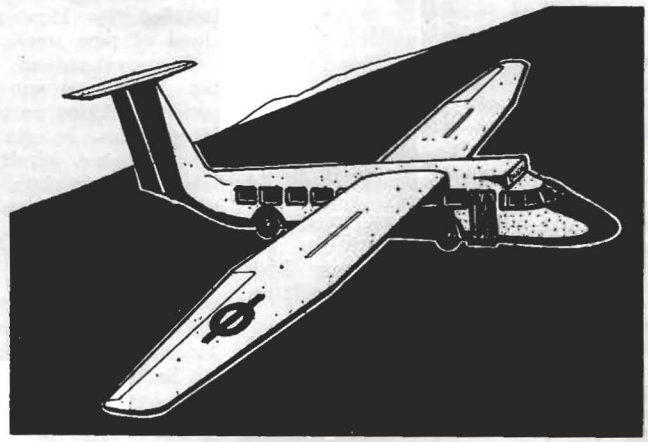
Could I suggest that formal prize-givings are very overrated in importance and could be played down or cancelled to give a good task priority. Personalities should not be invited on the last day and no obligation will then be felt to have them "perform". Don't decide that people are dying to go home early—they are not, as it is a long wait until next year. Don't worry about getting out final results: they can be sent on the week after and we have the whole winter to brood over them!

Ripon, Yorkshire. BARRIE GOLDSBROUGH

THE CORNISH SECRET

Dear Editor,

Mike Garrod may not have been dreaming when he spotted a Spanair Glider Liner over Lasham (S&G, Oct, p335). Has he unwittingly reported one of the early proving flights of the new Cornish Pilabus, a revolutionary glider designed and built in conditions of secrecy at a factory somewhere on Bodmin Moor by the little-known Cornish Pixie Glider Company? This new glider, having been prematurely announced on p389 of the same issue, was recently described in detail by the chief Pixie designer to Stephen Longland, who has produced the accompanying drawing.



Perhaps it is because the china clay slag heaps on Bodmin Moor bear a slight resemblance to a certain mountain in Switzerland that the flying surfaces of the new glider, before being fitted to the passenger-carrying fuselage, seem vaguely familiar. Is the fuselage shape the next significant improvement after Wortmann sections and glass-fibre? Time will tell. If not, it will only be what could be expected of such a pixilated design.

Cambridge. JOHN DEAKIN

[The next time I find you both loafing about the airfield, I'll rope you in for some proof-reading. Ed.]

Correction: There was a typographical error in the letter in the December issue, p459, from D. B. James—"Ballast Carried on Competition Gliders". In the last but one paragraph, the jettison characteristics mentioned should have been 95% not 25% as stated.

club news



Gloom and despondency has started to edge its way into some of the club news reports but given a hill site and suitable conditions, who needs fuel? John Jeffries, CFI of the London Club, made this point before Christmas when he had two 30ft bungey launches in a K-8 from the bottom of their 300ft Dunstable ridge and climbed to the top on both occasions. The first flight lasted 45min with time taken in dummy landings, the second gave him an hour's soaring.

Copy and photographs for the April/May issue should be sent to the Editor, S&G, 281, Queen Edith's Way, Cambridge CB1 4NH, telephone Cambridge 47725, to arrive not later than February 14.

Copy and photographs for the June/July issue should be sent to the Editor to arrive not later than April 17.

BATH & WILTS

A GOOD soaring season is how one might describe the summer of 1973 at Keevil with the largest number of Bronze and Silver legs for a long time.

On completion of his silver C, Andrew David graduated to flying his father's Cirrus, which makes him the envy of many of us. Peter Coward managed to scrape his way to five hours on Roundway, and more recently Ken May, our hard working secretary, went solo in the Swallow.

Our week at the Mynd, when 16 members took six gliders, was most enjoyable. We managed to find wave, thermals and ridge lift during the week, although unfortunately the wave didn't go very high.

Recently we had our own wave over Roundway when Joy Lynch in the Cirrus reached 4200ft. Not very high by Mynd and Nympsfield standards, but not bad for a flat site.

Our chairman, Pat Lad, now has his Rogallo Sailwing up for auction — the "for sale" notice being written on the plaster cast surrounding his left ankle.

An incredible sight, which will be remembered for many years, was Gordon Mealing taking-off in the Eon Primary for its "maiden" flight. This survivor from a bygone age has been restored and must now be the "newest" old glider in England. Now having seen that it will fly, we are all waiting with bated breath for a good ridge day to see how well it will soar.

N.M.

BRISTOL & GLOUCESTERSHIRE

ANYONE visiting Nympsfield recently would have found it almost unbelievable that this was the club that suffered a catastrophic fire last May which did some £20000 worth of damage. We have a completely revitalised two-seater fleet with Bocian, Blanik and (of course) a T-21, all housed in the repaired and repainted large hangar, together with two tugs soon to be joined by a sparkling new Super Cub which should make two-seater aerotows somewhat less traumatic on calm, windless days. Flying aside, Mike Harper, our chairman, and his mates have virtually completed a major refit of the bar with new furniture and central heating (not oil run thankfully) which was very kindly installed by Howard Johns amidst a cloud of pipe smoke and concrete dust.

The weekend of October 19-22 saw the annual stream of aspiring wave pundits trekking up to Shobdon in search of wave — in all 32 members turned up and were joined by pilots from at least six other clubs. Wave did of course appear and although perhaps not of Aboyne proportions, it took Martin Southwood of the Essex Club to 13000 ft in his SHK to get his Gold. Our very own "Big Jim" Findlay hauled the club K-8 up to Silver C height, while Terry Cook attempted to do the same but had a barograph malfunction.

At one of the now regular information meetings held on November 3, Norman Harris outlined the club's financial position and cheered us up considerably. Mike Harper described in some detail a new club structure which, it is hoped, will improve the efficiency of our flying operations. While theoretically we have been on seven day operation for sometime now, this has not always been possible as Tony Pentelow had more than enough to do with being CFI, manager and caterer. As a more practical solution, we are appointing Doug Jones as CFI from January 1 and will be appointing both a full time manager and a staff instructor whose job will be to generally organise flying and get things running smoothly. I'm sure it will make us even more efficient than we are at present, but this will only be achieved by full co-operation from all the members.

GILLIAN BRYCE-SMITH
December 11, 1973

The workshop has been fuller than usual, but one notable lack is Roy Jeffries who has left us for London. Our thanks Roy, for all the splendid work on club aircraft.

R.A.R.

CAMBRIDGE UNIVERSITY

MIKE Thomas completed his Silver C on October 11 with a 68km cross-country in a Skylark 2, making this possibly the latest distance flight in any year from our club. Earlier in the autumn, Steve Gibson and Peter Whitehead gained their Silver Cs.

Stephen Longland's 10500ft gain of height at Cambridge in September gave him his Gold C and B. H. Bryce-Smith collected his Gold height at Portmoak in October with a 10700ft climb in wave.

On a less jolly note, we gaze at our new tugs, our expensive sailplanes, all that magnificent equipment for flinging us up into the air (thank God nobody's yet managed to slap an embargo on the sun!) and, in our gloomy mind's eye, see the whole lot turn into scrap and firewood as the vital launch fuel dribbles slowly away to nothing. Next year's problems seem to be how clubs may remain solvent, and, if anyone can get a launch, how the cross-country fiends can get a retrieve should that rare outlanding occur. Whatever else, 1974 is going to be a barn door year.

S.N.L.

DERBYSHIRE & LANCASHIRE

A BAN on towing on Sundays and the threat of petrol rationing is obviously our biggest worry at the moment. It is bound to hit all clubs badly and will probably close some down. If this were for a long period, they may not be able to re-open. The movement is bound to lose a lot of members, and the hard work of expansion that has been built

up over the past few years will suffer a severe setback. We have suffered this sort of problem before and must struggle on as best we can until conditions return more to normal. We have an advantage at Camphill in being a hill-site, for we can bungey on west wind days. Let us hope we get plenty of west wind Sundays until these problems are solved.

Wave has been prominent recently and some decent heights have been achieved. Chris Brown gained his Gold height in his Dart and another Dart has joined the private syndicate ranks.

In a very strong gale at the end of November slight damage occured to one or two trailers and caravans, but Brian Morgan's caravan was hit by a freak gust and somersaulted across the members' car park, being completely demolished in the process. He wanted a new one anyway!

Tony Vermot and Val Rowell, our new social organisers, launched their first social venture in November with an enjoyable Indian night. Fancy dress, a curry meal with all the trimmings, piped music (Indian style), a suitably decorated clubroom and an Eastern dancer-cum-fire eater; real fire too. The Christmas festivities promise to be even better.

A group of members trekked to Shobdon and had an enjoyable weekend, alas without wave. Several plans are afoot for visits next year to various sites, weather and petrol permitting.

P.H.

DEVON & SOMERSET

IN defiance of winter, the club has been showing signs of what is normally considered spring fever. Small groups of members have been spending evenings busily washing, scrubbing, painting and pasting in the clubhouse — and it now looks fresh and bright under its new paint and wallpaper. Just what we need in the long, dark evenings. Thanks must go to the new clubhouse chairman, George Moore, for his efforts in organising the redecoration so well, also to his gallant wife, Belle, and all others who helped.

Despite the shorter days, we're still flying and although it's not the time of year for spectacular flights, it's fine for first solos. We're not summer-only pilots down here.

This is also the time of year for the awards which were presented to Tim Parsons (best progress by *ab-initio*); Eric Shore (best recorded height gain); Reg Welch (best distance); Ken Jenkins (winner of the task week) and Steve Frank (top of the club ladder).

J.A.H.

DONCASTER

THIS last season has closely followed the pattern of the year — strong local soaring for those who can find it, few cross-countries in club machines, but private owners making the most of conditions. Club flying accounted for 1200 hours on 160 flying days from 4800 launches, ten of these being pilots on first solos.

Our instructors have been joined by Austin Craw, Jack Sharples and John Ashmore. We would like to congratulate them as well as Norman Fisher.

A particularly big effort was made this year to bring introductory flights to schools, colleges, youth organisations and the general public by way of our week, afternoon and evening courses. This kept the K-13 and the Falke extremely busy with more than 300 people being given their first flights. To this end, the club is going to buy a third two-seater, a new Bocian, which will also be available for solo flying.

We have high hopes that the new winch syndicate will take the winch in hand and increase the quality and frequency of the launches. Finally, the prospect of long cold days on the airfield is improved by the professionally cooked hot meals now provided in the clubhouse, so any pilots visiting here in search of our wave are assured of a warm welcome.

G.D.W.

ESSEX & SUFFOLK

ONE Silver C and duration, three Gold heights and a Diamond height missed by 200ft were the results of an October expedition to Aboyne — our CFI, Elvin Hibbard, just failed on the top height claim. It's no wonder they are queueing up for the next visit to the Highlands in March.

During the winter weekends our *ab-initios* have formed a Saturday and Sunday course using the K-7. The idea is a very early start and as many flights as possible during the day, and it has been working well. In order to encourage more flights, gliding time charges have been scrubbed during the cold season.

As this article goes to press, we have had an excellent day's flying at Whatfield in sunny arctic-type weather with clear skies and a white landscape. Members are using these conditions as survival training for the club's next expedition to Aboyne. So far we have had one winter first solo, and several early solo pilots are getting familiar with the handling of the K-6 ready for the soaring season.

C.C.S.

HIGHLAND

NOVEMBER was a busy social month for the club, with our fancy-dress Hallow E'en party; and a fund-raising coffee evening, when we induced the local bingo addicts to come and play tombola and part with their hard-earned cash to line the coffers of the Highland Club. Our blandishments (or our prizes) were successful and we made our biggest profit ever.

This is the time of year for wave in these parts, and we have had some pleasant flights in varying conditions. One notable day gave John Burn of the Fulmar Club a height of 11000ft, a possible Gold awaiting ratification; that same day Jim Tait reached 9500ft off a 900ft winch launch. Another day of weak wave saw the K-4 outsoaring everything else and a good many rude words about "flying bricks" had to be indigestibly swallowed on that occasion!

These last three weekends we have had appalling weather, though splendid wave conditions have naturally persisted throughout the week, and we have done very little flying. One rough day, our president holed out in one on Buckie golf course in the Skylark and was towed away by the Auster to the cheers of the local populace. Since then, winter has closed in, and we have been reduced to armchair gliding with the help of the club library, recently started to give even the most impecunious the chance to read around the subject.

R.E.T.

KENT

DURING our absence from S&G during 1973, the club has enjoyed a successful year. We have added a new Blanik to our fleet to make a total of four two-seater training aircraft. The club has also started a fund to buy a tug of our own instead of renting a Condor, and at present we have raised nearly £2000, including a generous donation from our insurance brokers.

Glynn Richards and Richard Pitman, our professional instructors, have run a very successful course season, with quite a few people joining the club as a result of their holiday. The soaring season started well but tailed off towards the end of the summer. Among the Silver legs gained perhaps the most noteworthy was Rob Judd's distance and Peter Mead's height and distance, which he added to the duration done in a Minimoa in Germany during the 1940's. During the Autumn John Hoye, Howard Johnson, John Dickens and Colin Beer passed rating tests. It now seems easier to find a fully rated instructor than a winch driver.

C.B.

MIDLAND

SYNDICATES are forming at an unprecedented rate—not for gliders, but for sharing travel to and from the Mynd in the event of petrol rationing. Intricate telephone networks are taking shape on the clubhouse notice board which should serve most routes to the hill. The present prospect of petrol cuts makes us more than usually thankful for our bungey. A good crop of westerlies is what we want for '74.

For most of the '73 season we have been using the "flying retrieve" system developed by Pete-the-winch and Jack. We like it on a number of counts—improved launch rate, reduced wear on cable, triangle and trace, fewer "cable drift" fumbles in crosswinds and last, but not least, an improvement in fuel consumption.



See Norfolk

1973 saw Marjorie Hobby relinquish the post of course secretary she has so ably and enthusiastically filled for seven seasons. Rosemary Bull has taken over this demanding job.

At the AGM on November 25, Tony Spicer and Len Dent were elected to the committee. The meeting proper was followed by an informal discussion which resulted, as usual, in a useful airing of ideas.

W.J.T.

NORFOLK

PERHAPS, if we all went to church and prayed for an end to the ban on Sunday flying . . .

Despite the fuel crisis, we are trying to keep an optimistic outlook. We have attempted to define the objects of our club and find that while the main role is training glider pilots, we should also aim to encourage these pilots to develop their skills to a more advanced level.

With this in mind, we have given consideration to re-organising our fleet; we expect to keep the Falke and K-13, dispose of the Tutor, T-21 and Swallow, and replace them with another K-13, — or maybe, a Bocian, — plus a better performance single-seater of Skylark standard.

C.E.H.

OXFORD

THE 26th AGM was on November 24 when a good turnout of members heard that the year had been average with nothing of great note being achieved. The exception was a halving of the amount of cable used. It was the first year of operation with the new winch. But while the winch gave wonderful launches and was economical to run, some minor weaknesses were proving frequent and expensive. Trevor Moss retired as vice-chairman and was replaced by John Gibbons, back in harness after a few year's rest.

It was with great sadness that we heard of the sudden death of our president, Prof Malcolm Laurie. He had been chairman of the club for seven years and a member for 13 years, during which time his generosity, enthusiasm and good humour, as instructor, tug pilot and soaring pilot, were evident in enormous amounts. He will be very much missed.

J.R.

SHROPSHIRE

STRONG westerly and northwesterly winds have produced fantastic wave conditions here at Sleap during the past few weeks. Indeed, a power pilot colleague reports having gained 500ft and increased airspeed by 30kts with the engine off at 1500ft in an area just two miles from the airfield. Great stuff. Unfortunately, these wave conditions only seem to occur from Monday to Friday, whereas (yes, you've guessed) we can only operate at weekends.

Nevertheless, Ian Paul astride his Cirrus did manage to locate enough wave on October 28 to remain airborne for over two hours, the flight only being terminated by gathering dusk. His return to base was assisted by the runway lights laid out in preparation for the Aero Club's night-flying activities.

The Shropshire Aero Club (to which the gliding section is affiliated) held their AGM on October 22 and congratulations are due to Arnold Cope on his election, and Ian Paul on his re-election to the management committee.

D.V.

SOUTHDOWN

NOT much news this time I am afraid. We are keeping up what must be a record year for solo pilots with "Finn" Kennedy the last on December 1. Steve Chowen converted to the Swallow and Penny Wood re-converted to the same machine. The waiting list for this now looks like the old pupil list.

We hope to have a Christmas party this month for members' children (petrol rationing permitting) and our chairman is going to be Father Christmas.

In response to the appeal to save petrol, Derek Eastell shook the cobwebs from a 25 year-old rucksack and prepared to do the 50 mile journey by train and foot. The gesture was somewhat spoilt by his co-syndicate member Chris Berry offering to meet him at Redhill.

S.E.

SURREY & HANTS

NOW that the memories of 1973 have faded, concern for our fuel supplies in 1974 is uppermost in planning for the new season. Up to now we have been assured of supplies of aviation spirit and LPG for tow cars, but the forecast of price rises may mean a possible doubling of launch costs. Tow car launching can be very efficient properly done; using one tow car and a good launch point organiser, up to 15 launches per hour, each to 1200ft, is possible, so

BEAT THE PETROL SHORTAGE!!

You can still buy Launching Bungeys

All Bungey sizes and fittings available

WHITELY PRODUCTS LTD.
Ravensbury Mills, Morden Road
Mitcham, Surrey CR4 4XD.
Tel. 01-648-3807

BRIAN WEARE

Clapper Lane Honiton
Devon EX14 8QQ

PHONE: HONITON 2940

Glider - Motor Glider - C's of A and repairs

TRAILERS

everybody will have to get used to finding thermals at low levels.

One problem is the difficulty members will have getting enough petrol to drive to Lasham, a distance on average of 100 miles a week per pilot. Plans are afoot for cars to meet specific trains at Basingstoke or Alton, but petrol for retrieving could really be problematic—30000km cross-country were flown last year from Lasham.

PS We enjoyed our Christmas party and dinner.

C.L.

TRENT VALLEY

A BIG welcome to our new members who came in response to our advertising campaign. We hope they will enjoy our winter flying and emerge in the spring as budding pundits.

Many congratulations to Chris Goy, who went solo on his 16th birthday, gaining his A&B certificate. We welcome the return from instructor courses of Bob Baines, John Rice, Billy Hill and Chris Till, making our instructor team ten.

By the time these notes go to press, our CFI Ray Parkin will be making preparations for himself and family to depart for Singapore where he is taking up a new post. This marks the end of eight years of invaluable effort and encouragement on the club's behalf with more than two years as CFI. We wish them every success and a safe return in three years time.

While the "rockbreakers" have been stepping up the destruction of runways, our committee have been putting in some negotiating time. The result is out — we are going to Kirton Lindsey. This will be an ideal site with a west facing slope down the Lincoln edge. A single-decker bus has been acquired and Graham Wilson and Geoff Mellors are busy with slide rules in preparation for its conversion to a twin drum launching winch.

Our club T-21, Blanik, Swallow and privately owned aircraft are at temporary homes whilst another mammoth task is performed. Under the guidance of George Nelson, our hangar will be re-erected at Kirton and a clubhouse is planned from an existing building. In the meantime we plan to continue our flying from Kirton with assistance of a hired tug until our winch is in full commission.

P.F.S.

ULSTER & SHORTS

SOME of our members have been gripped in an energy crisis for years but as this is written the whole club, like the rest of the movement, is wondering just how and when the oil shortage will hit its activities. Somewhere in the hangar is a dusty long-disused bungey. We'd give a lot for a complementary hill. Will anybody take Scrabo, our local bump, tower and all, in part exchange for the Mynd?

Not that we've been burning up fuel in a profligate manner recently. The tug was down for a short spell with minor prop damage and the preceding period featured rather more dog days than one would expect, even towards the end of the year. But in September there were two enjoyable expeditions to Magilligan Strand, on the first of which several landings were made at, and launches from, part of the old Limavady airfield as only the SW slopes of Binevenagh, a long way from the beach, were working.

This started thoughts that Limavady might prove to be a good club site in place of resolutely non-soarable Newtownards and investigations to that end began. At the time of writing, it seems that hangarage is likely to be a greater problem than obtaining use of the land itself.

On the second beach trip Monica Galloway, our one active lady soloist, did her five hours in the blue Skylark 2. After watching the magic minute pass with relief, she was then promptly ordered to stay airborne for another half-hour while a depleted ground crew derigged and stowed other aircraft already down on the very breezy beach.

David Judd pioneered new airspace in doing his duration on Knockagh ridge, along the northern shore of Belfast Lough and an over-water tow out from Newtownards.

One Magilligan trip earned us a half-page of pictures in the *Daily Mirror*, no less, but without a detectable effect on our recruitment rate. We have, however, a whole influx of new P2s, mainly freshmen members of the affiliated Queen's University club who train with us. A satisfying proportion look as though they are staying the course, despite the seasonal gloom.

R.R.R.

WOLDS

FLYING training continues during the winter months and we have had a rare and welcome day of southerly wave which we were able to reach from our winch launches. We continue to welcome members from York University with whom we have a block membership — an arrangement which is, I'm sure, beneficial to both organisations.

Now that we have been able to evaluate the summer evening flying programme, it is clear that the operation was a great financial success. The committee is grateful to those members who turned out, sometimes two or three times a week, to crew and entertain our visitors.

R.H.D.

England's only Aviation Bookshop

The books, maps, plans, photos you want on Aviation are here—we stock nothing else!

We BUY or EXCHANGE

Send SAE for FREE 32 page catalogue

Beaumont Aviation Literature
11 Bath Street, London, E.C.1

Telephone 01-253 9512
Open 9.30 a.m. to 5.30 p.m. daily

SERVICE NEWS

BANNERDOWN (RAF Colerne)

NOVEMBER brought the return of the K-6E from Bicester, giving the club an ideal fleet — T-21, Bocian, K-8, K-6CR and K-6E.

The AGM on December 4 was well attended and many interesting items were hammered out. The club is now looking into the possiblity of aerotows.

Awards presented by the president, Grp Capt D. W. Richardson, were to M. Elson (best cross-country) and (navigator of the year); A. Hancock (best novice), J. Davies (for the person making the most contribution to the club) with E. Edwards, T. Pitts and G. Brown sharing the "destructor trophy".

Our CFI, Roy Gaunt, is being posted in February. Both Roy and his wife Eve have done so much for the club in the two years they have been with us, the gap is going to be hard to fill. We are also saying goodbye to our president who has done such excellent work.

On the aircraft side, majors are in progress on the K-6E, K-6CR and Bocian. On the MT, "Tiny" Whitney has finished rebuilding a virtually new winch engine.

P.B.C.

BICESTER (RAF GSA CENTRE)

A FEW of our pilots have been sampling the wave at Aboyne and Gold heights were obtained by Pete Abbey, Barry Moore, and Frank Burgess, the latter completing his Gold.

Bill Dickson, who has been flying with us for a number of years, has been posted to Cyprus; Nigel King and Tim Baldwin (both ex-Germany) are now with us, and Nigel has already put in a lot of tugging.

Good soaring conditions now seem to extend further into the year and late in September a well earned Silver C cross-country to Lasham was done by Bob Bacy. A number of our members have soloed recently and are in the process of building up their hours in anticipation of the good things to come in 74.

The syndicate owned Kestrel will be here by the spring and the glass-fibre fleet now includes a Libelle owned by John Cooke, Simon Field, Ian Robertson and Frank Burgess. Many RAF GSA members will remember Oly 419

No. 86; after a major overhaul it has been bought by a syndicate of three and will fly out of Bicester.

Our AGM was held on December 15 and the Daniels trophy for the hardest working member of the year went to one of our youngest members Dave Welsh. John Monteith, an ex-member from the USAF, was awarded the Maygothling cup for his UK two-seater gain of height record.

Flying hours in 73, including the tugs, came to well over 7000hrs and we were just short of the 20000 launch mark. Cross-country flying was 20216 kms.

A.E.B.

CHILTERNS (Weston-on-the-Green)

FIRSTLY, the Libelle syndicate reported in the last issue has decided not to go ahead with the original scheme and is now checking out the second-hand market.

The final tally of the Aboyne expedition was five Golds and two Diamonds. The K-6E stayed in Scotland for a further week and was used by other RAF GSA club members and gained two more Gold heights.

At our AGM on December 1, reports indicated that 1973 was a good year for hours and badges, but not quite so good for *ab-initios*. The increased prices of last year (1972) were justified by the fact that we not only kept our heads above water, but managed a small excess of income over expenditure. In view of future commitments and expenses, this small profit is already spent.

The committee was re-elected without change and the awards were presented, the "member of the year" trophy again going to MT member Malcolm Norris for his continued work.

The "pundits pot", awarded by the instructors for memorable achievements or flights, went to "Yorky" Raynor for his progress from A&B to Silver C with one Gold and one Diamond, all within 40hrs total gliding. The CFI's trophy for "unsung heroes" was given to club duty scapegoat Charlie Wiggins. The CFI also congratulated Bob Sheffield on his fourth place in the Northern Regionals, his first competition.

Motto for the New Year — "Soar More in 74".

G.M.

CRUSADERS (Cyprus)

THE past two months have seen the settling in of winter weather with the donning of flying jackets over thick sweaters. The thermals, however, have still been popping and soaring days have continued to be the rule, rather than the exception. Pablo O'Kerwin's 58km flight south westwards towards Limassol was proof of this, although it was completed during some very difficult conditions. Whilst this now completes his Silver C, he also takes on the difficult committee task of Aircraft Member.

One highlight of the last month has been the annual dinner. The "Andy Marshall" trophy was awarded to Dave Reilly for his work on contructing the new Oly 2B trailer. John Osborne was presented with the "pundits pot" for his flying achievements, whilst the trophy for the most outstanding *ab-initio* went to Brian Ward. Pablo certainly deserved the "scratching stick" for his recent 58km cross-country. The CFI then presented his own award, which went to the crew who recently retrieved our new Blanik from the factory in Czechoslovakia.

Finally, the club would like to welcome Bill Dickson, who is to be our CFI for the next three years.

J.R.O.

EAST MIDLANDS (RAF Swinderby)

ONCE again the soaring season is over and we face the winter which is easily recognised by the coldness of the persistent April showers.

Congratulations to Don Macphie who took our K-6 to Aboyne and achieved his Gold height recently. Also to John Rivers on his first solo.

At this time of the year we are normally invaded by the "witch doctors and elders of our tribe" who conduct a festival called the annual audit. If you don't hear from us in the next issue it's probably because we're in gaol!

We've just had a cheese and wine party which was enjoyed by all our members and we're planning more social events to pass the long dark evenings between now and the soaring season.

If you're ever passing in the evening and you see the lights on in the bar, why not drop in and see how expertly we can talk about flying!

A.H.

HUMBER (RAF Lindholme)

ALTHOUGH the Humber Club has not featured in S&G recently, we are still, in fact, operating. Nor are we an ATC School, as stated in a recent edition of the *Soaring Pilot*.

As well as the club fleet and privately-owned Olympia, which has been based at Lindholme for some time, we now have a syndicate-owned Weihe, the main shareholders being the Wilson family. As all the syndicate members have been taught to fly since buying the Weihe, it has caused some amusement when certain individuals have asked the CFI — "Please may I fly my aeroplane?"!

Although achievements have not been as good as last year we have gained quite a few solos and Silver legs. CFI's come and go, with Chris Gildea holding the fort inbetween times. Tom Barnes has now left the Air Force, but has stayed with us as a special member and also looks after the MT.

K.M.G.

PHOENIX (RAF Bruggen)

I WOULD like to start by saying thank you and farewell to Nigel King, Ben Benoist, Eddie Best, Geoff Browning, Frank Wilson, Dick Gray and Mick Parkin. All our big "aces" leaving us like that, en masse for the UK, left us very thin under foot for instructors. However, with Robbie House's success on his instructors course came the arrival of Pete Bryan, Ginge Fearon and Ron Stevenson to make our new CFI's (Neil Stagg) job a lot easier.

Neil has taken on a monumental task maintaining the very active club which Nigel King left behind.

The club itself is thriving well; so much so that we have just won the NATO cup, awarded for the best percentage increase in club statistics. It was awarded at the AGM of the RAF GGA for whom, with kind permission of the Station Commander, Brüggen, we acted as hosts this year.

Congratulations are due to many people. Tony North-Graves gained his Silver C and Pat Warner and Mick Napton their durations. Pat's a stayer, as he is proving in his job as social member. We can't say the same for Mick who is unfortunately soon off to the UK. Dave Rose completed his Bronze C and will also be leaving. What will we do without you Dave? Only a gun-dog would be given as much practice as you gave us at retrieving.

Also congratulations to Graham and Angie Clark, Tom Flower, Ron Cawthorne, Pete Heaton, Steve Stephenson and John Hickey who have recently gone solo.

Many plans are going ahead for 1974 with thoughts of the Elfe playing a great part. Who knows, if any of you "oldies" return you might even get your own aerotow, too.

A.M.

JOHN HULME

Tunbridge Lane, Bottisham
Cambridge CB5 9DU
Telephone: Cambridge 811323

Wood, Metal and Fibreglass Repairs

•

Spares and Materials

•

Trailers

UK REPAIR AGENT FOR DIAMANT AND PHOEBUS SAILPLANES

1973 INTER-SERVICE GLIDING AWARDS

TED SHEPHARD



The Inter-Service trophy winners—left to right: Mike Livesay, John Delafield, John Williamson, George Lee, Ralph Dixon, Ted Shephard and Leigh Hood.

THE end of the competition season and the onset of Autumn seemed as good a time as any for members of the three Service Gliding Associations to join together for the awards of the 1973 Inter-Service and Service gliding trophies. It was of especial importance as two new trophies were to be presented.

The Service gliding scene is always a very active one. Contests take place at two levels; the Inter-Service Regional Championships, formerly known as the Junior Inter-Service Championship, equates to the National Regional Championships. The designation "Junior Inter-Service" was discontinued as it did not define the level of experience or expertise of competing pilots; it also tended to be confusing to the hierarchy of the services, the staffs of which could not understand how a participating Brigadier and Air Commodore could be described as Junior! The Inter-Service Regional Championship is the largest Regional Championship held in this country and in 1973 49 gliders flew from RAF Spitalgate (S&G August, p288). In National level contests, the points gained by service pilots count towards the Inter-Service scores which are then integrated to decide the Inter-Service order and the trophy winners.

The Army Gliding Association organised this year's awards ceremony and the host was the South West District Gliding Club which flies from Upavon Airfield. A fly-in of gliders from other Service clubs had been arranged and two gliders actually made it; Mike Livesay flew in his Libelle from Yeovilton and the Army Cirrus flew in from Odiham, albeit via an intermediate landing point at Inkpen! During the afternoon club flying took place and guests took to the air. Thermals were strong and both the Director of Army Aviation — Major General Tony Richardson and AOC No 46 Group RAF Air Marshal Sir Denis Crowley-Milling, were airborne in separate K-13s at the same time.

After the excellent day's flying, which was covered by Southern Television, there was the presentation and a wine and cheese party. Lt Col John Welch, chairman of the Army Gliding Association, welcomed the guests and Major General Richardson presented the trophies as follows:— Emmott trophy (Inter-Services National Champion) and McEvoy trophy (RAF National Champion) Flt Lt D. G. Lee; Salmond memorial trophy (Inter-Services National Team Championship)—RAF Flt Lt D. G. Lee; Sqn Ldr J. Delafield and Flt Lt J. Williamson; Tinsley trophy (RAF Regional Champion), F/O R. V. Dixon, RAF and the William Younger cup (highest placed Army pilot in Inter-Service National Championships), Capt L. S. Hood, R Signals.

The two new trophies, to encourage Inter-Service competitive gliding, were donated by the Kinghurst Financial Trust Ltd. and their Managing Director, Mr H. O. Jones, made the presentation to the winners. The Kinghurst gold trophy for the most meritorious flight during Regional or National Inter-Service Championships, the winner decided from a formula based on speed over a set course, went to Lt Col E. G. Shephard, RAOC, and the Kinghurst silver trophy, for the winner of the Inter-Service Regional Championship, was presented to Cdr M. H. Livesay, RN.

Crossfell Electric Audio Variometers

FAST COMPACT EFFICIENT

ELECTRIC VARIOMETERS PROVED OVER TEN YEARS.

AVAILABLE WITH OR WITHOUT AUDIO.

Agents throughout the world.

Crossfell Variometers

8 Fraser Close, Malvern, Worcs., England.

classified section

Advertisements, with remittance, should be sent to Cheiron Press Ltd., 8/10 Parkway, London, N.W.1. Tel. 01-267 1285. Rate 12p a word. Minimum £1.80. Box numbers 50p extra. Replies to Box numbers should be sent to the same address.

FOR SALE

RADIO ULTRA air set 130.4, 130.25, 129.9, Deac3 & charger £100, G.Q. Parachute £65, Magnetic Car aerial £8, Tow Rope £5. Lewis, 2, Ashford Close, Pontesbury, Salop. Tel. Pontesbury 458.

GRP Plastic lined Trailer Mould, £15. Buyer collects. Chandlers Ford 4138.

£600. Half Share Eagle. Full C of A etc. No snags. Based Southdown Club, Storrington, Sussex. Box No. SG 434.

K-4 MAJOR and C of A completed Oct 73 £750. Scarfe, Salisbury 6222 Extn. 2458. Evenings Idmiston 514.

LIBELLE 'lurking at Lasham, full equipe.' Two quarter shares available, price negotiable about £900 each. For further details please contact G. Lubin 85 Collinwood Gardens, Clayhall, Ilford, Essex. Or Tel. 01-531 2210 Day.

AUSTER 6A TUGMASTER with new 800 plus engine. Spares value £900. Capstan 2 seat Sailplane v.g.c. 10 yr. C of A £1,900. New, test flown only, BG 135 Gipsy, full panel £2,900. Full details West Wales, Clarence Esplanade, Tenby 2705.

EAGLE T-42, C of A renewed, expiring 1975. Trailer and parachutes, instruments, £1,850. Tel: Riding Mill 363 or Prudhoe 32087 after 7 pm.

QUARTER SHARE in Kestrel 19 based at Husbands Bosworth, Shard, Tel: Hook Norton 309.

DART 15, Wooden Spar, Full Panel, Trailer, 10 year C of A. Just completed. Offers to D. Vernon, Day Crewe 65423, Night Nantwich 67532.

KESTREL 19, with water ballast, hand finished by Delafield, absolutely complete, with full instrument panel and Ferranti Horizon, plus comfortable parachute and Winter barograph. Wooden Delafield trailer. Absolutely immaculate. Available immediately. Contact S. White, Kingston Blount 51055 or M. Field, Windsor 62342.

KESTREL 19, manufactured mid 1973 complete with full year's C of A, trailer and full instrument panel. Immediate delivery, Box No. SG 433.

LIBELLE, March 1972, only 72 hours. Full panel, low profile fibreglass trailer, all in excellent order, £4,650. Box No. SG 429.

ULTRA 3A4 glider radio, crystallised for 129.9 and 130.4. Aerial socket modified to BNC connector. Complete with two DEAC rechargeable batteries and battery charger — £120. Box No. SG.425.

WINTER 6km BAROGRAPH. 10 years old — used privately by only one owner. Best offer over £50. Box No. SG 427.

THIRD SHARE available Libelle syndicate, £1,500. Somerset based, possibly Inkpen. Aircraft, instruments, parachute, barograph, trailer. Or could rearrange syndicate for 2 shares £1,000 each. Box No. SG 430.

PHOEBUS C with Speedwell trailer and GJ737 parachute. Recent C of A. £4,200. Contact John Taylor. Wokingham (0734) 783712 evenings.

K-4 AND GRUNAU 5. £1,000 and £900 respectively, both canopied. Metal tube. Two-seaters. Both with new C of A. Good strong cheap trainers. Ring E. R. Boyle, Lowdham 2235.

QUARTER SHARE Skylark 4, based Dunstable, £600. Tel: 01-340 1999.

MK19 SENSITIVE ALTIMETERS, calibration tested £18.75., Electric T/S £15., Sperry 3c A/H £29. Box No. SG.426.

BLANIK complete with instruments and first class trailer. C of A to March 1974. £2,800. D. Sandford, 30 Colne Road, Barnoldswick, Lancs. Telephone Barnoldswick 3534.

EX-DEM. 10m Trailer fitted for a Kestrel. New price £517, now £400 to clear. Landsmans (Co-Ownership) Ltd., Brampton Road, Buckden, Huntingdon. Tel: Huntingdon 810287.

KESTREL 17m with trailer, C of A 1975. £5,100. DIMOCK, 21 North Cross Street, Gosport.

T21B with instruments, enclosed canopy. Dutch registration, no trailer, very good condition, £675. K-2B with bubble-canopy, instruments, open trailer, German registration, in good condition, £1300. Hans Heinen, 513 Geilenkirchen, Jülicherstr. 7, W. Germany.

GLASFLUGEL 604 22m Super Kestrel 1973 with most modern instruments, oxygen and special trailer. DM75,000.00. W. Gross, 89 Subbelratherstrasse, 5 Köln 30, West Germany.

MAGNIFICENT KESTREL 19 new this year and impeccably maintained. Complete with Delafield trailer and full set of instruments, parachute, oxygen, barograph and radios. One-third share at Booker £2,600 o.n.o. or possible whole outfit for sale if required. R. F. Aldous 9 Tierney Court, Riverside, Marlow, Bucks.

DART 17R. Superb Condition, Full Panel incl. Art. Horizon, Burton Audio Vario, etc., full automated trailer. Price £3,250 view Essex. Tel: 0702 588902 or 01-476 4742 daytime.

SUPER privately owned Bocian maintained by BGA Inspector owner. No prangs. Full instruments, road trailer, parachutes, barograph. Realistic offers. Kidderminster 64008.

STANDARD LIBELLE ¼ or ½ share available based at Lasham. Complete with Aluminium trailer, barograph, parachute. Aircraft in full flying trim complete with C of A to January, 1975. Total Value £4000. Denis Johnson 01-229 0661 Day or Medstead 3593 Evening

K-13 syndicate share (one eighth) for sale. Husbands Bosworth £425 o.n.o. Spreckley, The Tin Lid, Buckden, Hunts. Tel. Huntingdon 810446.

REPLOGLE BAROGRAPH
0-30,000 ft. Complete wtih calibration chart and pressure sensitive papers.
£71
Also, reconditioned altimeters, £22 including VAT.
Strugnell Aviation Services
The Old Post, Well End. Bourne End, Bucks.
Tel. Bourne End (062 85) 23458 (Evenings)

FOR SALE

SKYLARK 2 incl. instruments; encl. trailer, parachute, etc. Whole outfit very good condition, £1500 o.n.o. Phone: Tenterden, Kent 2821.

CIRRUS. ¼ weekend share available in Standard Cirrus, based at Dunstable. £1100. Ship is fully equipped, with water ballast and new metal trailer. Phone 01-807 4789 or Evenings Hoddesdon 65797.

WANTED

TWO PLACE MOTOR GLIDER. New or used. Quote price delivered West Coast, U.S.A. Hugh Currin, 2029 LeRoy Street, Klamath Falls, Oregon 97601, U.S.A.

K-6 PIRAT, or similar during 1974. Gordon, 19 Coleridge Drive, Baxenden, Accrington 31475.

WANT LEFT WING for K-6CR. Will pay freight charges. Advise of condition and price by air mail. Leonard Eilbacher, 1804 Pemberton, Fort Wayne, Indiana 46805, U.S.A.

S&G Anything 1957, 1955, 1951 and earlier, or exchange for miscellaneous copies 1951—1955, incuding 52-54 complete. Malpas, 9 Rue Emile Duclaux, Paris 15.

WANTED. T-21, K-4 or similar. Would consider damaged aircraft. Details to V. Rendle. Tel: Welwyn Garden 23624.

RADIOTELEPHONES. Murphy MR821. 130.4 and 129.9 with aerial, leads. £30.00. Pye Cambridge. 130.4 and 129.9 and 128.6 receive only (London Volmet). £75.00. Finch. Tel: Penn 4483.

WANTED: Fuselage for Olympia 2b; also, if possible, port wing and tailplane with elevator. Box No. SG 431.

GLIDER RADIO required, Pye Bantam or similar, also barograph. Ripley, 116 Clifton Drive, Blackpool. Tel: 41764.

INSURANCE WRITE OFF or damaged sailplane any condition considered, details and price to Box No. SG 432.

EASILY winched tandem two-seater sailplane. Full details. West Wales, Clarence Esplanade, Tenby 2705.

POSTCARDS

VINTAGE POSTCARDS of VINTAGE GLIDERS, late 1930s. Set of 20 £1.50. Post free. Slater, 7 Highworth Avenue, Cambridge.

HANDBOOKS

HANG GLIDING, the basic handbook of skysurfing. Complete, detailed information on designing, building and flying ultralights. 205 pages, 350 illustrations. £2.75 postpaid. Dan Poynter, 48 Walker, Suite 105, North Quincy, Mass. 02171 U.S.A.

MISCELLANEOUS

EXCHANGE: Oxygen system 3 hour endurance for Pye Bantam or similar glider radio. Box No. SG 428.

LEARN TO FLY in the beautiful Cairngorm scenery, or come for a week's soaring. Hill, thermal & wave, April to September. Details from Cairngorm Gliding Club Courses, Feshie Airstrip, Kincraig, Inverness-shire.

Windsocks, Wind Direction and Speed Instruments
Portable & Permanent Runway Lights
Litas - Angle of Approach Indicators
Reflective Night Landing Systems and Markers
Shorgard Airfield Accessories
Cross Road, Croydon, CR9 8EH
Telephone: 01-688 6058

SITS. VAC.

COURSE instructor required for period April 7, 1974 to September 29, 1974. BGA. Full rating essential. PPL, Motor Glider Rating and/or other gliding abilities an advantage. Full-time prospects. Apply for details to Cairngorm Gliding Club, Kingussie, Inverness-shire.

COURSE INSTRUCTOR required by Derbyshire and Lancashire Gliding Club from May — September, 1974. Applications to A.C. Wood, 34, Booth Street, Ashton-under-Lyne. OL6. 7LG.

SEASONAL GLIDING INSTRUCTOR REQUIRED
Approx. April to October
Assistant Rating Acceptable . Accommodation suitable for Married Couple. South of England Airfield. Replies to Box No. SG 424.

HOLIDAY SUMMER course instructor. Full rating plus Motor Glider capability essential. May to Sept inclusive. Caravan accommodation on site with good basic plus bonus remuneration. Full details West Wales, Clarence Esplanade, Tenby 2705.

COURSE INSTRUCTOR to assist the resident instructor at the MIDLAND GLIDING CLUB from 1st April to 31st October, 1974. Meals and accommodation provided. Apply to K. R. Mansell, The Manor House, Ratlinghope, Shrewsbury, SY5 0SR. Tel: Linley 630.

SITS. REQUIRED

TUG PILOT — competition experience seeks summer occupation. Hard worker. Anything legal considered. Benson, 10, Quarry Road, Dudley, Worcs.

WINNEBAGO MOTOR HOME
June 1973
Rolls Royce quality. Sleeping 3 doubles, Tub/Shower, W.C., Frig., Gas Cooker, furnace, Air-Conditioner, Generator, Electricity, can tow. £6,000 (about 2/3 new cost).
GROCOTT, ROPLEY, HANTS.
TEL: 2235

PUBLICATIONS

"SOARING"—official organ of the Soaring Society of America. Edited by Douglas Lamont. Address: Box 66071, Los Angeles, California 90066, USA. Subscription: $8.00 outside USA; apply to your post office for a form.

Put yourself in the Picture. Buy AIR PICTORIAL each month for the world air view in pictures and features. Reports and photos of aircraft and sailplanes, military aviation news, spotters' notebook, etc. Price 25p from your newsagent For free specimen copy send 5p in stamps to Dept S.G., Seymour Press Ltd. 334 Brixton Road, London, S.W.9.

NEW ZEALAND: "Gliding Kiwi" Official Gliding Magazine of the N.Z. Gliding Association. Printed October and alternate months. Write N.Z. Gliding Kiwi, P.O. Box 545, Tauranga, New Zealand. £2.00 sterling for year's subscription (inclusive of postage).

SLOPE SOARING with a radio control model sailplane is a fascinating pastime and a typical phase of aeromodelling. Read about this and other aeromodelling subjects in *Aeromodeller* and *Radio Control Models and Electronics*, the world's leading magazines, published monthly, price 15p each. Model & Allied Publications Ltd., 13-35 Bridge Street, Hemel Hempstead, Herts.

AUSTRALIAN GLIDING Monthly, publication of the Gliding Federation of Australia. A complete coverage of Australian soaring and exclusive features of international interest. Subscription £3.50 or $10 U.S. to Box 1650, G.P.O. Adelaide, South Australia 5001.

DEESIDE GLIDING CLUB
(ABERDEENSHIRE), LTD.
ABOYNE AIRFIELD, DINNET

WAVE SOARING

More gliders are coming to Aboyne because winds from north, through west to south, can produce local lee waves to gold and diamond height and beyond

Please book early to

A. J. MIDDLETON, at the airfield
(Dinnet 339)

INDEX TO ADVERTISERS

Inside Front Cover

Southern Soaring Centre
Southdown Aero Services Ltd.

Inside Back Cover

Bristol & Gloucestershire Gliding Club
Cornish Gliding & Flying Club
Kent Gliding Club
Herefordshire Gliding Club
Devonshire Soaring Club
Midland Gliding Club Ltd.
Yorkshire Gliding Club
West Wales Gliding Club
Wycombe Gliding School
Chiltern Sailplanes Ltd.
Beaumont Aviation Literature 43
British Gliding Association 10, 12, 33
Classifieds 46
Peter Clifford Aviation Co. Ltd. 14
Consumers' Association Inset
Crossfell Variometers 45
Crystal Engineering Ltd. 10
Daltrade Limited 29
Deeside Gliding Club (Aberdeenshire) Ltd. 47
DGC Aviation Services Ltd. 21
Doncaster Sailplane Services 48
Gliderwork 22
Grocott 47
J. Hardy Instruments Ltd. 17
John Hulme 44
Irvin Great Britain Ltd. 20
Lasham Gliding Society. 4
London Gliding Club 48
London Sailplanes Ltd. 48
Mowbray Vale Insurance Brokers 12
New Inn Hotel 22
RF-GQ Ltd. 37
RSA Parachute Club Ltd. 20
Sailplane & Engineering Services Ltd. 17
Sailplane & Gliding 10, 22
Scottish Gliding Union 4
Shorgard Airfield Accessories 47
Slingsby Sailplanes 27
The Soaring Press 18
Southern Sailplanes 4
Speedwell Sailplanes 48
Strugnell Aviation Services 46
Thermal Equipment Ltd. 10
Three Counties Aero Club Ltd. 22
Brian Weare 42
Whitely Products Ltd. 42
J. S. Williamson 17
Yorkshire Sailplanes Ltd. Back Cover

LONDON GLIDING CLUB

Dunstable Downs Bedfordshire Tel: 0582 63419

(Just off the M1 and within easy reach of London and the Midlands).

We continue to offer efficient and reliable launching by winch, aero-tow and catapult, seven days a week.
(Statutory restrictions permitting).

The Club site, encompassing part of the Chiltern Hills escarpment, provides frequent slope soaring conditions in winter as well as excellent thermals in summer.

Training on the club's fleet of modern dual and single seater gliders is carried out and supervised by experienced and qualified professional instructors.

The Club glider fleet is maintained on site by our own team of professional ground engineers.

Catering is provided everyday (weekends only in winter) licensed bar, accommodation and other facilities.

Write for 1974 Course brochure and/or club membership details to the Manager, or ring 0582 63419.

DONCASTER SAILPLANE SERVICES

CAN HELP YOU

YOU WILL FIND US ON LINESIDE INDUSTRIAL ESTATE - NOT DONCASTER AIRFIELD

UK AGENTS FOP TOST AND WINTER EQUIPMENT

Sailplane Sales & Exchanges

Present Stock includes:
L SPATZ 55 K-7
ARTIFICIAL HORIZONS
SPERRY FERRANTI c/w
INVERTORS

New & Used Instruments

ALTIMETERS Mk 19 ASI's
HORIZONS INVERTERS
VARIO's BAROGRAPHS

RELEASE HOOK TEST SERVICE
OTTFUR & TOST HOOKS
RECONDITIONED BY POST

STEEL TUBE WELDING
GLASS-FIBRE REPAIRS

'Winter' Instrument Stockists
BAROGRAPHS 10 km
VARIOMETERS ± 10 kts
COMPASSES
ASI's 0–140 kts
ACCELEROMETERS – SMALL
ALTIMETERS MK 19B
PYE RADIO CAR SETS

'Danum' Transistor Inverters
Small Size. 12v. Input, Fused
Matched to all types of horizon
(State type when ordering)

Large Stocks of Ply, Fabric, Tyres, Dope, etc.

The new "Supersafe" Tost Europa Hook now in stock

LINESIDE INDUSTRIAL ESTATE, YORK ROAD, DONCASTER
Telephone: 0302 65381

London Sailplanes Ltd.

Tring Road, Dunstable, Beds.

Telephone Dunstable 62068

U.K. Agents for Tost and A. Schleicher

Open Monday to Saturday 9 a.m. to 6 p.m.

C.A.A. welding and re-sprays
Repairs to wood, glass fibre and steel tube machines
Stocks of most materials for repairs and re-builds
Wide range of instruments in stock
Barograph and A.S.I. Calibration

SPEEDWELL SAILPLANES

SHEPLEY LANE,
HAWK GREEN,
MARPLE,
CHESHIRE.

Postcode: SK6 7JW
Telephone: 061-427 2488

A.R.B., B.G.A., P.F.A. Approved

Bristol & Gloucestershire Gliding Club

Welcomes private owners, beginners and holiday members at their unique site in the Cotswolds

Open 7 days per week

Why not ring the club manager on 045-386 342 or write to:

Bristol & Gloucestershire Gliding Club
Nympsfield, Stonehouse, Glos.
GL10 3TX

Cornish Gliding & Flying Club

Gliding courses in modern fleet from MAY – B.G.A. fully rated instructors – fine soaring – lovely coastal airfield – ideal for a different family holiday.

AERO TOW AND CAR LAUNCHES

Details with pleasure from:

The Course Secretary,

Cornish Gliding & Flying Club, Trevellas Airfield, Perranporth, Cornwall.

Tel. Devoran 862518

COME TO KENT THIS YEAR !

Professional instructors for ab-initios, T-49 and Blanik for advanced training. South-west facing ridge for "C"s and Bronzes, excellent thermal soaring, aerotow facilities.

Weekly and fortnightly courses from £40.00 (inc. VAT)

Telephone Challock 307 or write to the Kent Gliding Club, Challock Ashford, Kent

---

Gliding in Herefordshire

AEROTOW/MOTOR GLIDER courses £46.20 inc. accommodation, membership and VAT

also

INTENSIVE GLIDING courses for the man in a hurry.

and

COMBINED POWER & GLIDING courses for the man who wants the best of both worlds.

Postcard to Herefordshire Gliding Club Course Secretary

D. L. Davis, Cherry Trees, Galhampton YEOVIL, Somerset, BA22 7AN,

brings all the details by return.

Devonshire Soaring Club

Dunkeswell Aerodrome
Honiton, Devon

Tel. Luppitt 643
or Ottery-St-Mary 2928

We are a new club on a well tried site, offering both Aero and Auto tow launch. High performance fleet, two Blaniks and Standard Cirrus. Open seven days each week, ring us at the above for details of our five day course or make a booking for your own machine and be looked after with the old Devonian hospitality in a glorious West Country surrounding. Write for brochure, Secretary, 22 Coleridge Road, Ottery-St-Mary Ex 11-1TD

"The Northerns 1974"

ENTER THIS CHALLENGING COMPETITION HAVE AN EXCITING WEEKS HOLIDAY FROM THE 3rd TO 11th OF AUGUST 1974

Write now for full details and entry forms to

THE SECRETARY,

Yorkshire Gliding Club
Sutton Bank, Thirsk,
Yorkshire.
STD 08456-237

West Wales Gliding Club Haverfordwest

Withybush Airfield is centrally situated for over 70 miles of National Park coastline and unspoilt beaches for your family holidays.
Ab-initio courses on Falke, Capstan and T21B.
May to October.
Camping and caravan facilities available.
Brochure & fuller information from Gliding Secretary:
"Greensleves", Heywood Lane
Tenby, Pembs.
Tel. Tenby 3187

WYCOMBE GLIDING SCHOOL **AIRWAYS FLYING CLUB**

THAMES VALLEY FLYING CLUB

5 day residential course from March to September.
All aerotows and modern training fleet ensures a trouble-free FUN holiday with the accent on flying.
This excellent thermal site has a clubhouse, bar, canteen and accommodation.
Whether an ab-initio or an advanced pilot our instructors can cater for all your flying requirements.

For more details apply to:
THE SECRETARY (SG)
WYCOMBE GLIDING SCHOOL
WYCOMBE AIR PARK,
BOOKER, MARLOW BUCKS

Fly where the buzzards fly !

Ridge Thermal Wave
Winch or Bunjee

Midland Gliding Club Limited

THE LONG MYND

Holiday Courses
April-October

Private Owners Welcome
(Please book in Advance)

Course Secretary
65, Sylvan Avenue, Timperley
Altrincham, Cheshire, WA15 6AD
or phone 061 973 3086
(9am-9pm)

We are not the biggest, nor the smallest.
We don't claim to be the best, we just think we are.
We won't work all night, just most of it.
We are nobody's agent, we specialise in everything.
If you don't believe this, bring your sailplane to

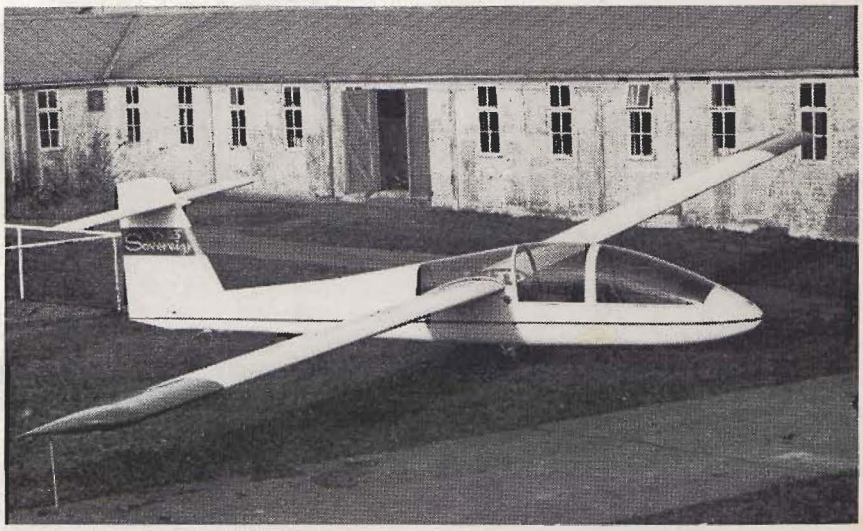
Chiltern Sailplanes Ltd.

Senior inspection approval, Repairs, Cs of A, trailers.

Dave Paton

Works. Southend Lane Northall
Eaton Bray (0525) 220131
Home. 300 Luton Road Dunstable
Dunstable (0582) 64472

YORKSHIRE SAILPLANES LTD.



THE YS 53 SOVEREIGN
ALL METAL TWO-SEATER

INCORPORATING

- ★ **NOSE HOOK FOR AERO TOWING**
- ★ **LIGHTER CONTROLS FOR BETTER HANDLING**
- ★ **DE-LUXE COCKPIT INTERIOR**
- ★ **GLIDE RATIO OF 1:28**

Delivery commenced July 1973

AGENTS FOR

PILATUS B4
ALL METAL SINGLE-SEATER
GLIDE RATIO 1:35

For further details contact:

GERRY KEMP or JIM BECK

Yorkshire Sailplanes Ltd., Melmerby Industrial Estate, Melmerby, Ripon, Yorkshire
Telephone: Melmerby 391 (STD Code 076 584)