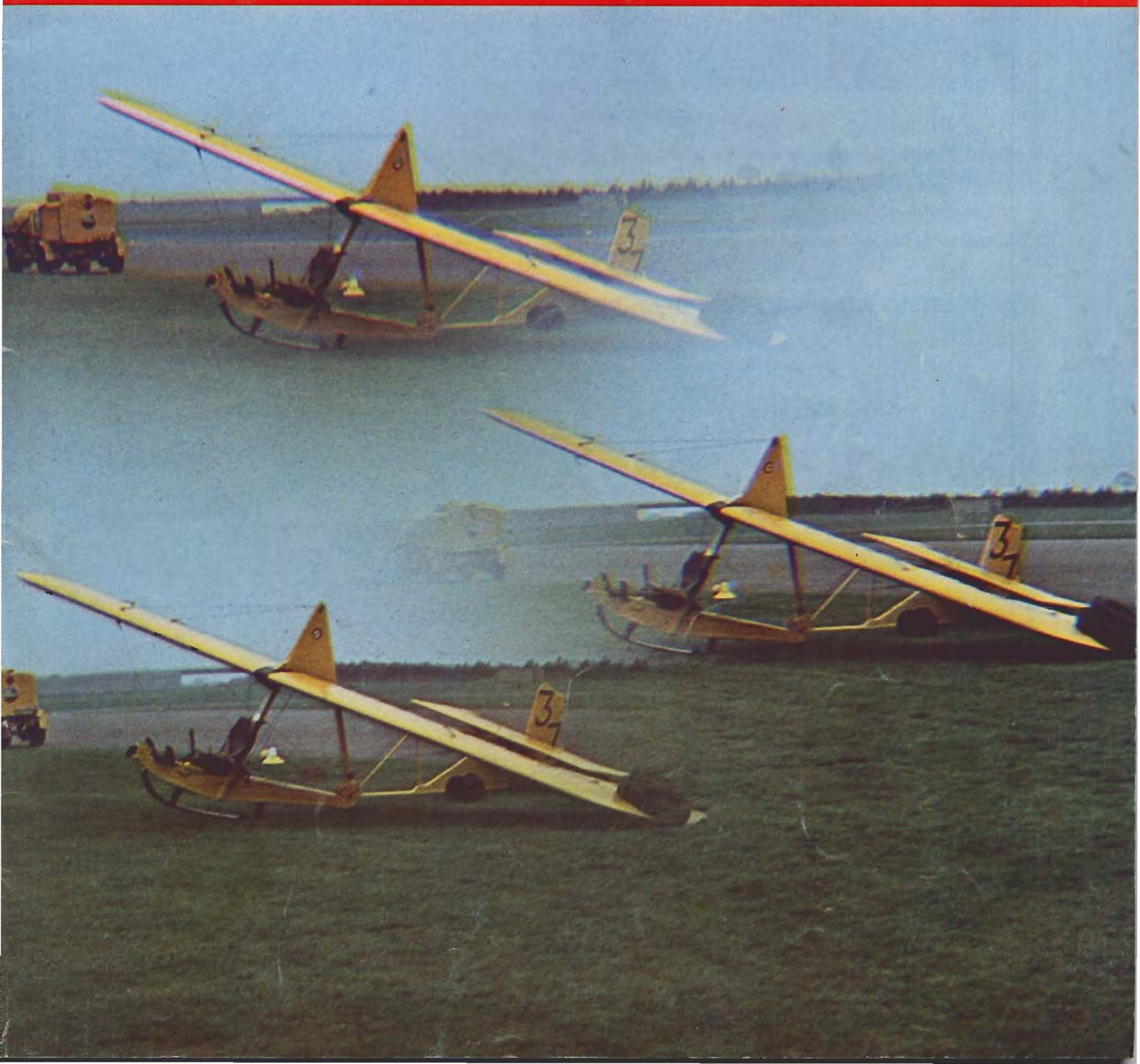
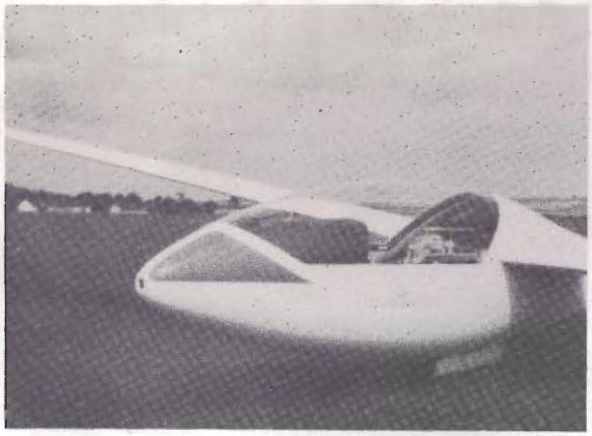
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OCTOBER – NOVEMBER 1979 75p



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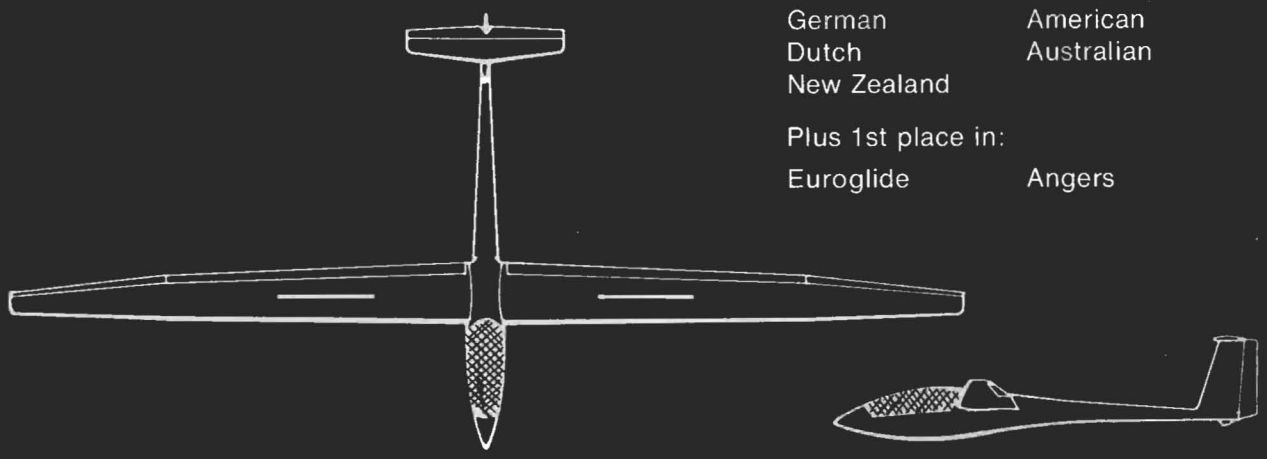
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Magazine of the BRITISH GLIDING ASSOCIATION

BGA 50th ANNIVERSARY YEAR, 1929-1979

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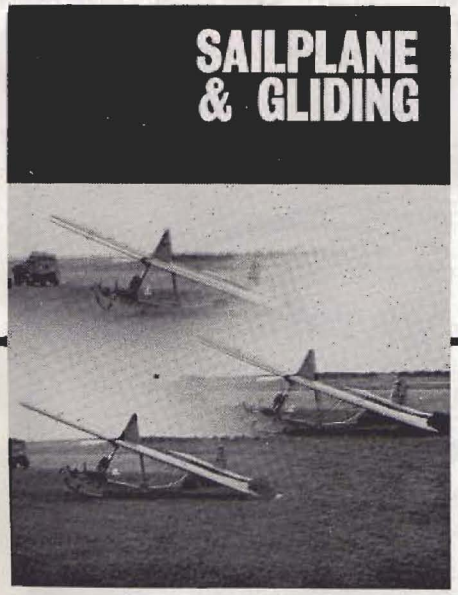
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HOW SOARING GOT UNDER WAY

A.E. SLATER

My last article (August issue, p158) described how Robert Kronfeld was instrumental in spreading the practice of high-performance soaring from Germany into Britain; but many have taken it for granted that, since prolonged soaring is physically possible, it was sure to get itself practised anyhow. This is not so.

In S&G for February 1964, pp11-15, there appeared a collection of historic pronouncements on soaring flight, starting with "the way of an eagle" in the Bible and ending in 1930 with an aviation meteorologist who, having heard that glider pilots had been using "rising currents in the vicinity of cumulus clouds", wrote that "Needless to say, such attempts are beset with hazard and should not be made."

Birds soar in narrow upcurrents

Only two got it just right. In 1903 Wilbur Wright wrote that the air "has a rate of ascent equal to the bird's relative rate of descent", and in 1905 Wilhelm Kress of Vienna wrote that birds soar in circles because the upcurrents they use are narrow.

Leonardo da Vinci in 1550 and Octave Chanute in 1909 both understood slope soaring, but both thought that circling birds only gain height when facing the wind. So did Philip Wills's uncle. Philip tried hard to explain that it was rising air. After half an hour's hard work he thought he had succeeded and was looking forward to a well-earned rest, when his uncle came up with: "But I still don't understand how they can keep up with their tails to the wind."

Wilbur Wright decided that the reason flying-machine inventors were liable to crash on their first take-off was that they had no previous practice at working the controls, let alone designing controls that would work. So he decided with his brother to put in this practice on gliders, though not by soaring, but at first tethering the glider like a kite near the ground, and then by making prolonged glides.

Only in their fourth gliding year, on October 26, 1903, did their glides ever exceed one minute: Wilbur four times and Orville twice, including a world's duration record of 1min 11.8sec by Orville.

For all his four years' practice with the controls Wilbur, who won the toss for the first take-off of the aeroplane on December 14, stalled it and then hit the ground. By the 17th it was repaired and Orville made the world's first aeroplane flight, though Wilbur flew it successfully too. Afterwards, when they were all standing around talking, a gust of wind blew the aircraft over — a mishap which was to become endemic when the gliding era arrived.

Still nobody thought of soaring for its own sake. In 1909 Gordon England flew a Weiss glider for 58sec from Amberley Down, gaining considerable height at first and then landing on the plain below. Though a British record, the feat was not reported to *Flight*, nor did anyone think of exploring the further possibilities of soaring. The glider was simply put away in its shed "to await the installation of a suitable motor".

In November 1911 Orville Wright went to Kitty Hawk, the old gliding ground, to do some soaring. *Flight* reported the fact and printed a long paragraph explaining to its ignorant readers how soaring differed from powered flight; but failed to report a world's record of 9min 45sec which Orville flew a few days later. An English friend of the Wrights, Alec Ogilvie, took part in the soaring, and when he was again in circulation on the occasion of the 50th anniversary of the first aeroplane flight, in 1953, I took the opportunity of contacting him. He explained that these were hovering flights, made over a crescent-shaped sand dune, which meant that you had to soar over the exact spot where the slope faced the wind, and if you were careless enough to drift to one side, you had a long fight against the wind to get back to the proper place.

But were these flights done for the pleasure of soaring? No; it was stated that they were "to try out a new control system", and a photograph shows a long pole sticking out in front of the glider, with something like a little bag hanging on the end, perhaps to hold an adjustable load.

Orville's next reported contact with lift was one day when he was flying his aeroplane in America and entered a region of strong upcurrent. He twisted this way and that in an attempt to get out of it, but without success. So he stopped to do a bit of calm thinking and decided that, as the phenomenon must be local, the simplest way of escape must be to fly in a straight line — which he did, and soon left the horrid thing behind.

But long before these events, in 1896, an assistant of the famous Octave Chanute named A. M. Herring had succeeded, by turning somewhat sideways to the wind, in soaring over 300 yards along a ridge in 48sec; but on reaching the far end he did not turn the other cheek and soar back again: he merely landed and apparently never tried again. When I told Ogilvie of this claim, he said it was not true, but Herring was a contemporary experimenter with the Wrights and there was no love lost be-

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tween them, and Ogilvie was a partisan of the Wrights. Anyway, the "turning somewhat sideways" sounds genuine: but nobody ever did it again till 1922 in Germany — and this brings us to the country where soaring was first developed as something worth doing purposefully and regularly, and not as the freak performance of a lifetime.

In Germany was a remarkable character named Oskar Ursinus, who started a magazine called *Flugsport* in 1908 (a year before *Flight*). In it he not only covered conventional aviation but was especially interested in anything out of the ordinary, such as, in later years, man-powered flight, space travel, and soaring, and had a regular supplement describing aeronautical patents. He was enthusiastic, emotional and highly strung.

Human soaring should be possible

When the peace treaty, signed in 1919, forbade the building of aeroplanes in Germany, he seemed taken by surprise and was terribly upset. A propaganda pamphlet, published in the later 1930s and not all true, states that he had a nervous breakdown, went for a walking tour in the Rhön Mountains north-east of Frankfurt am Main where his office was, and there saw a buzzard soaring high above and had an idea that human soaring should also be possible. Other accounts said he remembered that people had been gliding there since 1909. So in 1920 he issued a call to all interested to bring gliders to a rally at the summit of the highest mountain, Wasserkuppe, 950m (about 3000ft) asl. From this summit, a ridge stretches southwards providing a terrific west-facing escarpment, and there is also a gentler and shorter south slope and a less regular escarpment on the north side.

The rally lasted into September and a very miscellaneous collection of gliders turned up, but nobody soared.

In 1921 the next rally brought a new world's duration record of 13min by Wolfgang Klemperer, starting with a bit of lift followed by a long descent into the valley. Friedrich Harth beat this with 21min soaring by the use of gust energy, out of sight of the multitude, but this form of soaring has never become popular or widely practised so does not concern us here.

The great year was 1922: Arthur Martens won a prize of 10 000 Marks with a soaring flight of 43min followed by a 10km glide into the valley — total time 1hr 6min.

This flight was made in the Hanover group's Vampyr, and next day Fritz Hentzen beat it with 2hrs, and later flew for 3hrs, both flights being made in the Vampyr (not the Greif, as stated in Ann and Lorne Welch's **Story of Gliding**).

One history book stated that such long duration flights would not have been made if another pilot, who was named, had not demonstrated that for ridge soaring you must turn sharply immediately after the launch, or you will get too far out to catch the lift. Unfortunately I have forgotten his name but hope to find it eventually, because he should go down to history as the inventor of ridge soaring — or re-inventor if you believe Herring's story.

At the Itford meeting, held in England in October 1922 as a result of the publicity given to the spectacular German flights in August, hardly anybody at first realised the need to turn sharply after the launch, though you would think it should be obvious to the meanest intelligence. Actually Itford Hill itself, at the western end of the ridge, was pretty useless. I feel sure it was chosen by Alec Ogilvie, the only member of the site-choosing committee who had done any soaring. It has several narrow promontories sticking out in different directions, joined by very short ridges, and he must have thought in terms of hovering over one spot in a stiff wind, as over a crescent-shaped sand dune. If so, it was sheer luck that a magnificent north-facing escarpment stretched from Itford all the way to Firle. Nobody thought of turning sharply after the launch until Fokker, who had soared at the Wasserkuppe, showed them how. Even then many of them, including experienced aeroplane pilots with reputations, would fly straight ahead, apparently looking for "currents", as I have said before. One RAF man asked to borrow Fokker's single-seater and was given by him precise instructions what to do, but nevertheless flew straight ahead from the launch, with Fokker shouting at him to "gom back", and continued straight ahead until he grounded in the valley below.

A harrowing thunderstorm account

Annual contests on the Wasserkuppe continued, but success varied much with the weather. At the 1926 meeting, Max Kegel was lifted into a passing thunderstorm cloud and carried 35 miles across country before he could extricate himself. According to Kronfeld, he gave such a harrowing account of his experience that it was another three years before anyone else tackled a thunderstorm.

The flights in 1929 which led to the formation of the BGA at a "gliding lunch" in December were described in the previous article. I missed hearing about that lunch through having no time to read *Flight* while writing music for St Thomas's Hospital Christmas Show as well as carrying on duties at a Fever Hospital in New Cross. I heard that the participants finally separated into two groups, one intent on administration and the other consisting of those who actually wanted to go so far as to fly, most of whom "went away" to form the London Gliding Club. It took four years for this dichotomy to boil up into the big row which resulted in the BGA being run by the clubs.

Meanwhile, there is the actual lunch to describe. I knew none of the participants at the time, and of the many whom I got to know subsequently, hardly one is still with us. *Flight* gave but a poor account of it, but *The Aeroplane*, which organised it, is sure to have described it fully. I must look it up.

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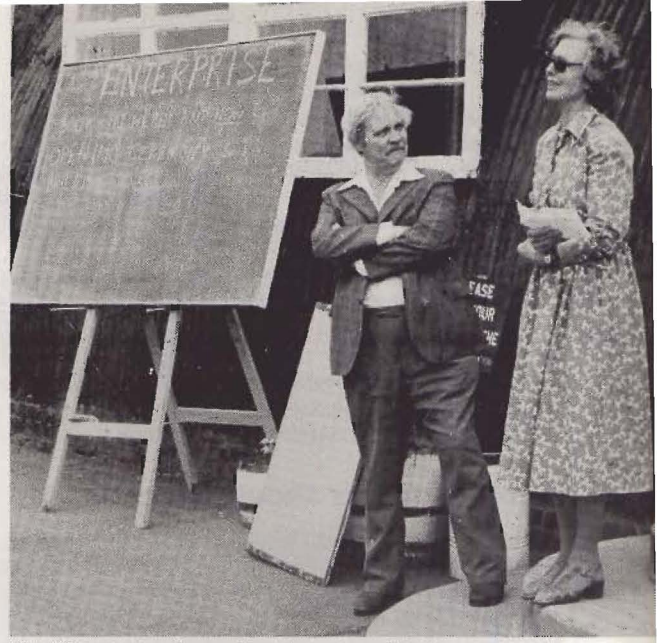
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Competition Enterprise June 16—24

HEREFORDSHIRE GLIDING CLUB, SHOBDON

Rhoda Partridge



Kitty Wills opening Competition Enterprise with Chas Nightingale, Herefordshire GC's CFI, alongside. Photo: Tony Smallwood.

Anxious old business, hosting Enterprise. North Hill do it so well. In the event we really enjoyed it. Tell you how it went.

Thirty-four entries and they started arriving Friday afternoon, June 15, to be greeted by brilliant visibility "off the clock" thermals and later wave to 12 000ft. This was arranged as a torment and not, of course, to be repeated.

Day 1, Saturday, June 16. Briefing in front of the clubhouse with a loud helicopter hovering low over our heads. Kitty Wills opened the Comp with charm and brevity. John Fielden (our task setter) said "You are intelligent people (groans), so I'm sending you round the universities", and he wrote on the board "Aberystwyth, Bristol, Oxford, Cambridge".

We goggled because there was solid 8/8 overhead. They were dropped downwind at 4000ft to glide it out until they met lift, mostly near Malvern at around 1500ft. Except, that is, Ben Rood (Nimbus 2). He thought it might wave, planned Aberystwyth and spent some four hours over Builth Wells. Mike Pope (Kestrel 19), Mike Carlton (Nimbus 2) and Chris Simpson (Kestrel 19) all turned Cambridge and got part way home. Bob Scarborough (Kestrel 19) met 50 hot air balloons and a Flying Fortress at 1000ft near Cheltenham. Bob Christie (with all of 220 gliding hours) won the day by rounding Cambridge and landing his ASW-20 at Dunstable. Comment: "I thought this was supposed to be a relaxing sport. I never worked so hard in my life."

Won by creeping along the hills

Day 2, Sunday, June 17. First grey and scratchy then sunny and scratchy. John set an out and return, pilot selected goal. Same number of kilometres as your handicap. Only three pilots got home, all flying Std Libelles. Ben Watson won the day by creeping along the hills to Welshpool and back, surprisingly quickly considering the scratchiness.

Day 3, Monday, June 18. Very hot and scratchy, a noticeable reddening of noses. John set a cunning task to cut down retrieve mileage. Petrol had become a real problem. Newtown, Ironbridge, Bewdley, Ledbury, Abergavenny, Brecon. Go round in that order but come in from any TP you like. Only three glass ships turned Ledbury and got home. The day was won by Tony Smallwood in the lovely Gull 1. This was a really epic flight and deserves an article all to itself. If it had been done in 1937 it would have been a record. He turned Bewdley and got home. It took him seven hours and he spent the first three depressingly near Shobdon watching the "glass slippers" shooting past. Then he got moving, but on the way home he was down to 1200ft over Tenbury Wells when the god of gliding provided him with a corker that took him to 4500ft. From there he made a final glide at VNE (51kt) to arrive, triumphant, over the field at 3000ft. Peter O'Donald did two TPs in the pretty little gull winged Moswey and got home. The Moswey has a remarkable electric vario that picks up "The voice of America". But Peter and Mike Russell seem to have got used to it.

Day 4, Tuesday, June 19. Blazing hot and scratchy. Red noses starting to peel and Don Towson suffering a horribly sunburnt neck (his nose was OK). John gave nine TPs, mostly around 100km and at the bottom he wrote "and Booker for fun". He didn't say so, but he'd put that in because Ken Wilkinson thought he might have to go to London on business and he liked the idea of landing there.

Launching was exciting because magnificent David Parchment was earning a million pounds for charity by parachuting every four minutes 31 seconds and he'd been at it all night. We had splendid help from the tower and got them off quite smartly. The day was won by Robert Harding (Std Cirrus) who did Booker and return because he hadn't realised that it was a joke. A remarkable flight, conditions were really difficult.

Day 5, Wednesday, June 20. Very hot, sticky and scratchy with "can't see your hand in front of your face" visibility. John set a triangle, Langorse Lake, Newbridge-on-Wye to bring them home from the west (less chance of cannoning off each other). There was a lot of falling down and relights and at one moment an astonished farmer found five in one field and feared they had set up a new gliding site. Ivor Shattock (Club Libelle) won the day and we were glad. This distinguished Welsh magician had had an undistinguished (but cheerful) Comp up 'till then. He had spent one happy day, after an early field landing, tickling trout in a pretty stream with the farmer's daughter. "Rhoda, she was peootiful, eyes like limpid pools and lips like petals, bicycle petals."

Day 6, Thursday, June 21, was duff. There might have been wave, but there wasn't.

Day 7, Friday, June 22. You could choose between a 500, a 300 or 200km. Alternatively you could go cross Channel and the Customs Officer turned up to clear those who were going foreign. Intense excitement. The conditions were a surprise to everyone. Dick Stoddart managed to scrape his Dart away from 900ft near Leominster (a few miles away). Two Std Libelles landed nearby. John Cadman said the thermals were scarce, bitter and twisted. Nothing above 3000ft. Some splendid attempts were made. Great courage and determination shown. Chris Ellis (460) was 8½hrs airborne, turned Morton-in-the-Marsh and Shrewsbury and fell down near Leintwardine. Tony Smallwood had really shocking luck. He came back eagerly for a relight at 14.30hrs and found only one tug capable of towing him slow enough. At 15.00hrs it went U/S leaving him fuming on the ground. He was in the lead and flying like the Archangel Gabriel. The day was won by Tony Moulang (ASW-20). He'd flown the Comp with quiet, consistent efficiency right through.

Day 8, Saturday, June 23. Didn't look much good but a small

triangle was set and people took-off and came back a few times. In the evening we had the barbecue. Alice Maitland and I had never organised a big one before. We needn't have worried. It went a bomb and I was so relieved that I drank too much and am told that I spent some time on the floor of the tent covered by a large cardboard box. Tony Moulang (ASW-20) won the plate and the "glass slipper" tankard. Tony Smallwood (Gull 1) won the Enterprise trophy for his epic flight on Day 3 and the Blunt Nails tankard. Robert Harding (Std Cirrus) came third and Don Towson (Std Libelle) fourth. It was Don's first Comp. He's a Shobdon pilot. We felt very proud of him. Bob Tarrant got the "worst luck" tankard for sliding the Std Cirrus that went to Booker and back, slowly and sadly, tail first, into the hedge of a small Welsh field and putting it out of the Comp. Alice Maitland was presented with a well deserved bouquet. She worked like a Trojan, despite having a house full of guests.

Sunday morning was wet, cold and sad. We waved to our departing friends and we felt sort of empty. Once they were safely out of sight the sky cleared, a merry westerly set up. White cumulus with flat bottoms at 5500ft appeared and it worked well until around 7pm.

I'd love to give a list of hardworking helpers. So many were so good. Two linch pins — Anthony Maitland organised the Comp with his characteristic mixture of deprecatory modesty and iron hand. He put in one helluva lot of work. John Fielden is a genius when it comes to task setting. Clever and funny and kind. Thank you John.

Joys? Seeing people have a good time. Finding that we could cope. Just about. Sorrows? Only seeing Mike Pope, Mike Carlton and Justin at weekends. They went off to work during the week — most unnatural. We missed Philip Wills dreadfully. If you've only seen his photograph you wouldn't realise what an attractive man that was. Yes we did miss him. Wouldn't he have been pleased, though, at the way his fringe Comp has prospered? Anyone in gliding knows what you mean when you say "Philip's Enterprise".

SEVENTH INTERNATIONAL VINTAGE RALLY

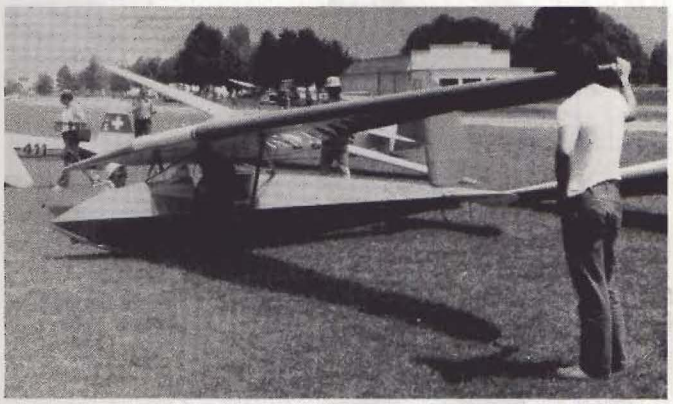
Thun Airfield, Switzerland, July 14-21

CHRIS WILLS

More than 40 gliders, flown by pilots from Switzerland, France, Holland, Hungary, West Germany and Britain, took part in this Rally in the Bernese Oberland of Switzerland. For the first time at one of our International Meetings we had a Spalinger S-16, a Spalinger S-22, a Karpf Zögling which, beautifully restored, had 1933 written on it, another Mü-13D-3 and the 1932 Scud 2 in which Peter Bourne made many magnificent, seemingly fearless, long flights.

Among the guests were Walter Horten, one of the two brothers who designed and built the famous flying wing sailplanes and aeroplanes; the legendary Hans Nietlispach who once flew a Kranich from the back seat, with a pupil in front, from Switzerland to near Spain; Imre Mitte from Hungary who flew Atilla Zierman's 1939 Moswey 2A; our Doc Slater; Jan Scott, President of the Vintage Soaring Association of America, and his family, and the 85 year-old Jakob Spalinger who was pleasantly surprised to see so many of his sailplanes flying with us.

During the Rally no tasks were set. The weather allowed soaring flights on every day, but the weather was not good enough to permit safe flights beyond the Thun area. The best height was achieved by the young Frenchman, Frank Descatoire, who flew the AIR 100 to over 7000ft. Heights of over 6000ft were achieved by several including Ron Davidson (Petrel), Werner Tschorn (FW Weihe 50) and Ian Wilson (JS Weihe, BGA 448).



Peter Bourne preparing for take-off in the 1932 Skud 2. Photo: Chris Wills.

Three air displays were held in magnificent weather, the first during the opening ceremony, the second on July 18 when a Swiss Army Ju 52 gave a fine demonstration of its amazing flying capabilities, and the third during the last day which was open to the public.

The very successful meeting was spoilt on Friday, July 20, when a violent thunderstorm squall turned over and seriously damaged Francis Russell's original 1943 JS Weihe, BGA 448. Gunter Frei's Meise was extensively, but not relatively seriously, damaged when the Weihe descended on it. Minor damage was sustained by a Scud and Rheinland. Great credit must be given to those people who rushed out in the driving wind and rain to hurl themselves on the lifting aircraft. They saved many of them.

During the last day, Saturday, July 21, one hour before the final ceremony, the Swedish built 1943 Kranich 2A, BGA 1092, was flown into trees and very unfortunately finished upside down on a steep mountain slope. It was very seriously damaged. We can only be happy that no pilots were injured or killed during the Rally. We have since heard that the Weihe's trailer turned over in France on the return journey and that BGA 448 has been further damaged.

The Rally was organised by our Swiss members and the Thun Gliding Club who couldn't have tried harder. Werner von Arx and his daughter Ruth led the organisation. The site is a Swiss army exercise field and tanks, explosions and soldiers were often much in evidence. The explosion clouds did sometimes give us powerful lift, 9m/sec being experienced once in the smoke by Toby Fisher in his Meise!

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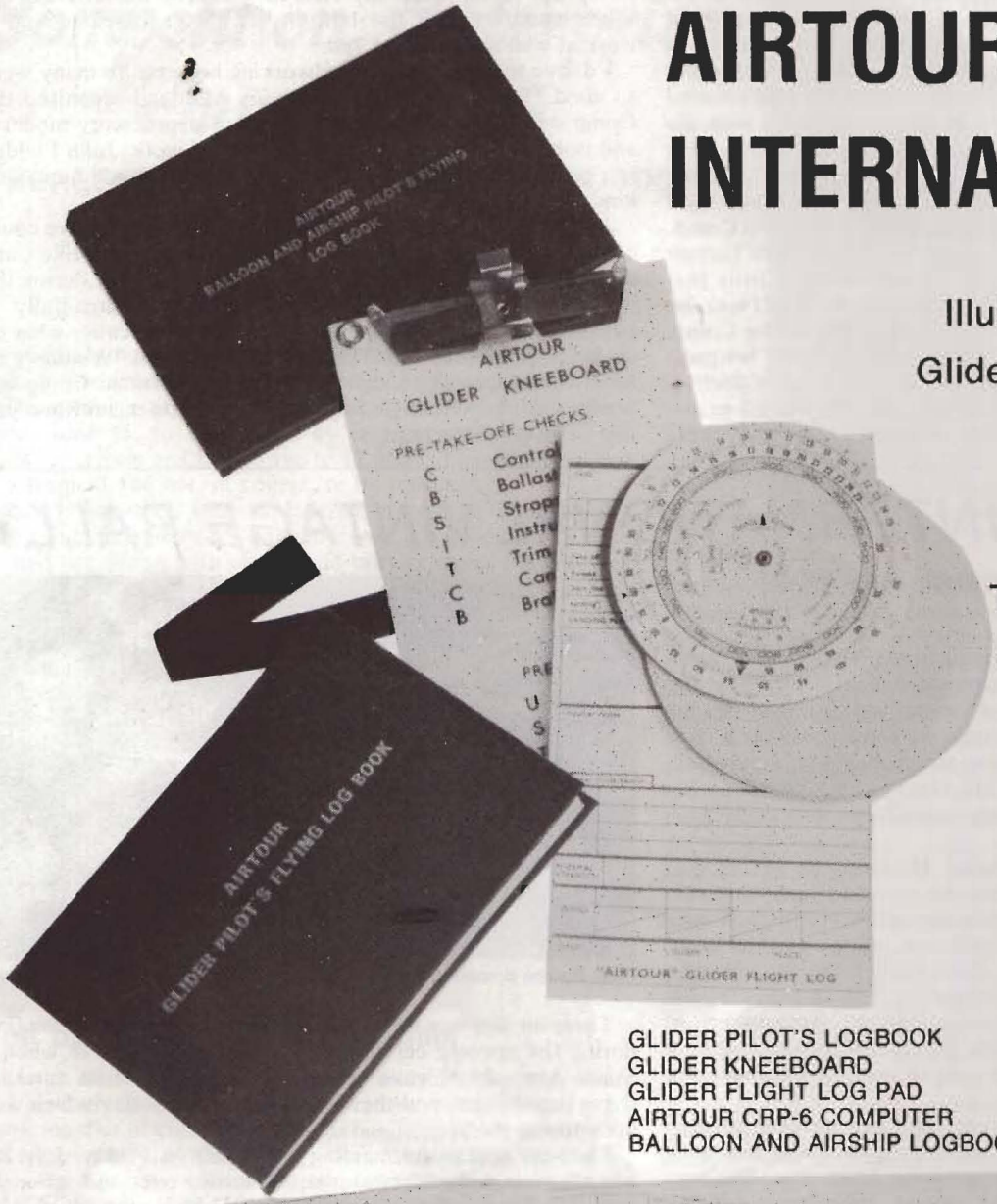
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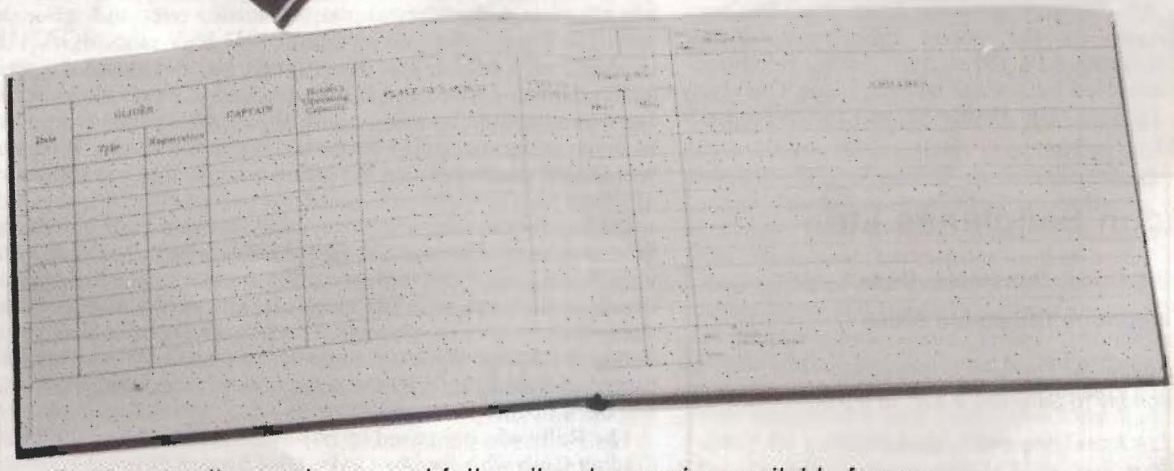
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Some Early Dolphin Calculations

THE ARM-CHAIR PILOT

In "On Becoming a Dolphin" (S&G, February, 1977, p13) I mentioned that in 1957 I had done some "dolphin" calculations to see what proportion of the air would have to be occupied by thermals if a T-21 were to be able to fly cross-country without circling. I thought the answer was about 64%, but I have now found my notes, and the answer was in fact 71% with 5-kt thermals!

The notes are actually dated 1956, and in view of recent interest in the mathematics of dolphin flying (see, for example, Helmut Reichmann **Cross-Country Soaring**) they may be worth putting on record. Here they are, modified only by the omission of some of the intermediate lines of mathematics. Note that the model assumes "continuity", namely that what goes up must come down, and that the polar of the glider is assumed to be such that the sink is proportional to the square of the speed (and hence the gliding angle proportional to the speed). This is too optimistic at high speeds — hence the quaint conclusion. "Bluebell" was (and still is) the Cambridge University Gliding Club's T-21.

"Some notes on gliding

Consider a glider flying in a straight line of unit length. For l of the distance, he is in upcurrent of velocity u, and for m of the distance he is in downcurrent of velocity v. Now what comes down goes up, so lu = mv and l + m = 1. Suppose the speed of flight is w_1 in thermals, and w_2 in downcurrents. Suppose the angle of glide is given by $\theta = kw$, where k is a constant.

In the downcurrent,
fall down due to gliding angle $\theta_2 = m\theta_2$
fall due to downcurrent = mv/w_2.
Therefore total fall is $m\theta_2 + mv/w_2$.

In the upcurrent,
total fall is $l\theta_1 - lu/w_1$.

Therefore total rise throughout flight is
$r = lu/w_1 - l\theta_1 - m\,\theta_2 - mv/w_2$.

Substituting for v, θ_1 and θ_2,
$r = lu/w_1 - l\theta_1 - m\,\theta_2 - mv/w_2$.

Now in thermals, we clearly want to fly slowly, for then we have the least gliding angle, and the maximum time in the rising air. Then, with w_1 constant, what w_2 gives the maximum r?

$$\frac{\partial r}{\partial w_2} = lu/w_2^2 - mk = 0.$$

Therefore $w_2^2 = lu/mk$ for maximum r.

What now are the conditions that make r positive?
$w_2 = \sqrt{(lu/mk)}$, therefore
$r = lu/w_1 - lkw_1 - 2\sqrt{(lumk)}$.

This is positive if
$m/l < (u/4k)\,(1/w_1 - kw_1/u)^2$.

Call the right hand side the 'efficiency of the glider'.

For Bluebell, $w_1 = 30$kt, $u = 5$kt, $k = \theta/w = 1/600\text{kt}^{-1}$.

Therefore RHS = 0.42, or $l = 1/1.42 = 0.71$.

This means Bluebell could remain airborne if she was in thermal air for 71% of the distance. Her inter-thermal speed w_2 must be $\sqrt{(lu/mk)} = 84$kt. Hence, if 71% of the sky were thermal, and Bluebell flew at 84kt between thermals, and 30kt in them, she could fly in a straight line and remain airborne."



The ASK-21 after the first test flight.

ALEXANDER SCHLEICHER'S and the ASK-21

JOHN JEFFRIES

With each successive change in the FAI Class specifications for gliders or with any fundamentally new innovation in training methods, there is obviously a strong temptation for a manufacturer to put his latest design on the market as soon as possible and in advance of his competitors. While this may have the short term advantage of soaking up a fair proportion of initial market potential, it also carries with it the considerable risk that the new design may be subsequently superseded by a superior product of another company on which more design and development time has been expended.

Because of the specific problems which the firm of Alexander Schleicher have with respect to the small and more or less finite labour force within the catchment area of the factory, they have adopted a rather conservative policy with their new designs believing (as the Hon. C. S. Rolls did) that there is a steady and lasting demand for high quality products with a superior standard of finish, handling and performance. Perhaps, regrettably, such qualities can only be had at a price; the price, in the case of Schleicher's products, being a longer wait for delivery rather than greater cost since the relatively small world market and considerable competition sees to it that prices are kept keen. So whilst the Schleicher policy may mean that their customers are obliged to wait for new designs to be perfected, there seems to be no shortage of patient customers whose philosophy is based on the axiom that the best is worth waiting for.

The new Schleicher ASK-21 two-seater typifies the manufacturing policy of the firm in that it is the last of the current generation of GRP two-seaters to go into production, having been painstakingly developed by Rudolph Kaiser on the practical experience gained from the many hundreds of K-2s, K-7s and the ASK-13s operating throughout the world. The construction, the handling qualities in the air and the ground handling considerations are all characteristic of the practical turn of mind which have made Rudolph Kaiser's designs such an outstanding and lasting success over the last two decades. One has only to see him physically at work on his prototypes (complete with equally characteristic carpet slippers) to realise that here is someone with a deep understanding and appreciation of the practical as well as theoretical problems of glider manufacture and maintenance.

The ASK-21 has not been designed with ultimate performance in mind. Rather has it been designed to satisfy the current trend for a GRP training two-seater which is suitable for day-to-day instructing from *ab-initio* to cross-country standard whilst retaining the best of the operational advantages which made the ASK-13 so successful. This is in no way to decry its performance which with a *genuine* Max L/D of 1:34 is within an ace of the *genuine* performance of the Class of GRP single-seaters in which trainee pilots are likely to do their first solos. As a matter of

Sacrifice in the interests of comfort

philosophy it was decided that a few points on the potential glider performance were worth sacrificing in the interests of pupil/instructor comfort, visibility, ease of ground handling and other operational considerations which are so important in a highly utilised training two-seater.

On a recent visit to the factory I took the opportunity to fly the prototype ASK-21, from both the front and rear seats, in very weak broken thermal soaring conditions under a watery sun. This gave me a chance to see how the machine would soar in the poorer conditions so often prevalent in the UK, as well as to test its more general handling and potential training qualities. As the handling qualities of gliders tend to be subjective, no useful purpose would be served in describing all these in detail. But since the ASK-21 is primarily designed for club-training work I will highlight those aspects of it which make it especially suited to this rôle.

As compared with the sleek ASW-19 and 20s everywhere around the factory, the ASK-21 looked, at first sight, surprisingly large though with clean aesthetic lines. Actually it is only very marginally larger than the ASK-13, a fact which is difficult to believe as one sinks into the extremely spacious cockpits, both being designed to accommodate well-fed two-metre tall pilots in comfort. Needless to say the standard of external finish is extremely high with an absence of surface waviness on the wings quite equal to top competitive gliders. Close inspection of both primary and secondary structure revealed the obvious intention of Herr Kaiser that the glider was going to do sterling service for a very long time as everything was simple, practical and strongly constructed. This line of thinking is epitomised in the main fixed undercarriage assembly which is a well engineered, beefy, welded steel tube with large maintenance-free rubber dumbell shock absorbers, the whole assembly looking totally indestructible. Likewise the canopy hinges and welded tube support brackets looked man enough to withstand the rigours of club abuse.

As I was most interested in the instructional capabilities of the ASK-21, I elected to fly rear seat first. Being of only medium stature and of little bulk I felt that another of my proportions could be adequately accommodated in the back as well. Later when I swopped seats with Gerhard Waibel, who is of considerably more generous proportions, I realised that although this was an illusion, he still looked more than adequately comfortable. In fact, in spite of the (for me) surplus rear seat room everything fell easily to hand, leg length problems being quickly solved by the again simple but effective rudder pedal adjustment. Although the canopy is in two sections, rear hinged rear and front hinged front, the intervening hoop didn't obstruct any of the more critical angles of vision and while the general rear seat visibility is not quite as good as that of the ASK-13, due to less wing sweep forward, it is nevertheless very good. More than adequate accessable stowage space is provided in the leading edge of the wing roots.

With Gerhard flying from the front seat (for which I was duly relieved due to the extreme narrowness of Schleicher's short factory take-off strip), the tug remained easily visible as it taxied in front of us. As the tug opened up we accelerated rapidly, the large fixed nose wheel lifting off quickly at around 20kt and the machine coming unstuck below 40kt. The overall shock absorbing properties of the main wheel on the ground run is impressive for so simple a system. Once adequately clear of the ground I carried on with the flying, feeling immediately at home; a rarity for me with new types. If I had shut my eyes I could quite have believed I was back in the K-13 except that the aileron loads were lower, the roll rate rather higher and the noise level commensurate with a modern glass glider. Off tow the final impression was of the rock-like built-in stability and a sense of great strength and security. Gentle turns showed the controls to be pleasantly harmonised with again a high degree of built-in stability. With steeper turns all these characteristics remained. The rate of roll, 3.5secs 45° to 45°, is more than sufficient for normal flying purposes and the rudder just about powerful enough to cope with the adverse yaw so induced — a rarity indeed. Although the aileron loads are of course noticeably heavier than those on the current ASW series, they are considerably less than on any other two-seater I have flown and certainly more effective.

After a spell of general flying, I attacked a few of the weak thermals and found to my considerable satisfaction that the ASK-21 would circle perfectly happily at about 30° of bank at 40kt. Indeed on deliberately pulling the speed off to just above the breakaway point, I was surprised to find that I could get down to about 37kt before the glider complained.

This interesting discovery led me to investigate the low-speed characteristics further. I should perhaps in fairness say that the prototype 21 was a bit out of trim so perhaps the investigation was a little unfair. Suffice to say that it is the only glider which I can honestly say I really could not persuade to spin (a fact confirmed by Gerhard's attempts), no matter what mode of entry was adopted. Stalling attempts were equally futile except from rather extreme rates of speed reduction. Whether this is a good or bad characteristic in a two-seater is a debatable point but for day-to-day pre-solo instruction sharp spinning characteristics are an attribute which personally I would rather do without.

Since the prototype 21 hadn't finished its official test flying programme at the time I flew it, aerobatics as such with me aboard were out. Since I'm not a great enthusiast at thermalling with my head nearest the centre of the earth, I can't pretend that this fact upset me unduly. But I willingly accept the word of those who have had that dubious pleasure that the machine performs admirably the wrong way up, which it is stressed to do.

The Schleicher factory airstrip is such that you wouldn't give it a serious second look as an outlanding possibility, so it proved to be a good test of the approach path characteristics of this glider. In fact, improbable as the strip is (most Schleicher visitors don't even realise it is there), the approach was perfectly straightforward with the glide path control of the large top surface only airbrakes being only marginally less effective than that of the ASK-13. As a subsequent flight showed, sideslipping with brake gave a glide path steep enough to satisfy any last-minute field selection enthusiast. Close to the ground airbrake control is smooth and easy, as the necessity to negotiate a strategically placed drainage ditch on the downwind landing proved, and the large drum wheel brake, operated by the final part of the airbrake travel, gave startling braking efficiently to the generously proportioned main wheel.

After rotating the ASK-21 about its main wheel, an operation which required no sweating or straining or putting on of tail dollies, but a mere 5lb downward push force on the nose, I swapped seats with Gerhard and off we went again. Naturally the pupil's eye view was totally unobstructed with the added advantage as compared with the ASK-13 of a more positive visual reference point in the form of the top of the nose cone moulding. This time I braved the take-off which proved to be absolutely straightforward, the nosewheel system, which has been tested on an ASK-13 for the previous two years, proving to be a comfortable improvement on the usual nose skid arrangement. Otherwise front cockpit flying was uncomplicated and comfortable as that from the rear except that the cockpit sides were more conventionally close.

Only time will tell whether the ASK-21 will enjoy the same degree of popularity as that of the ASK-13, but with the pedigree of its design, the reputation of its designer and the manufacturing standards of Schleicher's, it will be very surprising if it doesn't.

Further details are given in the Scleicher advertisement on p218.



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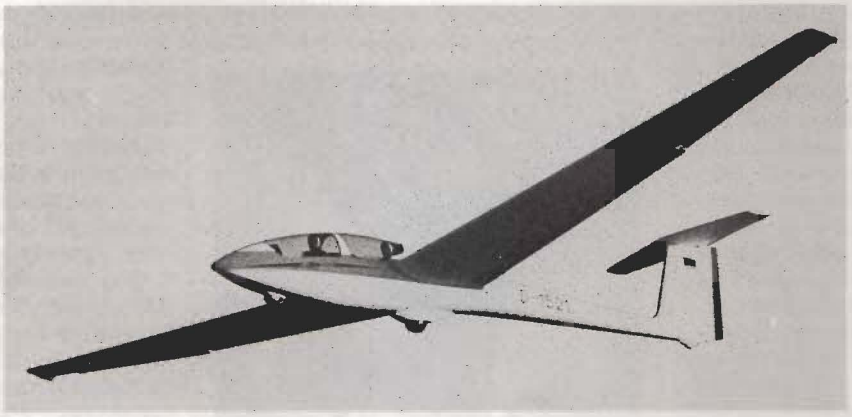
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A Psychological Perspective on Gliding

Part 2 — Anxiety and flying

KEITH A. NICHOLS

Do you feel nervous when flying? If so, should you do anything about it? In this second article (see S&G, April, p65 for Part 1) Keith, of the Department of Psychology, Exeter University, recommends anxiety management.

In the same way that an engineer's world is full of machines, a psychologist's world is often concerned with anxieties. Usually (but not always) other people's. So in writing about the issues of anxiety in gliding I am not reflecting some growing or hitherto unrevealed crisis in our sport, but am simply writing of the things that my background makes me likely to be aware of.

The anxiety reaction has evolved as a stereotyped pattern of physiological changes which direct and energise our behaviour when a threat of some sort is seen or associated with a situation that we are dealing with. Since our perception of events and people is a flexible product (in that we do not have access to a shared real world, but each construct our own personal version) there is much opportunity to see threat where it is not, and to fail to see it where it does exist.

An added burden

People are enormously different in the situations which they find threatening. An ice cool pilot may find himself dry mouthed with anxiety when addressing an audience, and similarly, a nervous pilot may drive his car with fearless abandon. Much of psychological literature is taken up with attempts to account for such variability. For our purposes here it is perhaps better if we accept it, rather than try to explain it. There are though, two important principles to be emphasised. First that nervousness with flying is in no way a valid predictor of nervousness or neuroticism in other situations. Secondly, that the origins of nervousness in flying are many in number. Some pilots may be ill at ease because they are prone to imagine hazardous outcome, others because of fears from the past (a fear of falling, for example), others because they get anxious if they do not have full control over events, and so on. Uniformity is, therefore, distinctly lacking when it comes to accounting for anxiety. But what is definite is that a proportion of pilots (amongst whom I number myself incidentally), have to accept nervousness as an added burden to deal with in their gliding activities. What the exact proportion is I frankly do not know. A quick check with some of our instructors at North Hill suggested that about 30-40% of people in training show obvious signs of nervousness, although a good many of these later become confident. Of the post-solo pilots it was thought that maybe up to 10% continued to be nervous to a level that held them back to some degree, or at least made for considerable discomfort at times.

Before going on I ought to clarify my terms a little, since nervousness and anxiety are rather general and vague. It's arbitrary but perhaps we might accept the following three part classification based on **levels** of emotion:

(1) Functional apprehension refers to the slight stirrings of anxiety that provoke caution and vigilance in response to an awareness of potential hazard. Without this we would all have flamboyant, short, psychopathic lives as pilots.

(2) Manageable, but limiting anxiety. Here we are talking of anxious feelings which a pilot knows to be unreasonable and resents, but cannot easily shake off because they are powerful and intrusive. These anxious feelings do not stop him flying but can limit what he does in comparison to others.

There is no systematic survey of such anxieties, but probably there will be certain "trigger" situations which are found to be particularly bothersome. A list of the more frequently occurring of these is bound to include fears of solo flying (in pre-solo pilots), unusual attitudes, spinning, steep turns, strong turbulence and winds, going into cloud, going out of gliding or visual range of the home field, field landings and so on. Of course, in the history of most pilots these will be the more demanding events anyway. But whereas many will quickly gain confidence the nervous pilot will find a problem of continuing tension and may well exercise avoidance in relation to his particular aversions. Those who do push themselves into feared situations probably find it is at considerable personal cost and that it leaves them stressed and shaky. Irritating nervousness of this type can often be diminished with constant practice and exposure to feared situations, but will flood back again once practice lapses. So a gap in flying of several months can wipe out hard won gains in confidence.

Risking being rather trite, it is worth squaring things up a little by noting that regular confrontation with personal fears of this type demands a certain amount of courage from a pilot. Perhaps more so than in the case of a naturally relaxed pilot: simply because the experience is that much more demanding for the nervous pilot.

(3) Incapacitating panic. Not a regular experience for pilots, but it can happen. Indeed, it is responsible for the occasional accident. Panic is an emotional state where rational control and logical thought break down and a person is driven by a very powerful urge to escape. In flying the effects are obvious, a pilot is effectively disabled. It is he, not his machine, which is out of control.

In this article I am really concerned with the second of these categories. Two questions arise. Should pilots do something about nervousness, and if so what?

The first point is easily dealt with. There are no "shoulds". It is a personal choice. Some people clearly gain much from the confrontation with their anxieties in gliding and derive a sense of significance and triumph from it all. In fact, not long ago I talked with a person who gave up gliding because he had acquired confidence and he preferred a sport that produced some fear for him (he turned to deep water sailing. People can be perverse, you know. Sometimes the thing they complain about is very important to them).

My suspicion though is that most nervous pilots would rather be free of their reactions so that they can develop more as pilots. In which case there are things to be done.

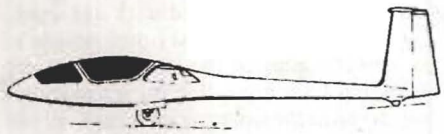
It is fashionable in my field at the moment to talk of anxiety management. The term is helpful in that it carries a message. Rather than pursuing the target of getting rid of anxieties one initially might accept them as a present reality and seek to counter their effects and live with them more effectively. Thus, we may accept that there will be anxious reactions to some stages of a flight, but by means of careful preparation minimise the disturbance that this has on our behaviour and experience. It is also well

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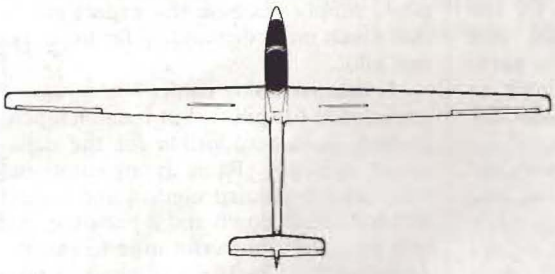
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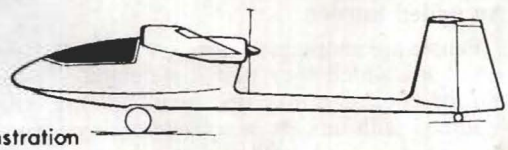
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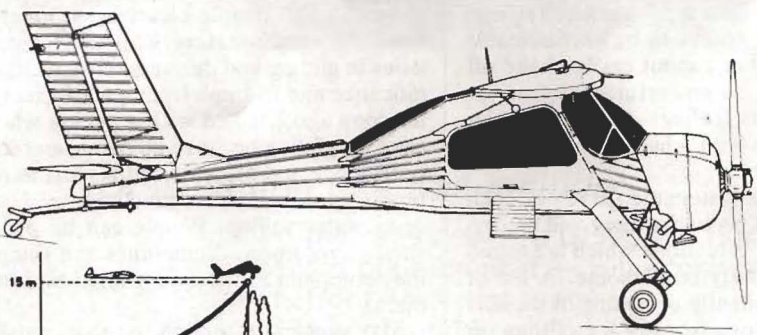
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known that it is possible to progressively erode anxieties if an intelligent planned approach is adopted. To give you a glimpse of the simple and practical techniques employed in this work I have set out below a few short notes which I hope will serve as an introduction:

Problem analysis — specification of the ideal. It is essential to have a clear knowledge of what differences exist between the known ideal physical and psychological state in flying and what actually happens. The first task is therefore one of observation and recording. Take a simple example — somebody who is very tense on a winch launch. He needs to watch himself carefully on a couple of launches and then go home and record the details in writing. He will ask what the content of his thinking was prior to launch, how he behaved physically during the launch, and with what strategy he conducted that part of the flight. It is very likely that the pre-flight thoughts will be found to be rather threat laden (or to put it rather more simply, full of unreasonable estimates of hazard and personal inadequacy in the "what if . . . , I won't be able to . . . and I can't . . . " vein). Pre-flight nerves will be a direct consequence of the pilot giving his unopposed attention to such thoughts and the development of an expectation of hazard or traumatic experience.

The physical behaviour needs to be similarly detailed. The likely observations in our example are of flustered (possibly repetitious) checks, and during the actual launch a fixed pattern including tightly gripping the control column, clinging on to something at the side of the cockpit, staring at the instruments rather than looking out, and a rigid muscular tension involving much of the body. Control movements will be gross and events such as signalling launch speed errors resisted. As far as strategy goes this pilot may well realise that the whole event was approached fearfully and rather than a deliberate thoughtful attempt to improve and enjoy the launch it was a matter of expecting it to be bad and getting it over with somehow. Analyses like this should be done thoroughly. They are a valuable guide and often reveal that the entire event has become dominated by a rigid set of thoughts and habits and that nothing systematic has been attempted to oppose these.

Equally important is the job of specifying how things should be in the ideal. Work this out by rational analysis of the situation and by discussion with instructors.* Obviously there will be some general principles. There is a clear need to oppose irrationally threat laden thoughts with more realistic appraisals of personal ability, past successes and likely outcome. There is a need for controlled and deliberate physical response in the context of a body state which is free of redundant muscular tensions, such as rigid shoulders and arms. The gaze should be directed by issues of interest, accurate flying and safety, not anxiety.

The point of specifying the ideal is to bring out the discrepancies one has in comparison to it, and to derive a set of targets for change. These need to be kept in mind in all flights. Without this sense of analytic commitment improvement becomes more a matter of chance since many people **remain** nervous because they get locked into the **habit** of nervous thoughts and behaviour.

Rehearsal in imagery — pre-flight preparation. Pursuing our example the pilot with the winch launch problem needs to make a very positive effort towards personal preparation. It has two phases. Having worked out, almost like a script, the sequence of how he would like to behave he can rehearse this in imagery. It means time set aside to relax in an armchair without distraction and imagine the event through several times at a session in a realistic approximation (for him) of the ideal form. He will, therefore, imagine slow deliberate checks, relaxing physically and breathing easily in the cockpit just before rolling, relaxing down once in the air and looking out and around. He will emphasise imagining the feel of the controls and using light slower movements. Finally he will go through the idealised versions of cable breaks and signalling. It is necessary to imagine these events through fully and remain physically relaxed while doing so (this is a standard technique in clinical psychology for dealing with fears — it has a good history for being helpful). Obviously this can be used for any aspect of flying from circuits to loops, and is by no means for exclusive use of those dealing with anxieties. It is useful for technique refinement by any pilot.

The second aspect of personal preparation has to do with the ten minutes before a flight. A time of critical importance because any benefit accrued by the above will be lost if the pilot involved allows himself to be launched hastily without finally reminding and briefing himself on how he intends to be physically, behaviourally and psychologically. The person with the winching phobia in whose fate we have acquired an interest needs to get away from the launch line and all the people in order to prepare himself and get into the feeling of the manner in which he is trying to fly, *ie* to slow down and relax. He needs a final think through the way in which he will try to modify his behaviour.

Self instruction during the flight. The trouble in the air is that one can get distracted from endeavours to relax and oppose anxieties. Old habits will reappear. A useful way of keeping on target is to *verbalise aloud* instructions about the required behaviour. I could easily get embarrassed telling you to talk to yourself but fortunately it is common practice amongst athletes and is occasionally recommended by flying instructors (I was complaining to one the other day about my circuits getting a little sloppy and he suggested talking myself round). In a situation where tension is expected, a person can greatly improve his chances of changing by taking on the role of instruction and encouragement and talking aloud in that role to himself. Of course there is a time and place for everything and it may be opportune to forgo this particular aid at times. Somehow with a passenger sitting next to you it does not seem the best moment to be saying aloud "now for God's sake try and relax and stop gripping the damn stick like an oar", if you see what I mean.

Progressive controlled exposure. (Not what some of you might be thinking — it is more boring than that.) This is a commonsense technique which basically involves a programme of events which get progressively closer to some feared but desired end-point. Let's change our example to that of spinning. A pilot who is frightened of spinning will find it useful to work on (and have the instructor work on) a sequence of events which lead up to the target of being able to spin on one's own without too much trouble. I'll use a personal anecdote here because spinning has always been a hurdle for me. It became a positive obstacle when recently I went through power training. Despite any official descriptions my experience of a Cessna 150 spinning is that it falls with a sickening thump into a nasty flicking spin. I felt dreadfully alarmed with the first demonstration. I had to use all the tricks listed above and blend these with a programme of progressive exposure. This involved two of the weekly sessions just sitting passively trying to relax while my instructor Ted King spun and recovered us. Next sessions of following through on the controls (not that I did not know what to do, that was not the point) again practising relaxing and not wrestling with the aircraft. Having progressed to managing spins dual there came a set of progressions towards spinning the thing solo. Gentle stalls, stalling with flaps and picking up a dropped wing with the rudder and so on. Such an approach ordained that a day would come when

Some of Derek Piggott's books are helpful on the specification of ideal flying behaviour, eg **Beginning Gliding.**

with copious self-administered exhortation it was up to 4000 ft over the Exe estuary and no more messing about. So it did.

Any pilot with an area of difficulty in training can make an intelligent breakdown of the troublesome event and produce a programme of progressive steps towards the idealised alternative. Collaboration with a sympathetic instructor makes things that much easier.

Anxiety management. Finally the general stance taken to difficulties of the type we have mentioned is clearly very important. One has to "budget" for being a nervous pilot in terms of committing the effort, discipline and patience to oppose it. Rather like following a track with a crosswind there must be a constant correction to fight the effect. This means that the beginning of each season may be taken up with going through the same exercises, rehearsals and programmes again, because during the layoff the insecurities will have crept back. It may be necessary during the season too.

If you can involve someone else in your struggle all the better. Someone with whom you talk prior to a flight and agree targets and then report back to after. It produces an atmosphere of responsibility and commitment. This then is the business of anxiety management.

Finally a last word about instructors. Their style is important for some are reassuring and some are **anxiety inducing.** A nervous trainee needs to build an expectation of himself that he can cope. Instructors who emphasise positive feedback, pointing out strengths and achievements as well as weaknesses and failure, are going to help him. But instructors who give mainly negative feedback always emphasising error, danger and the "what ifs" of a situation fuel the nervousness and weaken the trainee's belief in his ability to manage.

Some instructors fall back on the sledge hammer technique of total exposure to the feared situation (it is used in psychology by some too). So for the unsuspecting trainee who has confessed to problems it is three loops, a chandelle, a full spin and "you have control". It can work, but it is a gamble and could be like pouring petrol on a fire. On the other hand there is little future in colluding with a trainee and avoiding any exposure to his difficult situations. A little gentle directiveness can be a generous contribution towards a person's flying history.

To those readers who have felt that the issues dealt with in this article are personally relevant I recommend the approach of anxiety management, and I wish you well with your efforts.

AIRMANSHIP IN THERMALS

It is generally true to say that any one accident could always have been worse and also that the typical reaction is to invoke measures to prevent a recurrence. Elsewhere in this issue there is a report of a mid-air collision. However crowded a thermal may be it is evident that the hazards are not great, clear-air collisions being rare. The finer points related to maintaining separation are, more usually, learnt rather than taught. Here BILL SCULL, BGA Director of Operations, examines the various factors in the light of the recent accident.

The rules regarding sharing or joining a thermal are quite simple and are given in **Laws and Rules for glider pilots:** Operational Regulations 6.10 "A glider joining another in a thermal shall circle in the same direction as that established by the first." Recommended Practices (RP) (19) amplifies this: "When joining or leaving a thermal, a pilot should fly in such a manner that other gliders shall not be required to take avoiding action. No abrupt or large changes of direction or speed when centring or joining or leaving a thermal should be made unless the pilot is absolutely certain that there is no other glider in the thermal or vicinity."

Further RP (20) states: "No pilot should closely follow another glider, or remain flying in its blind spot, unless he is absolutely certain that its pilot has seen him and knows exactly his whereabouts."

This might be regarded as slightly contentious; the corollary to "or remain flying in its blind spot" is accepting someone flying in yours (blind spot). Almost everyone must have done this at some time or other and accepted it because the other pilot is a "reliable sort of chap", "always keeps a good lookout, you know". However good a lookout the other pilot maintains it must be accepted that flying in such a way as to rely on the other pilot's lookout increases the risks.

The third RP (21) says, in essence, that you accept full responsibility for collision avoidance if you fly in the other pilot's blind spot. Furthermore that the glider in whose blind spot you are flying should not have to take avoiding action when the other glider becomes visible again.

These three RPs deal with the broad principles of flying together in thermals. Actual practice however shows up a number of potential hazards which most pilots will have experienced occasionally. These hazards often occur because the circles being flown are not concentric.

The extreme example of this is when two gliders, both turning left, find themselves facing each other head-on. It is probable that one of them (or both) is not properly centred in the thermal; almost certainly one glider is overtaking the other — in the vertical sense. The risks are evident and the avoiding action obvious — or is it? Facing each other head-on but both banked to the left might give these alternative avoiding actions:

1. Both tighten the turns.
2. Both alter course to the right.

The second complies with the standard collision avoidance rules but 1. might be the better action to take. However in practice it all depends on circumstances and the need for anticipating the potential hazard.

This example suggests that there is need for a rule for overtaking (vertical sense again) in thermals. This would be a difficult one to write and even more difficult to apply in practice. Should the overtaking glider fly outside on a wider circle, or inside it? The chances are that unless it's inside (in the core of the thermal) it will not be possible to overtake anyway. The decision if you are "climbing through" another glider must take into account the basic rules already mentioned with particular emphasis on:

1. Not forcing the other pilot to give way.
2. The blind spot considerations — putting yourself in his or him in yours.

The other factors which determine whether such practice is acceptable or not might be termed circling (formation)

compatibility which requires gliders sharing a thermal to fly with similar bank angles and speeds and in substantially concentric circles. We all know what happens if none of these criteria are met; one pilot's nerve breaks and he either rejoins the thermal lower down or finds another one. If, on occasion, the other pilot joins your thermal and, you suspect, has not seen you at all then your departure will be immediate. Only rarely will the reaction be "this so-and-so isn't going to push me out of my thermal". The philosophy of sticking up for one's rights almost certainly will increase the hazard because in jockeying for the best position closer proximity than usual will have to be accepted.

Polite thermalling has, therefore, the additional criteria of:

1. Circle concentricity.
2. Similar speeds and angles of bank.

In practice different speed and angles of bank are acceptable in some circumstances — the K-8 circling inside the waterballasted Nimbus 2 for example (at 30° bank and speeds of 35 and 55kt respectively the difference in radius of turn is nearly 300ft). The K-8 would do three circles to the Nimbus's two (approx) and so would effectively be overtaking on the inside, to use a motoring analogy: the concentricity/speed/bank criteria must, in the final analysis, take into acount *adequate separation*.

Failure to maintain adequate separation increases the risk; the circumstances leading up to an accident usually means that a number of factors have combined — usually in quick succession — and a point of no return (PNR) has been reached after which the collision may be unavoidable.

Additional psychological factors here may include the competitive spirit — trying to climb faster than the other gliders (although if everyone is centred the difference in climb rate is not all that significant), plus the ones already mentioned of "he's not going to push me out" and the more subtle (and insidious) "I'm centred — it's up to him to make his circle concentric with mine." Too many psychological pressures obviously increase the risks or the chances one is prepared to take.

Past the point of no return collision avoidance may prove difficult for the sole reason that to increase separation may require an early break from the circle or one glider to accelerate and the other to slow down. If the glider which needs to accelerate is flying slowly at the time it cannot climb and may not be able to tighten the circle all that much. Whatever the avoiding action necessary it is almost certain that the situation should not have arisen in the first place. It's a bit like the situation on a motorway where three lanes reduce to two; inevitable, and largely due to a lack of anticipation, separation is reduced. If when there were three lanes this was marginal (*ie* less than thinking distance/reaction time) from the vehicle in front, it is bound to be less, and potentially fraught, in two lanes.

The margin for error in any circumstance must allow for a mistake on the other pilot's part. No matter how great the pressures are, failure to make this allowance, if a collision were adjudicated, would be regarded as a degree of negligence or blame.

The message should be loud and clear:
Maintain adequate separation and allow for the fact that the other pilot may be one of the "Blunders".*
Aim to make circles concentric with those of other gliders; if they are, different speeds and angles of bank may be acceptable.
Don't rely on the other pilots' lookout — they are probably as busy as you are.
Don't react to the pilot who pushes you out of a thermal in the way that a motorist who has been "carved up" does. The other pilot probably has nerves of steel or no imagination. Consider whether it is better to give way and fly again tomorrow.
Soaring in company is a subtle art and changes take place insidiously.

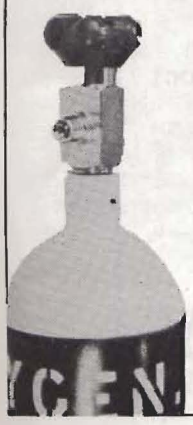
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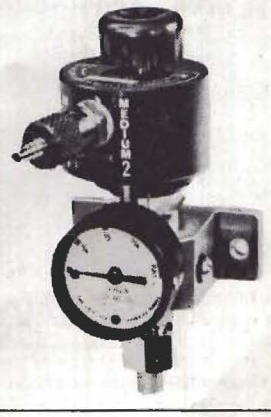
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THE NAVY WILL USE TALENTS YOU DON'T EVEN KNOW YOU HAVE.

"WHY NOT THE HALF HOMEBUILT?" asks BOB RODWELL

Alongside the mega-million-pound confections of the world's aerospace giants at the Paris International Air Show at le Bourget in June, a bunch of French schoolboys aged between 14 and 16 was quietly building a 37:1 glide-ratio sailplane.

The latest project of the pupils at the Edouard Herriot College at Livry-Gagnan near Paris was the centrepiece of the French Gliding Federation's display.

Under the leadership of woodwork teacher and Diamond pilot Jean Magne the boys at Herriot have, since 1967, built no fewer than four Fauconnet single-seaters and drastically modified one; repaired a badly bent C-311 sailplane and a Stampe SV-4 aerobatic biplane; made the moulds for a home-built glass-fibre project; recovered a Bijave two-seater for the National Soaring Centre at St Auban and, in 1974, undertook construction of the prototype Carman 15-34 Kit-Club 15m sailplane.

Ready for wave season

The aircraft being built at le Bourget in June was a "production" example of the now certificated Kit-Club and was destined for the Côte d'Azur Soaring Centre at Fayence, whose fleet it should join before the wave season later this year.

The point about the Carman Kit-Club is that it marries factory-built high-precision glass-fibre wings of the Carman 15-36 with an easily-built wooden fuselage and empennage, to obtain most of the aerodynamic advantages of high-cost professional construction with some of the economies of homebuilding, thus obtaining a rather better performance than that of the kind of homebuilt project which, unaided, most amateurs would choose to undertake.

Builders of the Kit-Club receive the wings raw from the mould and ready for hand-finishing, which is expensive in terms of commercial man-hours. But, overall, a half-and-half factory /amateur project can be completed far more rapidly than a wholly homebuilt sailplane, giving rather less time for the constructor's initial enthusiasm to flag. It should certainly be well within the competence of a keen club to organise a small team to complete such an addition to the fleet within the duration of a relatively short winter closedown.

There is a lot of talk currently about stimulating the very low level of amateur construction in the UK gliding movement and of a design competition for a suitable homebuilders' machine. I suggest that consideration should be given to the Carman-style approach, marrying amateur enthusiasm and thriftiness with professional factory skills to produce the wings which, after all, do the essential aerodynamic work.

Parisian Pot-Pourri

Photographs by CRISPIN RODWELL







Top: Latest addition to the ever-lengthening range of Rumanian sailplanes is the IS-29EM single-seater motor glider, available with both 15m and 20m wings and powered by a French Rectimo 1200cc, 39hp engine. Now certificated in Rumania, first deliveries of the IS-29EM are scheduled for next year. Left: Up and over for Mme Paulette Fournier, wife of well-known French lightplane designer, Réné Fournier, as she displays features of the RF.9 two-seater Limbach-powered motor glider. The RF.9 enters production in October at an initial rate of two a month. The claimed best glide angle is 28:1. Right: The newest shape among the soaring hardware at le Bourget was the Carman 15-38 which the French company Siren is to build alongside the Silène and Iris at Issoire.

REGIONALS' RESULTS

with more results to come in a future issue.

INTER-SERVICE REGIONALS — **Little Rissington, May 1-10**

Open Class

No.	Pilot	Sailplane H'cap	Day 1 3.5 250km ▲	Day 2 4.5 Cat's Cradle	Day 3 5.5 394km ■	Day 4 6.5 314km ■	Day 5 9.5 328km ▲	Total pts
1	Jones, R.	118 Nimbus 2	22*	1000	850	1000	999	3871
2	Benoist, J. D.	99 Astir	25	914	832	955	1000	3726
3	Hancock, A. R.	108 Mosquito	1	781	835	965	996	3578
4	Boydon, M. V.	100 Cirrus	26	730	946	813	911	3426
5	Hartley, K.	118 ASW-17	45	674	749	954	900	3321
6	Taylor, N.	99 Astir	0	642	900	825	761	3128
7	Lidbury, D. P. G.	108 Speed Astir	0	549	785	905	788	3027
8	Hymers, S.	106 PIK 20D	1	686	780	785	759	3011
9	Wilson, F. G.	99 Astir	6	626	649	855	849	2985
10	Bolton, P.	96 Std Libelle	0	437	839	876	812	2964
11	Allsop, T. I.	99 Twin Astir	4	723	720	589	768	2804
12	Newell, Pamela	100 Cirrus	0	486	855	664	777	2782
13	Richie, P. J.	100 Cirrus	0	645	809	470*	846	2770
14	Whitehead, P.	99 Astir	0	484	795	633	822	2734
15	Cooke, J.	96 Std Libelle	0	509	817	700	645	2671
16	Mulholland, S.	108 Mini Nimbus	1	494	653	858	417	2421
17	Cook, P. G.	108 Mini Nimbus	0	656*	815	926	DNF	2397
18	Bould, A. D.	99 Astir	0	462	831	443*	656	2392
19	Chinn, G. M.	114 Kestrel 19	0	658	735	119	849	2361
20	Clarke, M. A. T.	100 Cirrus	0	531	833	813	163	2340
21	Heaton, N.	99 Astir	0	481	797	490*	461	2229
22	Fox, J. A.	99 Astir	0	541	840	345	460	2186
23	Meyer, R. J.	99 Astir	1	535	891	255	390	2072
24	Armstrong, A.	96 Cobra	0	341	742*	321	657	2016
25	Harkins, A.	99 Astir	0	313	794	594	131	1832
26	Gibson, P.	99 Astir	0	344*	783	82	610	1819
27	Rowney, P. J.	99 Astir	0	114	865	609	155	1743
28	Hardy, M. F.	99 Astir	0	457	119	385	606	1567
29	Griffiths, F. P.	99 Astir	0	472	467*	82	464	1485
30	Stevenson, H. E.	99 Astir	0	251	296*	168	132	847
31	Law, M. J.	99 Astir	0	186	502	3	120	811

Sport Class

No.	Pilot	Sailplane H'cap	Day 1 4.5 Cat's Cradle	Day 2 5.5 316km ▲	Day 3 6.5 210km ▲	Day 4 8.5 95km ▲	Day 5 9.5 208km▲	Total pts
1	Harmer, P. M.	86 Skylark	850	587	997	1000	947	4381
2	Cunningham, G. W.	94 Dart 17	833	431	961	955	1000	4180
3	Caunt, D.	86 K-18	1000	616	996	572	984	4168
4	Farthing, R. C.	92 Pilatus B-4	575	495	897	927	885	3779
5	Dean, M. J.	88 Oly 419	853	733	582	618	912	3698
6	Reed, A. Kosak, J.	82 Pirat	445	585	856*	582	844	3312
7	Steiner, P. H.	86 Skylark 4	577	756	1000	87	604	3024
8	Colvert, T.	84 K-6CR	565	646	560	569	510	2850
9	Dransfield, P.	94 Dart 17	825	541	917	454	0	2737
10	Lee, M. E.	86 K-18	581	556	442	447	605	2631
11	Fearon, W.	86 K-18	502	549*	632	353	506	2542
12	Matthews, G. V.	86 K-18	342	577	511	311	661	2402
13	Mahon, M. C.	86 K-18	421	563	168	510	627	2289
14	Forsyth, G. S.	94 Club Libelle	325	476	502	472	307	2082
15	Sharpe, G. J.	86 K-18	400	549	0	503*	608	2060
16	Williams, A. Pilch, P.	82 Pirat	81	546	620*	570	205	2022
17	Kirkingray, A.	84 K-6CR	332	372	450	512	78	1744
18	Saunders, J.	86 K-18	473*	501	60	81	442	1557
19	Clarke, A.	86 Skylark 4	9*	Disqualified				
20	Thomson, A. F.	84 K-6BR	0	0	DNF	DNF	0	0

Club Class

No.	Pilot	Sailplane H'cap	Day 1 4.5 Cat's Cradle	Day 2 6.5 180km ▲	Day 3 8.5 78km race	Day 4 9.5 140km ▲	Total pos
1	Mitchell, K.	78 K-8	1050	575	524	822	3071
2	Wright, E. C.	72 K-8	589	651	470	1000	2710
3	Edyvean, J. R.	72 K-8	295	307*	647	953	2202
4	Richardson, J. L.	78 SF-26	717	326	192	959	2194
5	Dennis, S. C.	78 K-8	722	393	441	541	2097
6	Johnson, R.	78 K-8	722	18	375	797	1912
7	Tapson, B.	78 K-8	206*	15	559	885	1665
8	Bouine, A.	80 L-Spatz	702	13	460	392	1567
9	Smith, I.	78 K-8	115	297*	153	735	1300
10	Burn, J. D.	78 K-8	67	581	400	130	1178
11	Wood, I.	78 K-8	411	0	373	152	936
12	Whyte, D.	78 K-8	428	0	0	53	481
13	Dickinson, T. J.	78 K-8	191	0	159	28	378

DNF = did not fly, * = penalty

WESTERN REGIONALS — **Nympsfield, June 2-10**

No.	Pilot	Sailplane H'cap	Day 1 5.6 211km ▲	Day 2 6.6 143km ▲	Day 3 8.6 122km goal	Day 4 9.6 157km ▲	Total Points
1	May, R. C.	98 Std Libelle	824	616	732	592	2764
2	Sandford, R. A.	98 Std Cirrus	756	647	778	541	2722
3	Jefferies, M. B.	108 DG-200	676	201	688	1000	2565
4	Jones, R.	118 Nimbus 2	564	694	809	390	2457
5	Corbett, G.	96 Std Libelle	427	632	637	651	2347
6	Reed, D. W.	114 Kestrel 19	542	588	726	415	2271
7	Batty, C. J.	108 Diamant 18	629	617	289	661	2196
8	Davies, F. J.	114 Kestrel 19	613	275	747	465	2180
9	Morris, G. D.	96 Std Libelle	819	0	569	597	2075
10	Shadrach, D.	86 Skylark 4	1000	DNF	679	365	2044
11	James, P. W.	98 Std Libelle	828	0	619	541	1988
12	Findon, D. E.	98 Std Libelle	413	275	726	534	1948
13	Throssell, M. Healey, T.	100 SHK	— 266	673 —	— 513	420 —	1878
14	Harding, R. W.	100 Std Cirrus	677	683	0	478	1838
15	Webster, J. W. A.	100 DG-100	542	251	450	448	1699
16	Bobbin, T. G.	110 Kestrel 17	810	85	528	441	1664
17	Dimock, H. R.	108 Mosquito	628	600	0	374	1602
18	Parker, S. J. C.	100 Std Cirrus	803	0	314	438	1555
19	Christey, G. B.	108 ASW-20	206	285	689	285	1465
20	Hawes, C. W.	116 Nimbus 2	557	DNF	476	390	1423
21	Vennard, D. A.	106 PIK 20B	805	75	0	470	1350
22	Swann, A. C.	100 SHK	716	0	0	566	1282
23	Murphy, T. J.	106 PIK 20D	365	0	453	402	1220
24	Hodsman, D. A.	85 Std Austria	964	156	DNF	DNF	1120
25	Evans, B. E.	99 Astir CS	395	182	0	525	1102
26	Davies, M. C.	104 Cirrus 17.7m	669	0	0*	422	1091
27	Smoker, J. L.	114 Kestrel 19	67	DNF	535	415	1017
28	Atkinson, G. B.	114 Kestrel 19	575	0	DNF	415	990
29	Hyett, A. R.	96 Cobra 15	727	0	DNF	DNF	727
30	Roberts, D. Gibbons, J.	90 K-6E	117 —	— 64	0 —	— 418	679
31	Hill, F. J.	94 IS-29D	DNF	DNF	DNF	343	343
32	Holland, J. D	101 Std Jantar	70	DNF	DNF	DNF	70
= 33	Kennedy, A.	97 Astir CS 77	0	0	0	DNF	0
= 33	Herringshaw, G.	114 Kestrel 19	0	DNF	DNF	DNF	0

DNF = did not fly, * = 60pts penalty. Computer by courtesy of Bristol Computer Centre

BOOKER REGIONALS — **July 14-22**

Sports Class

No.	Pilot	Sailplane H'cap	Day 1 14.7 265km ■	Day 2 15.7 235km ▲	Day 3 16.7 134km ⇄	Day 4 17.7 278km ▲	Day 5 20.7 187km ■	Day 6 21.7 103km ▲	Total Points
1	Fitchett, B.	118 ASW-17	876	986	208	326	470	0	2864
2	Aldous, R. F.	108 Nimbus 15	870	1000	172	219	494	0	2739
3	Bradley, R.	108 Vega	913	822	126	177	559	68	2665
4	Carlton, M. R. Clarke, R.	118 Nimbus 2	1000 —	910 —	0 —	0 —	— 510	— 93	2513
5	Hawes, C. W.	118 Nimbus 2	730	721	55	0	1000	0	2506
6	Pope, M. H. B.	116 Kestrel 20	823	646	160	0	845	0	2474
7	Kay, A. White, S. A.	118 Jantar 2	826 —	908 —	— 52	— 245	— 304	53 —	2396
8	Chalmers, D.	108 Vega	673	712	16	83	883	0	2317
9	Curtis, C. J.	114 Kestrel 19	750	675	155	184	318	154	2236
10	Fleming, A. M.	118 Nimbus 2	771	715	139	169	376	0	2170
11	Young, J. Young, M.	118 Nimbus 2	— 486	— 615	— 10	42 —	961 —	— 0	2114
12	King, P. J. S.	108 Mosquito	322	589	86	236	870	0	2091
13	Jones, R.	118 Nimbus 2	487	829	181	0	407	20	1924
14	Farmer, A. T.	108 Nimbus 15	604	763	33	27	296	1	1724
15	Christy, R.	108 ASW-20	782	654	42	0	203	0	1881
16	Appleby, D.	104 Cirrus VTC	595	593	0	71	361	0	1820
17	Cousins, R.	108 ASW-20	553	785	48	0	203	0	1567
18	Cook, I. R.	108 Nimbus 15	363	235	18	227	536	0	1379
19	Stevens, L.	112* Jantar 1	303	597	0	0	424	0	1324
20	Murphy, T. T	106 PIK 20D	623	340	18	0	300	0	1297
21	Hegner, A.	108 ASW-20	407	47	0	29	0	0	483
22	Mason, E. J.	118 Nimbus 2	265	0	0	0	0	0	265

Club Class

No	Pilot	Sailplane H'cap	Day 1 14.7 193km ▲	Day 2 15.7 235km ▲	Day 3 17.7 258km ▲	Day 4 20.7 187km ■	Day 5 21.7 103km ▲	Total Points
1	Watt, D. S.	96 Club Astir	1000	789	0	1000	0	2789
2	Freeman, D. J.	102 ASW-19	871	915	94	872	0	2752
3	Woodford, J.	98* ASW-15	802	803	96	998	0	2699
4	Ellis, J. J.	100 Std Cirrus	866	838	11	882	0	2537
5	Giddins, J. B. Hawkins, P.	99 Astir CS	736 —	— 721	52 —	— 917	26 —	2452
6	King, Sally	98* Std Cirrus	814	696	0	920	0	2430
7	Keogh, B.	96 Std Libelle	799	710	5	842	0	2356
8	Forsey, L. K.	98* ASW-15	930	1000	114	268	0	2312
9	Purser, H. J.	88 Oly 419	780	720	13	753	0	2266
10	Brisbourne, R. P.	96 Cobra 15	875	816	1	307	52	2051
11	Walton, R.	98* Std Cirrus	597	672	0	714	0	1983
12	Clark, M. A.	100 Std Cirrus	751	803	25	204	0	1783
13	Bevan, A. Belbin, E. R.	103 Phoebus 17	699 —	— 305	— 31	718 —	— 0	1753
14	Blackmore, R.	101 Std Jantar	82	778	33	835	0	1728
15	Harbourne, P. N.	99 Astir	108	662	0	837	0	1607
16	Rollings, C. C.	99 Twin Astir	329	958	28	266	—	1581
17	Wilson, D. A.	84 Skylark 3	160	738	0	645	0	1543
18	Barlow, I. Downing, R. A. Evans, C. J	90 K-6E	— 788 —	219 — —	— 25 —	136 — —	— — 0	1168
19	Cockett, T. F.	96 Club Astir	763	46	25	194	53	1081
20	Reed, D. W.	76 K-13	618	275	0	0	0	893
21	Quitter, A.	99 Astir	391	86	0	394	0	871
22	Nunneley, J.	102 ASW-19	236	600	0	0	0	836
23	Forrest, R. G.	84 Skylark 3	337	0	0	256	4	597

* = flying without waterballast.
Two South Africans, R. Bradley and R. Clarke, flew in the Sport Class.

LASHAM REGIONALS — **July 28-August 5**

Open Class

No	Pilot	Sailplane H'cap	Day 1 28.7 131.3km ▲	Day 2 31.7 148.37 km ▲	Day 3 1.8 143.34km ▲	Day 4 4.8 170.7km ▲	Day 5 5.8 222.6km ⇄	Total Points
1	Jones, R.	118 Nimbus 2C	0	332	900	917	936	3085
2	Fleming, A. M.	118 Nimbus 2B	7	177	936	957	764	2841
3	Randle, Jane	116 Kestrel 20	0	143	984	834	848	2809
4	Torode, H. A.	118 Kestrel 22	0	61	1000	690	886	2637
5	Hanfrey, A. W.	118 Nimbus 2B	0	0	630	1000	946	2576
6	Parker, I. Gentry, J.	114 Kestrel 19	0 —	— 0	650 —	— 916	753 —	2319
7	Pozerskis, A.	118 Nimbus 2	0	99	546	819	813	2277
8	Mason, E. (P1) Fitchett, B. (P2)	104 Janus	0	147	160	904	1000	2211
9	Linee, T.	114 Kestrel 19	0	0	434	825	707	1966
10	Bird, M.	118 Nimbus 2	0	0	402	676	825	1903
11	Pozerskis, P.	118 ASW-17	8	208	98	825	714	1853
12	Tull, V. F. G.	114 Kestrel 19	0	9	204	780	803	1796
13	Foot, R. A.	116 Nimbus 2	0	217	DNF	725	788	1730
14	Frampton, J.	116 Kestrel 20	1	0	DNF	745	690	1436
15	Young, J. R.	118 Nimbus 2	2	17	156	929	281	1385
16	Docherty, T. P.	114 Kestrel 19	0	54	273	29	827	1183
17	Benton, D	118 Nimbus 2	0	0	0	824	DNF	824
18	Curry, A. Blackwell, C	114 Kestrel 19	— 0	0 —	— 0	504 —	— 142	646
19	Harwood, H.	114 Kestrel 19	0	0	DNF	DNF	DNF	0

15m Class

No.	Pilot	Sailplane H'cap	Day 1 28.7 131.3km ▲	Day 2 31.7 148.37km ▲	Day 3 1.8 143.34km ▲	Day 4 4.8 170.7km ▲	Day 5 5.8 222.6km ⇄	Total Points
1	Lysakowski, E. R	108 Vega	207	5	1000	800	895	2907
2	Purche, P. G. H.	108 Nimbus 15	184	0	782	817	842	2625
3	Innes, D	108 Mosquito	0	8	828	768	1000	2604
4	King, P. Spreckley, B. T	108 Mosquito	21 —	— 0	622 —	— 1000	950 —	2593
5	Lovell, C.	106 Mosquito	0	0	716	894	900	2510
6	Stafford-Allen, P. R.	106 PIK 20D	0	0	777	877	814	2468
7	Zealley, T. S.	108 ASW-20	251	0	560	788	808	2407
8	Murdoch, M.	108 ASW-20	0	0	424	793	869	2086
9	Light, P.	108 Mosquito	0	0	534	792	661	1967
10	Piggott, A. D	108 Mosquito	57	0	677	858	388	1980
11	Watson, A. J.	108 Vega	83	0	746	719	Not controlled	1548
12	Horne, P	108 Vega	0	0	0	—	—	—
		*96 Std Libelle	—	—	—	573	779	1352
13	Morland, N.	108 Nimbus 15	0	0	317	437	592	1346
14	Clutterbuck, A.	108 Vega	127	0	698	378	Not controlled	1203
15	Burton, A. J.	108 Vega	0	0	702	DNF	DNF	702
16	Cousins, R.	108 ASW-20	62	2	124	6	DNF	194
17	Dimmock, H. R.	108 Mosquito	0	0	0	5	157	162
=18	Gardiner, H.	108 Vega	0	0	0	DNF	DNF	0
=18	Hoye, J.	106 PIK 20B	0	0	DNF	DNF	DNF	0

* = replacement aircraft (Rule 3.5)

Standard Sport Class

No.	Pilot	Sailplane H'cap	Day 1.31.7 124.71km ▲	Day 2.1.8 113.43km ▲	Day 3.4.8 144.7km ▲	Day 4.5.8 164.2km⇄	Total Points
1	Metcalfe, G.	90 K-6E	181	648	1000	1000	2829
2	May, R.	98 Std Libelle	47	649	859	905	2460
3	Moulang, A.	98 ASW-15	0	643	873	826	2342
4	Jarvis, H.	100 Std Cirrus	0	429	938	696	2063
5	Sly, T.	102 Cirrus 17.7m	74	144	960	797	1975
6	McGill, Janis	90 K-6E	0	586	524	816	1926
7	Pobjoy, M.	100 Std Cirrus	0	439	773	699	1911
8	Keogh, B.	98 Std Libelle	0	30	796	828	1654
9	Knowles, J.	90 Skylark 4	56	0	662	825	1543
10	Stewart, K.	99 Astir CS	0	109	854	597	1542
11	Baker, N.	100 Std Cirrus	0	16	753	716	1485
12	Watson, Trish	98 Std Libelle	23	438	162	699	1322
13	Bicknell, S.	99 Astir CS	0	172	446	695	1313
14	Lincoln, A.	99 Astir CS	89	206	256	723	1274
15	Gardiner, D.	104 Cirrus 17.7m	0	13	361	873	1247
16	Luke, J.	105 Phoebus C	0	0	692	483	1175
17	Haszlakiewicz, M.	90 Pirat	0	—	674	495	
	Szulc, R.		—	0	—	—	1169
18	Marczynski, Z.	100 Std Cirrus	0	21	151	921	1093
19	Woodward, N.	102 ASW-19	0	278	83	717	1078
20	Disdale, P.	90 Pirat	123	—	687	—	
	Ballard, G.		—	61	—	107	978
21	Bridges, R.	104 Cirrus 17.7m	101	0	307	104	512
22	Lassan, M.	99 Astir CS	0	0	21	199	220
23	Grant, I.	103 Phoebus C	0	0	DNF	DNF	0

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INTER-UNIVERSITY TASK WEEK Saltby, July 9-13

No, not the same as Uniglide, for this was a cross-country only contest and thus complementary to the aims of Uniglide which is a get-together for non cross-country flying.

This contest, in its first year off the ground, has started by being a huge success. Twelve pilots, with experience from pre-solo to three Diamonds, were able to enjoy five days of tasks under the direction of Brian Spreckley, National Coach.

On Day 1, due to overcast and strong NW wind, a fun out and return task to Belvoir Hill (200ft and six miles away). Two aircraft made it back, using the only thermal of the day. Day 2, task A was a 131km triangle which was completed by everyone electing for this distance while task B was a 96km declared goal for Silver distance hunters — and three were successful. A 200km triangle on Day 3 and a 114km triangle on Day 4 was completed by everyone but the 130km triangle on Day 5 wasn't completed.

Achievements: Pete Whitehead (Edinburgh, K-13) completed all tasks except on Day 5. Bob Fletcher (Nottingham, K-13) somehow managed not to complete the tasks — by landing at Leicester East on three days running. It still isn't known what attraction that airfield had for him! Jim Wilson (Edinburgh, K-8), Dave Chapman (Nottingham, K-8) and Geoff Lyons (Nottingham, K-6CR) achieved their Silver distances. Final results, scoring to National Ladder rules, as follows: 1 Pete Whitehead (Edinburgh), 2877pts; 2 Bob Fletcher (Nottingham), 976pts; 3 Geoff Lyons (Nottingham), 863pts with Edinburgh University ahead of Nottingham University on team scores by 3877pts to 2824.

Inter-Universities Task Week, 1980

It is hoped to hold this event again at Saltby, provisionally from July 7-13. It will be open to all members, including staff, of University, Polytechnic and College GCs. Further information can be obtained from David Chapman, Nottingham University GC, Athletics Union, University Park, Nottingham.

A message from Pete Whitehead

This was a superb week with good weather, a relaxed but competitive atmosphere, good food by Trish and kind hospitality from our hosts. Buckminster GC. This year many entrants withdrew due to financial problems (the time to budget for next year is now), but I hope all the University, Polytechnic and College GCs in the country (and there are many) make a point of including this event in their calendar next year.

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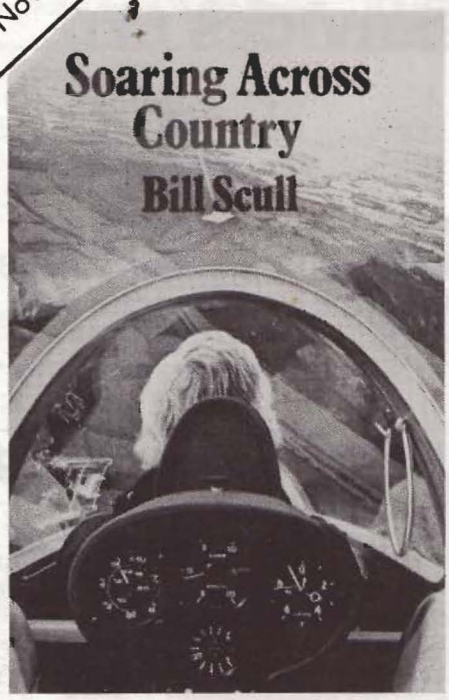
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STEVEN LONGLAND

Stop Press! God not dead, merely resigned

The gliding movement, not to mention that Class B apple, Earth, has an exciting time ahead of it, though whether this will be the overwhelmingly positive experience that "exciting" might suggest is more than open to doubt. Escalating fuel prices; inflation; recession; tyranny; human isolation and despair; random violence (not that there is anything to be said for the other sort!) . . . *and* all the rest! Hell, dear friends, is actually here now, not safely rotting away in some distant dustbin of discredited ideas.

Clearly the problems facing the gliding movement are not uniquely those of the movement. They reflect pustular eruptions of more unpleasant problems that are certainly not going to go away while we look in the other direction and think desperately of flying! This is no mild mid-European skirmish; the eventual victory of right and a blissful return to the habits of yesterday. On the contrary, whatever happens in the next few years, things will never be the same again.

Our problems can be placed into four groups; **a)** Fuel, **b)** Costs, **c)** Airspace and **d)** Our attitudes to these problems — a matter closely linked with why the problems arose in the first place. Of these four groups, Airspace, though a serious problem, is minor compared with the others. After all, one doesn't need Airspace if there's nothing to put into it. Fuel and Costs are clearly major problems. As far as Fuel is concerned, our possible courses of action are rather limited.

We need fuel, no matter what, and even if someone invented an anti-gravity motor it would almost certainly be expensive and one can bet that it would require some highly sophisticated fuel itself. Since there is plenty of expertise that can be brought to bear on the fuel problem, (if only it can find the energy to organise itself and start doing something), I'm not going to concern myself with Fuel, except to say that the longer we wait before we do something about it, the worse the cure is likely to be.

Whilst lack of fuel may seem like the kiss of death to gliding, the more subtle and sly wolf in Grandmama's clothing is Cost.

Gliding has never been really cheap. If it is not expensive in terms of money, it is certainly a ravenous consumer of time. Not so long ago the quoted prices for high performance gliders were in the region of £1000 — for those days a small fortune. Gliders still cost a small fortune, and additionally, in times of economic uncertainty they are an extremely poor investment. You can't spend a glider, nor do very much else with it if you can't fly. (I suppose that if it is made of wood you can at least break it up and burn it for warmth.) Most people look to clubs to provide them with something to fly. As financial questions become more pressing people become less and less willing to fork out money, not just to buy gliders of their own (which isn't so important), but to actually fly — and that certainly isn't good from a club's point of view. Couple rising launch costs to those incurred simply arriving at the site and you have a very powerful disincentive to flying. Unfortunately the effect of cost is not confined to reducing club revenue. It also affects flying safety.

Three or four years ago people would take a launch into non soarable skies just for the fun of it, perhaps to practise some modest exercise, or merely to amuse themselves and frighten everybody else with aerobatics. The tendency now is for pilots to sit on the ground until they are quite sure that putting down their hard cash will make them stay up. This suggests that £x for the extra circuit and landing is not regarded as preferable to coming a more expensive cropper later on through simple lack of practice. When a pilot does decide to launch, on an aerotow, he will almost certainly pull off tow a good deal lower than he might have in cheaper times, prepared to risk an outlanding just outside the site boundary, or a dangerously low circuit, or, what is in some ways far worse, to return a few minutes later and indulge in a one man riot with the tug pilot, or anyone else who happens to be in earshot.

Stop Press! Punch and Judy seek Earth franchise!

It is possible to divide mankind into three indistinct categories. Kickers, Kicked and those who don't want to be either — those in the middle.

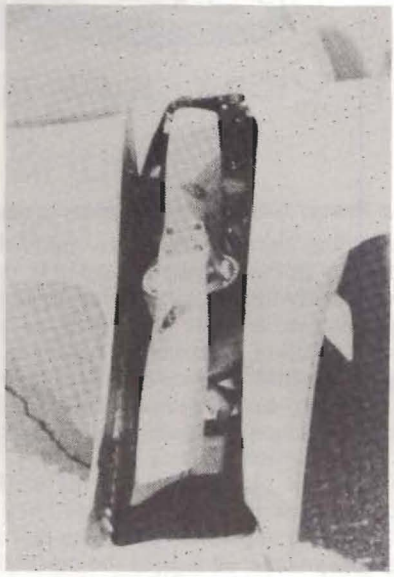
If the world were a sane place, which it obviously is not, the Kicked and the Kickers would come together, mutually attracted by their complementary needs, and either annihilate each other completely like matter and anti-matter, or live happily ever after doing what comes naturally. Most importantly they would leave the Middle alone. Such a Utopian arrangement has never been known to work. The Kicked are perversely drawn, not to those who might serve their deepest interests best, but to provoking the Middle to outrage — usually by constant bellyaching! After the mess is over — **ouch!** — the Kicked wallow in glutinous and gooey puddles of guilt, crying, "Oh dear! Why Oh why did I make you do that? I feel so utterly despicable making you do that!" Equally perversely, the Kickers find little or no pleasure in knocking the stuffing out of those bits of human furniture that **long** to be sat upon. The Middle, attacked from both sides, and tricked into virtually killing themselves, gradually shrivel up and die, the victims of that most secret of all crimes — a psychological murder which leaves the corpse buried securely in the victim. The real culprits live on. The Kicked continue to sigh and moan like the whoopee cushion wind in a hundred thousand desolate chimneys, and the Kickers, naturally anxious to please nobody but their own true self (as they see it!), leap around like unkissed frogs, or demented Kung Fu experts engaging in helpful and meaningful activities like shattering bricks and breaking the odd neck or two.

Basically, this is what problem **d** is all about. It might seem to be a minor problem, but one factor most important to the health of the gliding movement is the general relationship between its members. A club, like the movement, requires a good "atmos-

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phere". Atmosphere is not some mysterious force that survives and flourishes by itself, but neither is it entirely dependent on whether the launching facilities are working or not. A good atmosphere comes out of genuine mutual co-operation, not motivated by either Kicked or Kicker psychology. A few enthusiastic and **tolerant** people can raise the level of club operations to something more than the sporty chasing after badges, winning competitions, or spending a hundred years relaying the field drains — and not flying in the meanwhile. By way of contrast, a few of the other sort of people can sufficiently misplace their energy enough to wreck a club. And so the quality of the atmosphere is rather vital; and not to be judged solely by the amount of babbling in the pundits bar, but by whether each member of the club, *regardless of his or her level of skill and experience*, actually feels that the club is a worthwhile place to go to.

Stop press: Cain and Abel sign non aggression pact

In the world at large, co-operation is almost always enforced by rules and regulations. Some are commonsense. The vast majority are the result of whim and prejudice. One thing that rules and regulations cannot do, though it is what they are supposed to do, is make people good. You might just as well wag a dog's tail to make it feel happy. Gliding clubs are in a rather limited sense, co-operatives. For those that are run without a full time professional staff, voluntary labour is a must. It helps to keep the costs down (sometimes at the expense of efficiency) and produces, on the whole, a much more cohesive club spirit. Anything which tends to destroy that actually helps to break down the gliding movement as a whole, to produce cliques and factions leading to further "organic" irritation between members; a process which, in the human body, leads to prolonged and debilitating illness climaxing in major surgery. In other words, allowing that least tangible of club assets, its atmosphere, to become poisoned ensures that the patient may not survive the cure. Clubs are obviously going to have to cope with the problems produced by fuel and costs but they will also have to cope with the more intractable one of people's attitudes. If the movement as a whole, in its moment of crisis, were to be attacked on every side, inside and out, by the kicked and kickers in its ranks, it would stand a good chance of becoming the kind of bureaucratic monster, the cabbage like thing ostensibly created to protect the interests of its members (yet actually doing them no good at all, like political parties and unions), that it has so far avoided becoming. It is up to the clubs to reorganise themselves in any way which will help to promote, carefully, the kind of co-operative spirit that the gliding movement needs to make the solution of its other, more obvious problems, easier and less painful.

This may mean that we have to discuss amongst ourselves just what sort of people gliding needs (not just who needs gliding) because the types of people who come into and stay in gliding also decide — whether they mean to or not — the sort of people who are going to follow them.

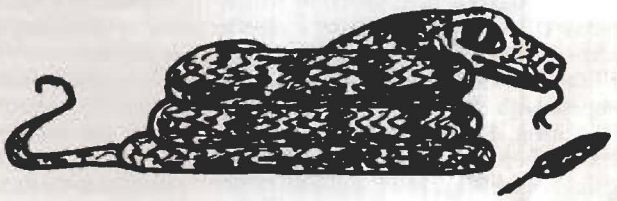
In discussing all these problems we are in fact discussing the survival of gliding. And perhaps we have to ask ourselves why it should, or ought to survive?

Should it survive because it is fun? Well, it ought to be fun, but that hardly counts as a reason. Many other things are just as much fun and far less expensive. Has gliding a practical value; some redeeming social role? Well, it doesn't make many people much money, and it isn't a spectator sport in the Roman Circus tradition of motor racing. Is it simply a sink down which one pours surplus time and money? It could be that, and if it is that then when time and money run out, so does gliding. Is gliding an energetic sport that enhances the health and well being of mind and body? Hum! Apart from the brief strains of rigging there is little effort involved. Pushing gliders from here to there, and then back again, is hardly athletic. And, when we fly, we spend the entire time sat down, strapped into our seats like mutinous children, and quite unable to do anything normal in moments of acute stress and anxiety except waggle a few parts around or jump out. The rest of gliding seems to be standing around exercising the muscles of the face. In short, it is not good for your physical welfare, your bank balance, your mind — or anything, apparently! So what is it good for?

Gliding is a form of self-knowledge, regrettably abused by many of the people who involve themselves in it. I don't mean that as a joke, or as some pseudo clever way of describing something else. On the straightforward practical level the disinterested laws of aerodynamics are not suspended by the over exercise of the imagination, and challenging the entire universe to a duel by having unshakeable faith in the effectiveness of one's will only leads to spinning in off the final turn. At its best gliding has very little to do with simply pinging round the country like a super ball in a squash court, or drifting lazily and self-indulgently round the edge of Mummy — local soaring. Like most worthwhile sports it has within it the potentiality for insight into one's relationship, not merely with the shambolic contents of the human ego (a pitiful thing at the best of times), but to the seemingly "outside" world. In fact, should the relationship between what is in, and what is apparently outside of one be more than mildly inappropriate, then one stands a very good chance of having one's universe come to a full stop with a fatal accident. Whilst this might seem a rather drastic way of redressing any imbalance between human expectations and what's really going on, it is certainly effective. What gliding can give people is a unique chance, not to measure themselves up against each other — which seems a supremely daft, not to say adolescent way, of passing the time — but to find out who they actually are. In view of the fact that most people are remarkable forgeries of themselves, this would seem to be a good thing. Whether people will like the results is not for me to say, but *solely* on the basis of offering an opportunity for useful insight in a world that has become increasingly fraudulent and second hand, gliding would seem worth preserving.

The question then becomes "Are we prepared to preserve it?"

Are we?



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THE GREAT AMERICAN DREAM

JUSTIN WILLS

Part I

Gillian and I had always longed to visit the US, and each issue of *Soaring* with its reports of Standard Class gliders exceeding 90mph round huge triangles and 18 000ft cloudbases increased the desire to go and try it ourselves. However, the logistics problem seemed to defy reasonable solution, as taking a glider from Europe seemed very expensive and complicated, yet it appeared virtually impossible to hire the necessary equipment over there. I finally thought of the idea of a glider exchange, and placed the following advertisement in last January's issue of *Soaring*:

> *Mosquito, specially smoothed wings, full competition equipment, trailer and towcar. Available to a US pilot for European competitions in return for similar offer and equipment for US contests.*

At first I received little response until I mentioned the idea to Glasflügel, and they spread the word at the Chicago Gliding Convention and came back suggesting I contact Dr Mike Greenwald of Joliet, Illinois.

The subsequent telephone call introduced me to the fundamental characteristic of the Great American Dream: everything and anything is possible. On hearing my proposals from a total stranger 4000 miles away Mike's reaction was summed up by his words: "Fine, I see no problem. Just tell me in which contest you want to fly and in what ship." I asked whether it would be possible to fly a Mosquito as I was thoroughly familiar with it, and Mike replied: "Certainly. My friend Ecke Friederich has one, and I know he would be happy to lend it to you." Feeling a bit like a voyeur peeping into Aladdin's cave I asked about my part of the bargain, to which Mike replied calmly that he had no definite plans to visit Europe, but that he could do so during summer 1980 and would await my advice on the best time and contest. I put the 'phone down, wondering if it could all be true.

Flaps locked at zero

In the subsequent weeks of planning we decided that the ideal itinerary would be to arrive in Chicago, spend a couple of days there familiarising ourselves with the equipment, then proceed to a suitable competition in time for two days' practice, and thereafter have a final week in which to explore one of the famous US soaring areas with a view to possibly attacking the British distance record. With this in mind we decided to try for the Standard Class contest, in which Racing Class gliders could compete with their flaps locked at zero. This was to be held at Hutchinson, Kansas, which is approximately in the middle of the US where conditions were expected to be strong, the landing fields excellent, and it was only a day's drive from Colorado or Texas! I wrote anxiously to the organisers, and they replied welcoming us; subsequently Sherrill Bredfeldt visited us in London during a business trip from Hutchinson with lots of good advice on what to expect, and even arranged for us to be accommodated by Steve Beasley, the Contest Director, at his home. So all we had left to do was to pack an odd assortment of clothes, sealing strips, cushions, sun tan cream, instruments, gel coat etc, and, clutching our Super Apex tickets, we were off.

The first 72hrs following our arrival in Chicago provided us with a further demonstration of the American Dream: never had Gillian and I worked so hard and slept so little, but at the end of it we had completed an ambitious sealing and fettling programme on the Mosquito, installed and altered the instruments and camera mounts, test flown it, become familiar with the trailer and gigantic Oldsmobile towcar, and driven the 800 miles down to Hutchinson. That we were able to do all this in the time was thanks firstly to Ecke Friederich, who met us at the airport (despite the identifying white "W" on our suitcase becoming an "M" as Gillian stuck it on with the suitcase flat and the handle towards her), put us up for the night and spent

An account by the winner of the

the whole following day helping us at his machine tool workshop, allowing us to do whatever we wished to his precious glider; and secondly to Mike Greenwald, who arrived back from the 15m contest that evening and showed no undue surprise when two somnambulists staggered into his house at 10.45pm (we had been due two hours earlier) so exhausted we were hardly able to eat the magnificent meal his wife, Sandra, had prepared as a welcome, and were only able to speak in monosyllables. Fortunately, by the next day we were sufficiently awake to recognise Mike as a personification of the American Dream: after a varied career he is now a leading orthopaedic surgeon in the Chicago area, while Sandra is a practising paedetrician. Having an apparently inexhaustible supply of energy and enthusiasm coupled with great ability enables Mike additionally to run an aircraft leasing business and a substantial farming enterprise which includes the raising of thoroughbred horses, and whose land conveniently houses the Chicago Gliding Club, where he has his own hangar containing three Mini Nimbuses and a Pitts Special.

We reached Hutchinson late in the afternoon, after a 13hr drive across almost featureless country except for the Mississippi river which we crossed at St Louis. Still reeling at the combination of tiredness and a sense of good fortune for having stumbled into such generosity and kindness from Ecke and Mike, we had our next shock: Sunflower Gliderport was the largest airfield we had ever seen. Formerly a US naval airbase (it is only 2000 miles from the sea!) it boasted a concrete apron,



called the ramp, around the control tower bigger than most entire gliding fields in the UK, and the whole contest could have operated from it alone. However, in addition there were two enormous parallel main runways, numerous minor runways, and miles of perimeter tracks and taxi-ways, most of which were usable. Among this pattern of concrete were fields of lovely sunflowers, whose heads tracked the sun across the sky.

Following local advice we securely picketed the trailer to steel hoops embedded in the concrete and then sought out Steve Beasley. He immediately understood our tiredness problem, and led us back to his house in Hutchinson some ten miles away into which he had moved only seven days previously with his wife Jackie and their cat. Having such a marvellous base which

e US Standard Class Nationals

we could treat as our own made a huge difference to us and was undoubtedly a major factor in our subsequent success.

After our first full night's sleep for four days we spent the following morning fettling the glider, checking in, and meeting some of the other competitors. We had thought that there might not be very many of the big names in the contest, but were proved utterly wrong: the contest was full, with 67 entries, including a large number of the famous US pilots; Ben Greene, A. J. Smith, Herbie Mozer, Wally Scott, Laszlo Horvath and many others. They all seemed to have flown in one, if not both, of the '79 Nationals for the other FAI Classes, so were clearly in good practice! I therefore hastily took off for a practice flight myself, and examined the surrounding countryside.

The first obvious feature was its complete flatness, just wheatfields to the horizon, broken up into geometric squares by the roads which ran either due north-south, or east-west, with virtually no diagonals. Hutchinson lay to the north, and was a sizeable town with what had been the longest grain elevator in the world until last year, when the Russians completed an even longer one. In every other direction one could see grain elevators stretching towards the horizon at roughly ten-mile intervals.

The flight itself lasted only an hour, and was curtailed by the arrival of medium cloud from the north, which rapidly cut off all convection. After landing I learned that the current weather pattern was most untypical, and much poorer than usual. This was proved by the next day which was unsoarable, being simply overcast and humid. In the evening the organisers held the mandatory pre-contest briefing which involved running through the rules with the pilots. Not surprisingly this resulted in lots of discussion, and was only brought to a halt after two hours by the arrival of a spectacular thunderstorm outside with its accompanying deluge of rain. Fortunately, I had already studied the rules in some detail, and noted that whilst they were mostly in line with European practice, there were the following three major exceptions:

1) Take-off times were selected by the pilots and selection was done immediately after briefing each morning. Whilst this tended to result in a typical streamed take-off picture, the pilots' ability to alter their take-off times up to 20min prior to their original selection meant that if the weather started to develop differently to expectations the pilots could do something about it.

2) In the US turning point procedure is to fly over turning points, whereas in Europe we fly round them. Thus we were not required to photograph the turning point itself, but a prescribed feature near it from an appropriate angle to establish that the glider was over the turning point at the time. There was no photographic sector and no system of graduated penalties, you just had to get it right. The system seemed to work, but I am sure it gave the organisers some interpretation problems.

Better to complete than gamble

3) Much to my surprise, the scoring system was comparatively lowly geared towards speed points, these being awarded on a linear proportional method based on the fastest speed. The important conclusion I drew from this was that if there were any doubts about the weather it was far more important to fly in such a way as to ensure completion of a task rather than to gamble for a fast time. Admittedly, the rules did stipulate that the organisers should set tasks with a view to achieving a 90% completion rate, but I felt this to be somewhat unenforceable, and so it proved.

Day 1. After an initial no-contest day, briefing commenced with a complicated discussion regarding the definition of the airfield's boundaries, until the owner, Bill Seed, who was also a competitor, brought it to a satisfactory close by declaring: "It's my airfield, and the boundaries are where I say they are." Thereafter we were set a 146 mile triangle to the north-west. Clouds began to build up and spread out earlier than I had expected, so I moved my take-off time forward. However, I lacked the courage to set off, and hung around for a few others to start. The result was that I eventually crept across the line at 2600ft under a large patch of overcast, very conscious of an even larger area of clag in the direction of the first turning point. By heading off at 45° to course I managed to reach some sunshine and good lift, which enabled me to get to the first turning point where thermals had just recommenced as a result of the top cover breaking up. Some gliders on the ground below gave silent warning that no lift could be expected under the overcast. The first half of the second leg went quite well, but ahead lay a large sunless area blanketing the next turning point. Several gliders with reasonable altitude set off into the murk, but I could see no future in it and decided to simply try to stay airborne and await developments. Gradually the overcast began to disperse and after 20min, during which I circled downwards from 3500ft to 2000ft, usable lift reappeared. This area slowly drifted towards the turning point, until I calculated I could get round it and back to the sunshine. I cut it a bit fine, getting down to 1000ft before recontacting, but at least I knew I was ahead of the 23 gliders on the ground at the turn! Thereafter I flew cautiously back towards Hutchinson, keeping a careful check on my position as the visibility was poor. I had to cross one more wide gap before taking a final thermal 16 miles out which got me home with 100ft to spare. I clambered out feeling

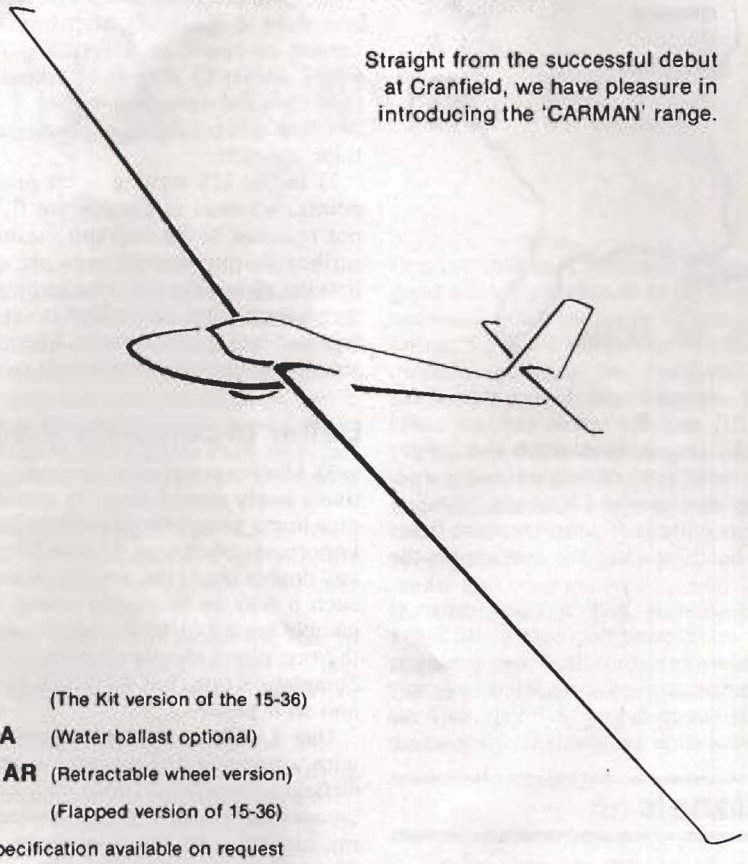
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pretty exhausted, but was delighted to find that my 37.78mph was good for 2nd place in a field of 16 finishers.

Day 2. A 103.5 mile triangle, to the north. Another day of uncertain weather, so this time I did set out fairly early. A good thermal over Hutchinson helped me along and got me ahead of an accompanying Std Cirrus. However, 20 miles ahead I was confronted by a solid cloud mass blocking the route and it seemed it must be raining hard over the turning point. As I hung back pondering the problem some of the later starters went past and ten minutes later their landing messages confirmed my analysis of the conditions ahead. Devoid of ideas I tacked up and down the leading edge of the murk, trying to find a way round it or through it and failed. Remorselessly I was driven back down the first leg as it advanced at a steady 10kt. Thus 4hrs later I was back at Sunflower. There I learnt that Wally Scott had triumphantly completed the task by starting 15min ahead of me and getting through the storm to its further edge, which then led him to the second turning point. There was also another finisher, the Std Cirrus I had left in my first thermal, who had somehow found a way through the storm and into the better conditions beyond. Nearly everyone else landed on the first leg, or back at Sunflower as I did, and it was a no-contest day. However, the day did have one positive result: it was discovered that the final digit of the phone number displayed on the task board was incorrect, resulting in one surprised local farmer receiving calls from nearly 50 pilots. That he retained his sanity and his sense of humour was demonstrated when Dick Schreder rang in and announced: "This is Victor Tango here," to which the farmer replied, "Well, I'm sure glad to know you, Victor Tango."

Day 3. A 140.5 mile triangle, to the south. Once again I felt the weather might prove treacherous, and set off 15min ahead of what I estimated to be the best start time. As a result I had a rather slow first leg, catching it off cycle, but thereafter things improved, and I made up a couple of minutes at the end by going in low to the best thermal of the day and using it for a fast final glide. My 58.52 was 7th for the day, and I remained 2nd overall.

A good speed day

Day 4. A 167 mile triangle, again to the south. The weather seemed to be improving and I felt it should prove a good speed day. I took great care in trying to start at the best time by flying out along the first leg before starting to watch the cycling process. I was rewarded by a fast leg to the first turning point, which I turned at 5700ft. Half-way down the second leg there was a belt 20 miles wide where the clouds had de-cycled, and I decided to gamble by pressing on. Down to 1200ft I ran straight into 6kt which whisked me back to cloudbase and enabled me to reach the second turning point at 2500ft. The last leg lay downwind so that although the thermals were fading I got back fast enough to achieve 56.17mph and first for the day.

Day 5. After another two no-contest days we were set a 103.5 mile triangle to the north. The day started with low stratus that slowly broke up to form ragged cumulus. At first it was hard work just staying airborne and as soon as cloudbase reached 3000ft I set off, once again 15/20min ahead of my estimated optimum start time. The first leg was slow, but a good thermal at the first turning point up to cloudbase at 3500ft helped me make better progress towards the second turn, where I joined about 20 gliders in a convenient thermal. The final leg initially presented a ten mile blue hole with better looking conditions beyond, and I foolishly got down to 800ft before contacting a weak thermal that eventually took me back to 3000ft. I was then horrified to discover that during this ten minute struggle a thickening sheet of cirrus appeared from the west travelling at a tremendous rate and had spread right across the homeward track. The cumulus ahead immediately began to decay as together with Ben Greene and Dick Schreder I searched for every bit of lift available. We finally reached the western outskirts of Hutchinson where I managed to find feeble lift up to 1900ft before it died. I had no option but to set off for Sunflower, with my glide chart showing it to be at the extreme limit of my range: a mile ahead and 300ft lower was John Brittingham in his Std Cirrus doing the same. The last four miles were really exciting, with John landing just short of the airfield boundary, and my crossing the line at three feet. Only six got back and I was second for the day (44.19mph), behind Ben Greene (47.3mph). All the later starters were stopped by the cirrus, which was generated by a line of thunderstorms that arrived with startling rapidity, and showed us why it was advisable to derig every night and picket one's trailer securely. The wind when it came was short but sharp, and a Super Cub was considerably damaged despite being picketed with chains.

Day 6. The last day. A 131 mile triangle to the south. By now I had a 75pt lead over Dave Culpepper, the only other pilot to complete all the tasks so far, and he was some 250pts ahead of A. J. Smith in 3rd place. Clearly all I had to do was to get round safely in a reasonable time. It did not turn out like that!

Took a small risk

I picked a fairly early take-off time to give myself the chance to start early if it appeared necessary! I decided conditions were still improving, and landed back to have the flies cleaned off the leading edges. I then became concerned about leaving too late, and crossed the line at 3000ft determined to get on with the task. Those starting five minutes behind with proper racing starts caught me almost immediately, but going into the first turn I took a small risk and went in low, and fortunately caught a strong thermal at 1200ft which got me ahead again. The second leg went well, with 6kt thermals and cloudbase at 5500ft. At the second turn I was still ahead, but we were all down to 2500ft. Having taken my photographs I set off towards two hopeful-looking clouds on the homeward track, but they de-cycled as I reached them, and almost immediately I was down to 1200ft in a large area of sink. I desperately scratched my way back up to 2000ft and then set off in search of something better, which I failed to find, and ended up at 800ft in zero sink with a Libelle 500ft above me. Things now looked really bleak, with all the clouds decaying, and I doubted whether there were many ground generated thermals left. Fortunately the zero sink slowly developed into a usable thermal and I eventually got back to 3000ft, joined a gaggle struggling homewards, and we finally all got back together some 30min later.

I had no illusions as to the time I had lost on the last leg and had little doubt that I had thrown away my leading position. I therefore landed on a remote runway to enable me to readjust my philosophical outlook. Thus, after Charlie, the flap fuzz, had come up on his motor bike to check my flap seals and then roared away, the Mosquito and I were left to ourselves on the edge of a deserted runway. Some 20min later we were still on our own when a soft whistle overhead made me look up in time to see Dave Culpepper finishing. Clearly he had had troubles also and I must have won after all! Moments later Gillian arrived in the Oldsmobile having missed my arrival altogether, and had sadly concluded that I must have landed out until Steve Beasley came over and told her I was back. And so we stood there in the late afternoon sunshine, surrounded by acres of sunflowers, drinking in the fact that, for us, the ultimate Great American Dream had come true.

(To be continued in a winter issue)

Final results: 1, Justin Wills (Mosquito), 3776pts; 2 Dave Culpepper (LS-3), 3619pts; 3, A. J. Smith (Hornet), 3598pts; 4, Ben Greene (ASW-20), 3510pts; 5, Carl Koenig (Std Cirrus), 3441pts; 6, Eric Mozer (ASW-19), 3418pts; and 7, Wally Scott (Vega), 3381pts.

BGA AND GENERAL NEWS

TWO GLIDING HONOURS

George Lee, World Open Class Champion, is to be awarded The Royal Aero Club's premier trophy, the Britannia, and Doc Slater, a very active consultant editor of S&G, is to receive a Silver medal. Our congratulations to them both.

MID-AIR COLLISION AT LASHAM

During the Lasham Regionals there was a mid-air collision between a Kestrel 19 and a PIK 20B in clear air.

The Kestrel's rear fuselage was broken off and the pilot, Hugh Harwood, bailed out. The pilot of the PIK, John Hoye, was able to return to Lasham (the collision took place just two miles upwind of the airfield) although his glider was quite badly damaged. No other gliders were involved.

The circumstances leading up to the collision suggest that the Kestrel was banked more steeply than the PIK and climbing faster. The respective circles were evidently not concentric. The only conclusion to be drawn is that each glider was in the others "blind spot" until the last moment, by which time it was too late to take avoiding action.

Take-off with elevator disconnected!

A PIK 20D was launched with the elevator disconnected at Booker on August 20. The glider was substantially damaged and the pilot, Harry Cook, injured.

This type of accident is on the increase — at least three in the UK in the last 15 months. With a T-tail the weight of the elevator means that it rests on the push/pull rod and when the stick is moved so does the elevator whether it is connected or not. The only way to check for sure is to have someone hold the control surface(s) and move the stick against them.

W. G. Scull,
BGA Director of Operations

EUROGLIDE RESULTS

George Lee, World Open Class Champion, flew an ASW-17 at Euroglide to win the Open Class with Brian Spreckley (ASW-20), a BGA National Coach, leading the 15m Class and Graham Smith (Std Jantar) the Standard Class.

The competition held at Husbands Bosworth from August 18-27 and hosted by Coventry GC, gave seven contest days for the Open and 15m Classes and five days for the Standard Class. A report and final results will be in the next issue.

RECORDS HOMOLOGATED

The following record claims by Karla Karel have been homologated in the British National women's single-seater category and have also been homologated by FAI as world records. The two flights concerned were made this January in Australia in an LS-3. The triangular distance, 779,68km, and the 750km triangle speed at 99.45km/h was claimed on January 24 with the 300km triangle speed at 121.54km/h on January 30.

The new UK multi-seater 300km triangle speed record is now held by B. Fitchett and A. S. Miller with a flight on May 9 in a Janus at 85.87km/h.

LEAD HELD ON THE LADDER

There has been little change at the top of the National Ladder this summer.

For the second time the same names dominate the leading places on both lists sent out after the deadline for the last issue of S&G.

Open Ladder

Leading pilot	*Club*	*Pts*	*Flts*
1 L. Beer	Thames Valley	6317	4
2 A. Kay	Thames Valley	5654	4
3 J. Cardiff	London	5578	4
4 L. Forsey	Thames Valley	5404	4

Club Ladder

Leading pilot	*Club*	*Pts*	*Flts*
1 C. C. Rollings	Airways	5640	4
2 G. Metcalfe	Surrey & Hants	4261	3
3 C. Lovell	Surrey & Hants	4024	4
4 Alison Jordon	Imperial College	3911	2

GLIDING ABROAD

If any pilot has flown from foreign gliding sites this summer we would appreciate a brief account of their experiences, giving costs, facilities, etc and names of contacts. We are hoping to publish an article in the February issue for the benefit of anyone contemplating a gliding holiday next year. The deadline is November 30 due to the Christmas break. (Ed)

1980 SOARING CALENDAR

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SPECIAL ANNIVERSARY ISSUE

Our apologies for the lateness of the last issue but the circumstances were beyond our control. We hope in future to have the magazine out a little before the end of the publication month.

The next issue is to commemorate the 50th anniversary of the BGA and we are planning 56 pages, the majority of which will be devoted to a series of articles reflecting the development of the movement and various aspects of the sport during this half century with a look to the future.

INCREASED INSURANCE

The BGA Executive Committee have decided to increase the minimum amount of compulsory third party insurance cover carried by all gliders to £250 000. This replaces the previous minimum cover of £100 000 and should be put into effect as soon as possible and in any case by January 1, 1980, at the latest.

GLIDER REGISTRATION LETTERS

The BGA Executive Committee have introduced a voluntary glider identification system to take effect from October 1, 1979. This means that all gliders with a BGA C of A are allocated a three-letter combination which can be used for visual identification and radio communication if required.

The registration letters are issued to gliders free of charge and are non-transferable, thus remaining with the glider throughout changes of ownership and removing the expense of repainting numbers as at present. No more competition numbers will be allocated after October 1 but holders at that date will be able to retain their numbers if desired by continuing to pay an annual fee to the BGA as previously. However, when numbers are not renewed in future they will not be reallocated. The three-letter registrations will be permissible for use in competitions from 1980 onwards.

A list of the registrations allocated to BGA gliders may be obtained from the BGA office.

PHILIP WILLS MEMORIAL FUND

The Trustees of the Philip Wills Memorial Fund thank the following for their donations received up to August 15:

Anon	P. Moss
J. Beringer	N. Murphy
L. Crane	J. Nunneley
Dorset Gliding Club	F. Reeks
E. Giles	T. Rudge
V. Griffith	R. Rutherford
J. Harber	Shropshire Soaring Group
Kent Gliding Club	A. Stanford
P. Lewis	C. Towle
H. Manthorpe	

GOLDEN JUBILEE DINNER

We regret that the arrangements made to celebrate the BGA's Golden Jubilee with a dinner at the Grosvenor House Hotel, Park Lane on November 30 have had to be cancelled. Recent cost increases (including VAT) meant that the ticket price would have to exceed £20 a head and, understandably, this has proved to be more than most glider pilots would wish to pay. The BGA will, however, still be holding its 50th birthday party. It will now take place in March as part of the 1980 BGA Weekend. Further details will follow later.

Roger Barrett,
BGA Chairman

NEW FACILITIES FOR LONDON GC

Work has started on a £90 000 building scheme at the London GC's Dunstable site to give new office space, lecture rooms and a tug hangar. It is near the existing headquarters and been designed by Tarmac, who are also the builders.

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ALL THREE DIAMONDS

No.	Name	Club	1979
97	P. J. Richie	Kestrel	19.5

DIAMOND DISTANCE

No.	Name	Club	1979
1/153	E. J. B. Davern	South Africa	21.12.78
1/154	C. Dews	Cambridge Univ	19.5
1/155	P. J. Richie	Kestrel	19.5

DIAMOND GOAL

No.	Name	Club	1979
2/915	D. H. Gardner	East Sussex	6.5
2/916	A. P. Goodfellow	Norfolk	19.5
2/917	R. W. Watson	Southdown	19.5
2/918	R. H. Dixon	South Wales	19.5
2/919	C. J. Evans	Thames Valley	19.5
2/920	P. Reading	Imperial College	19.5
2/921	P. J. Marshall	Airways	1.4
2/922	K. J. Durno	Essex	19.5
2/923	P. J. Henderson	Southdown	19.5
2/924	R. C. May	Dorset	1.6
2/925	R. J. Mills	Trent Valley	19.5
2/926	D. L. H. Sampson	Dorset	19.5
2/927	C. Masterman	Bristol	19.5
2/928	L. Cooper	Wolds	15.7

DIAMOND HEIGHT

No.	Name	Club	1979
3/410	J. A. Sims	Clevelands	17.7

GOLD C COMPLETE

No.	Name	Club	1979
717	E. J. B. Davern	South Africa	29.12.78
718	D. H. Gardner	East Sussex	6.5
719	R. W. Watson	Southdown	19.5
720	R. H. Dixon	South Wales	19.5
721	S. Fraser-Beck	London	11.3
722	E. R. Belbin	Airways	11.3

GOLD C HEIGHT

Name	Club	1979
J. J. Sharp	USA	9.10.77
E. J. B. Davern	South Africa	29.12.78
W. A. Urwin	Borders/Millfield	13.9
R. H. Dixon	South Wales	7.5
S. Fraser-Beck	London	11.3
C. H. Appleyard	SGU	29.4
R. A. Harlow	Herefordshire	24.9.78
M. Bond	Clevelands	12.5
C. G. Lodge	Clevelands	8.7
R. J. Washer	Clevelands	8.7
E. R. Belbin	Airways	11.3
J. C. K. Hutchings	SGU	18.7

GOLD C DISTANCE

Name	Club	1979
D. H. Gardner	East Sussex	6.5
A. P. Goodfellow	Norfolk	19.5
R. W. Watson	Southdown	19.5
R. H. Dixon	South Wales	19.5
C. J. Evans	Thames Valley	19.5
P. Reading	Imperial College	19.5
P. J. Marshall	Airways	1.4
K. J. Durno	Essex	19.5
P. J. Henderson	Southdown	19.5
R. C. May	Dorset	1.6
R. J. Mills	Trent Valley	19.5
D. L. H. Sampson	Dorset	19.5
C. Masterman	Bristol & Glos	19.5
L. Cooper	Wolds	15.7

SILVER C

No.	Name	Club	1979
5259	J. S. Riddoch	Ridgewell Oatley	19.5
5260	G. M. Franzl	London	11.5
5261	M. J. Neech	Kent	19.5
5262	I. G. Macfarlan	Lasham	19.5
5263	J. A. Boys	Lasham	5.5
5264	P.J. Stewart	Clevelands	19.5
5265	I. G. Bass	Bicester	16.4
5266	E. C. Massey	Blackpool & Fylde	19.5
5267	Brenda Snook	Surrey & Hants	1.6
5268	C. J. N. Weston	Kent	5.5
5269	K. Manley	Kent	19.5
5270	R. Turrell	Cotswold	1.6
5271	A. Smith	Kent	19.5
5272	R. M. Johnson	Borders/Millfield	25.5
5273	T. J. Parker	Thames Valley	6.5
5274	S. S. Mackintosh	SGU	26.5
5275	I. D. King	Devon & Somerset	6.5
5276	M. Gulson	Bristol & Glos	19.5
5277	J. Patchett	Bristol & Glos	14.6
5278	C. Allsop	Midland	14.6
5279	R. Gardiner	Cotswold	1.6
5280	A. P. Clarke	Kent	23.5
5281	J. Evans	Cambridge Univ	19.5
5282	Christine Hilton	Dorset	1.6
5283	G. A. Hobben	Highland	19.5
5284	F. J. Tucker	Southdown	19.5
5285	C. R. Haddow	Highland	19.5
5286	E. A. Henman	Dorset	1.6
5287	A. B. Dickinson	Derby & Lancs	1.6
5288	I. J. Carruthers	Dumfries	14.6
5289	C. H. Appleyard	SGU	16.6
5290	R. J. M. Fenion	Dumfries	14.6
5291	T. D. Stewart	Bicester	16.6
5292	A. C. Ball	Bicester	22.6
5293	J. W. Barrett	London	19.6
5294	W. H. Bush	Bicester	16.6
5295	I. Strickland	Surrey & Hants	19.5
5296	R. E. Roberts	Burton & Derby	20.6
5297	I. Barlow	Airways	19.6
5298	D. Haigh	Oxford	16.4
5299	M. A. Germain	Imperial College	22.6
5300	J. N. Heath	Southdown	19.5
5301	A. G. Fordham	Fenland	18.6
5302	D. Thomas	Bristol & Glos	27.6
5303	B. W. Finnie	Surrey & Hants	26.6
5304	W. M. Farrell	Ulster	24.6
5305	R. C. Hufton	Doncaster	5.7
5306	M. C. Downey	Aquila	5.5
5307	A. Malyon	Essex	14.6
5308	M. S. Chana	Wolds	30.6
5309	J. E. Sherwood	Norfolk	22.6
5310	Anne-Marie Bower	SGU	1.7
5311	T. S. Wilson	London	1.7
5312	G. R. Davey	Bannerdown	1.7
5313	J. S. Wand	Essex	23.6
5314	Jill Atkinson	RAE	22.6
5315	W. H. G. Elliot	Southdown	19.5
5316	S. J. Davis	Kestrel	6.7
5317	T. J. Mitchell	Thames Valley	10.7
5318	D. T. Edwards	Cambridge Univ	6.7
5319	B. A. Eastwell	East Sussex	5.7
5320	N. M. Sims	Stratford	23.6
5321	G. Johnson	Wolds	1.6
5322	M. G. Sturmey	London	10.7
5323	J. Hunter	Wolds	15.7
5324	S. J. Smith	Bicester	14.7
5325	M. S. Hunt	Deeside	12.7
5326	R. J. Brownlow	Bicester	1.6

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OVERSEAS NEWS

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GERMAN CHAMPIONSHIPS

Landings were being made up to 21.00hrs on the final day of the German Nationals at Bückeburg from May 19-June 4.

The Open Class winner, Manfred Dick (Nimbus 2) with 3859.36pts, won only the first of five competition days. Klaus Holighaus (Nimbus 2) was second with 3726.34pts yet didn't win a single day and came 15th on the last task but one. The Standard Class was won by Hans Glöckl (Hornet C) with 2587.16pts in four competition days and R. Schramme (ASW-19) was second with 2551.98pts. The 15m Class winner was Ernst Peter with 3389.44pts in six days and Peter Lackner was second with 3177.53pts, both flying ASW-20s. — *Luftsport.*

PADERBORN NEEDS BETTER CONDITIONS

With the next World Championships to be held at Paderborn from May 24-June 6 1981 the organisers are to hold a "running-in" contest during 1980. The period selected is the second most promising weatherwise with the practice week from July 20-25 and competition from July 26 to August 8.

This year's Regionals (88 entries) held at Paderborn from June 23-July 8 was beset by dreadful weather resulting in low scores and only one task in the Open and Standard Class could be completed by a few.

The Open and Club Class finished with 3 contest days, the 15m Class with 2, and the Standard Class with 5. Let us hope that they have used up their bad weather quota and that 1981 will produce the conditions to make the World Championships a success.

USA NATIONAL CHAMPIONS

Dick Butler, Kestrel 604, won the Open Class held from June 19-28 at Minden, Nevada. Herbert Mozer, ASW-20, did likewise in the 15m Class held from July 3-12 at Adrian, Michigan. David Culpepper, LS-3, became the Standard Class champion after 5 contest days held from July 17-27 at Hutchinson, Kansas. The winner in the Standard Class was Justin Wills of GB who flew a Mosquito. (See page 232).

LUCKY ESCAPE FOR WORLD CHAMPION

During the competitions at Rieti, Italy, in early August the Vega flown by World Champion Standard Class, Baer Selen from Holland, suffered wing failure at 6000ft from which height he baled out safely. As the accident is under investigation the cause of the failure is not yet known. For the time being the maximum speed has been reduced to 95kt and no water ballast may be carried.

With 11 high speed contest days, Alvarez Orleans de Bourbon won the 15m Class in an ASW-20. In the Open Class Walbert Neubert, ASW-17, of W. Germany was well ahead of the new Italian Champion Luca Urbani, Nimbus 2. The new Standard Class Champion, Nino Perotti, flew an ASW-19.

LADIES' INTERNATIONAL CONTEST

Nine contest days, with tasks between 131 and 361km, were the result of the International Ladies' contest held in Hungary from July 22-August 5. Monika Warstat, East Germany, won with 7629pts closely followed by Eda Laan, USSR with 7623pts, both flew Std Jantars.

The 24 pilots entered represented 11 countries.

SECOND TRANS-EUROPEAN RALLY

Of the 11 participants from France, Germany, Holland and Switzerland no-one completed the 3000km course Angers, Zell-am-See, Marburg, Sisteron, Angers. Only Gillis Navas, France, Nimbus 2, managed to round the last TP at Sisteron and won the contest with 2503km.

The longest distance in a day was also achieved by Navas with 430km. In general, however, the pilots had to be content with short daily distances and mediocre weather conditions.

HUIT JOURS d'ANGERS

Bert Zegels, Jantar 2, and Michael Bluekens, ASW-20, both from Belgium, are this year's winners of the Open and 15m Class at Angers.

AUSTRIAN NATIONALS

These, the 16th, were held at Pinkerfeld in Burgenland from May 26 to June 9. More than half of the 47 entrants flew in the Standard Class. Weather was anticyclonic, becoming thundery in the second week. Leading results:

Standard Class: 27 competitors; eight competition days. 1, Walter Szabo, Std Libella, 6511.9pts; 2, Gregor Stögner, Std Jantar, 6511.2pts; 3, Johann Suchanek, ASW-15B, 6119.8pts. Total distance, 57661km.

15 metre Class: 11 competitors, eight competition days. 1, Andreas Haemmerle, Mini Nimbus, 7568.4pts; 2, Vinzenz Grabner, Mini Nimbus, 6370.2pts; 3, Reinhard Haggenmüller, ASW-20, 6241.1pts.

Open Class: Nine competitors, seven competition days. 1, Alf Schubert, Nimbus 2, 6893.0pts; 2, Franciszek Kepka (Poland), Jantar 2B, 6677.1pts; 3, Karl Bräuer, Nimbus 2, 6620.7pts.

Stop Press: Hanna Reitsch, 67, of Germany, the most famous female pilot in the world, died on August 24 after a heart attack. (Obituary to follow).

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Stratford members do it in style when graduating from the towcar to gliders! Congratulations to John Blakemore and Nigel Sims on successfully completing their degree course at Aston University. Photo: G. Carvell.

CLUB NEWS

Copy and photographs for the December-January issue of S&G should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 47725, to arrive not later than October 9 and for the February-March 1980 issue to arrive not later than November 30.

August 15, 1979

GILLIAN BRYCE-SMITH

ALTAIR (Cold Harbour Farm)

We are a new club based at Cold Harbour farm on the A361, three miles from Chipping Norton and ten miles from Banbury. Our formation started in the spring of 1978 when a group of six instructors decided to form a flying group. At that time we were without aircraft, airstrip, winch or money; that was the debit side. In the credit balance we could muster two tug pilots, four official observers, one inspector, the six instructors and, most important, a determination to fly as a BGA club before the year was out.

Our first piece of luck arrived when a member found a 1000 yard long grass strip (originally a private airstrip) unused except for field landing checks by our neighbours at Enstone. Much to our surprise it was ours for the asking.

Finding the strip was like lighting the touch paper. A T-21 was purchased and rebuilt, a single-drum winch was purchased as scrap and rebuilt, a barn was reroofed to become our "hangar" and a windsock appeared up a telegraph pole, for which we claim no credit, but we must be the only club with a sock the size of the R101.

Our first flight in the T-21 was made from behind the Enstone tug in September with Naomi Christy, former BGA Development Officer, a very welcome visitor and helper on that day.

Since then, and despite the weather, our launch rate has improved considerably and we now crack 30 a day without effort. We have also discovered there is a knack in flying from a winch launch off a 100ft wide, 1000 yard long, hedge bordered grass strip in a 15kt 90° crosswind, and the landings are almost as much fun!

We now have three aircraft on site and have started cross-country flying, a 300km triangle (well 274 of them but he did get back) in the Weihe by Derek Godfrey, our CFI elect, being the most noteworthy. Our first pupils are about to solo and add another rung in our ladder of development.

So from the contented to the established — "Hello" and remember, if your hot ship runs cold on you over Chipping Norton drop in and see how the other half live at 15°58'N 1°51'W.

D.G.G.

BATH & WILTS (Keevil)

We have just completed our task week and flew every day from July 18 to August 5, but with only three contest days. On Wednesday Mike Hughes (K-6E) flew the furthest upwind and back, reaching Maiden Bradley before turning back. On Saturday the task for the glass ships was won by Andrew Davis (Mini Nimbus) with Chris Rowland (Std Cirrus) second and Ron Lynch (DG-100) a close third. The task for the wooden gliders was won by Andy Smith (Skylark 3A) with Stuart North second (in the same machine a second time round) and Mervyn Pocock third in his son's Oly 463.

On Sunday the winners were first, Ron Lynch, second Dave Parker and third Steve Parker. Bernard MacBride was the only pilot to fly the task for wood in the K-6E.

During the week Jim Gardner and Richard Marsh were passed out as fully rated instructors by John Williamson. Roger Boor (Olympia 2B) flew to Lasham to complete his Silver C, a Silver task also achieved by John Melville in the club K-6E. Tricia Langlands gained her five hours and Ken Way completed both Bronze legs.

We had several visitors including Ron Wright (Mini Nimbus) who rejoined us for the week after many years, Dave Lush (DG-100) from Lasham and John Horrills who has joined us with his Delphin which was built in 1965 and is the only one of its kind. Does anyone else know anything about it?

It was a most successful week capped by a superb barbecue attended by the jubilant pilots of the 25 gliders which had flown from Keevil.

J.A.L.

BLACKPOOL & FYLDE (Chipping)

The better weather in our second club week prompted three members to attempt their 300km. Barry Purslow (Oly 463) made Wetherby, Terry Harrison (Skylark 3G) reached Sutton Bank and Bob Boyd (K-6E) made the longest flight to Winthorpe.

Gordon Bleasdale flew Silver distance to Knaresborough. Our members are becoming much bolder and the Pennine barrier no longer looks to be as formidable as in the past.

Our T-21 blew over causing considerable damage and our K-13 suffered from an amorous interlude with a herd of cows. Fortunately both are back after repair.

Stan Race says it's now 35yrs since he got his A Certificate No. 1944 and he is still flying. I wonder how many club members can boast a lower number?

J.T.

BORDERS (Milfield)

Our new winch has now entered service — 200 (super) man-hours were spent by Alan Urwin, our Chairman, building a self-propelled twin-drum winch. It has proved to be very reliable, enabled us to launch our Bocian in flat calm conditions and increased launch heights dramatically. Members bought Alan a leather flying jacket in appreciation of all his hard work.

Alan also has a share in the first glass ship to grace our site — a DG-200. It launches

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superbly and regularly disappears for hours on poor days, highlighting the potential of our site and generally widening horizons.

Our gliding week in July was a success. The good weather gave us plenty of flying and boosted the club funds which we hope will allow us to start work on an enclosed trailer park. In addition several pilots gained badge legs including two distance flights which completed Silver Cs for Andrew Calder and Colin Sword.

A.J.B.

BRISTOL & GLOUCESTERSHIRE (Nympsfield)

Several new syndicates have formed on site including a K-8, K-6 and a Mini Nimbus. So far this year we are well up on 1978 figures for hours flown, launches and cross-country kilometres.

With the new dormitory arrangements and toilet block virtually completed and proving very popular, we are now looking seriously at the possibility of new workshops and tug aircraft maintenance facilities which look as though they will become mandatory in the not too distant future.

After a series of problems with the Bocian undercarriage, we have the short term use of a YS-53, thanks to the kindness of the people at Dunkeswell. Pupil reaction to it has been mixed but generally favourable — all the instructors agree that the superb visibility is a great safety feature.

Wave put in several appearances during July and the best climb was by Chris Hughes (Cirrus) who reached 12000ft near Usk.

R.A.R.

CAMBRIDGE UNIVERSITY (Cambridge and Duxford)

John Evans didn't hold his claim on being the club's youngest Silver C pilot for very long. A few weeks later Thomas Edwards, also 18 but further away from his next birthday, flew for five hours to complete his Silver C.

This has been a summer of high launch rates from both sites but with few spectacular flights.

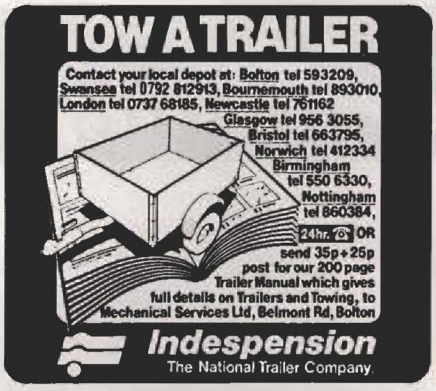
A.N.

COVENTRY (Husbands Bosworth Airfield)

THE Whit Traction Engine Rally was held for the last time on our site in May. The Committee have decided that the return from this event does not justify the disruption to our gliding and the ever present risk of a big loss in the event of bad weather.

Euroglide is almost upon us. We are the hosts this year and our Contest Director, Claude Woodhouse, and his team of helpers have been working hard for months in preparation.

Our annual task week, under the guiding hand of Chris Thomas, was held at the end of July. Although the weather was rather mixed, we all had a jolly good time. We had numerous field landings, no incidents, and a number



of our early solo pilots had useful cross-country experience under tuition in an atmosphere of friendly competition.

We have welcomed back Lou Frank and his family from South Africa, but regret that Mike and Jean Bagnall have left us for California. We wish them every happiness. Much work has been done to the airfield over the last year to improve the surface, and the concrete landing strip has been resurfaced at great expense. However, we may now continue to fly all the year round, whatever the state of the grass areas of the field.

B.R.

DEESIDE (Aboyne Airfield)

Diamond heights are back in fashion after a slow start with Ronnie Allan gaining his in the club Capstan and Willie Stephen going to 22 000ft in his DG-100.

Our task week was marred by the usual bad weather and a 76km triangle by Dave Innes before breakfast was sufficient to win — unfortunately he declared it and then flew the task in reverse.

Silver distances have been gained by Carol Bissett and Stewart Hunt and Dave Innes attempted a 300km triangle in thermals, only to fall out after 215km, the furthest possible distance for the retrieve. Both tugs are back from C of A, awaiting the autumn wave season.

D.I.N.S.

DERBY & LANCS (Camphill)

Open week (which some have suggested might be renamed *HUMPHWEEK*, after that organising genius of endless energy) was, despite several bouts of that ill-tempered weather which will characterise 1979, an outrageous success.

With 500 air experience flights, several times that number visiting the site, and considerable local radio and newspaper coverage, we have brought the sport closer not only to those within our own region, but to many holidaymakers too, so we hope that not all the fruits of our labours will be reaped by our club alone.

Our special thanks to those outside the club whose efforts contributed so much to the success of the week. The members of the Vintage Club who brought their venerable machines once again to grace our skies; members of other clubs, and visitors, risking countless slipping discs to keep alive the art of bungying on Bradwell Edge, and achieving 40 successful launches; David Body and his hot air balloon and Phil Chapman with his exhibition of vintage cars. The social climax was a splendid barbecue and country dance, mounted jointly by us and the Vintage Club, which was the finest Camphill party for many years.

S.G.

DUMFRIES & DISTRICT (Falgunzeon)

Wave at last! Ryan Fenion and pupil, Ian McNay, took the club K-2 to 7000ft from a winch launch for the first real climb from our present site. They were still ascending when they broke off. With aerotow facilities we would probably enjoy a great deal more of this exciting flying.

Our congratulations to John McIver and Bill Gordon on going solo. They both deserve their success in the air for all the stalwart effort they put into ground projects.

The weather has been very variable but we have had thermal soaring and used hill lift on a number of days. However our flying week in August suffered from indifferent conditions.

F.S.

ESSEX (North Weald)

Despite the rather disappointing weather, over 9000km have been flown. 175km of this being contributed by John Wand with his Silver distance, height and duration flight to Skegness! Other Silver distances have been flown by Roger Fry, Martin Tamkin and Peter White.

Our competition successes also continue, with three gliders entered in the Western Regionals, Mike Jefferies beating Tim Healey, Mike Throssell and Guy Corbett to come third. Mike is at the moment in the Northern Regionals with the K-13. Dave Appleby entered the Booker Regionals again but did not quite beat Bernard Fitchett! We are sorry to say goodbye to Dave, who is leav- the area. His many years service as airfield manager were much appreciated.

At the moment we are looking forward to repeating last year's successes with our annual Aboyne trip in October.

Further congratulations go to Keith Thompson for his solo after only two months and Tony Mainwaring for our successful social calendar.

S.I.D.

HEREFORDSHIRE (Shobdon Airfield)

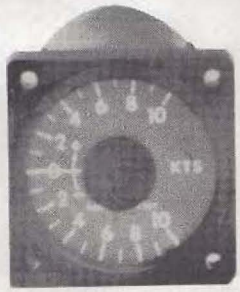
Competition Enterprise was an excellent experience (see full report on p212). Eight of our pilots entered and Don Towson came fourth. The Comp showed us unexpected cross-country possibilities on awkward days and introduced us to new friends.

We have sold our Rallye tug and one Blanik to a group headed by John Bally. They are developing a beautiful site 900ft asl between Talgarth and the Black Mountains. John is an experienced power pilot and a hang gliding buff. The ease with which he's taken to "proper" gliding is driving us mad. They are intending to have a reciprocal arrangement with us for training. Their site is superb for experienced pilots to soar the Hay Bluffs and

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the Black Mountains but a bit difficult for beginners.

They want a small active club for enthusiasts and we are negotiating for permission to put up a hangar and a clubhouse. Ideal for us because we can get a tow back from there if we can't get enough height to glide home. We also have a reciprocal arrangement to fly at the Long Mynd.

There is a surprising amount of wave around. The starry-eyed syndicate of Partridge, Harlow and Willff (not shipbuilders) flew their carbon Mini Nimbus the day she arrived from Germany. She is to be joined by a sister ship early in the new year (Maitland, King syndicate).

Adrian Lloyd (K-6CR) completed his Silver C with a flight to Nympsfield on July 15. There have been a crop of Bronze and Silver legs and four solos, David Falls, Tim Walls, Richard Nightingale and Liz Williams. Frank Moore, who gained his Silver C a long time ago and has had a long lay-off, showed great patience and determination during a lengthy retraining period and is now flying his Dart 15.

The Avro Club spent a month with us bringing two K-7s and 16 solo pilots with Jerry Ramsden and Stewart Lowe in charge. They have airways problems at home and come to us for good soaring.

In August Charles Boucher collects our Twin Astir from Germany. The dead keen *ab-initios* and early solo mob are producing a club T-shirt for us. I'm not sure if their slogan "Join the Shobdon thermal gropers" has passed the censor.

R.P.

HIGHLAND (Dallachy)

We congratulate Jim Tait on becoming our new CFI, and wish him well. We also congratulate Gordon Armstrong and John Hurrell on going solo.

This has been a good summer so far for visitors, and the Bocian is kept fully occupied at weekends.

We are suffering from a shortage of instructors at the moment, so our particular thanks are due to those who have given so much time to the back seat of the Bocian when they might have been doing other, more exciting things.

We have now installed a much-needed telephone. The number, (weekends only) is Fochabers 820568.

R.E.T.

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IMPERIAL COLLEGE (Lasham Airfield)

The Easter course was a great success, thanks to the good weather, and all six pupils went solo. Our thanks to Paul Minton for instructing — over 100 launches in one week. Tom Farr and Don Mayo completed their Bronze legs shortly afterwards and Bob Green achieved his duration.

We have made the best of the summer so far with seven Silver distances and on May 19 the entire fleet went cross-country. The K-8 flew to Keevil for Silver distance (and back), the Club Libelle went around a 300km triangle, the Astir did 280km of the same triangle and Steve Parker did a 500km in his Kestrel.

The club celebrates its 50th anniversary next year and the dinner is on Saturday, May 10.

P.T.R.

KENT (Challock)

It has certainly been a good year for Silver distances with Trevor Bint, Roger Gunkel and Lenny Parris being the latest to succeed, all in Skylark 4s. Tony Moulang has done well by winning Competition Enterprise and coming third in the Lasham Regionals' Standard Class.

Improvements to the airfield are continuing — a further grading phase has been completed leaving only one main area to be dealt with. The hangar has been given splendid new doors, thanks to the expertise and engineering facilities of Ron Cousins, and a long overdue coat of paint, for which we thank Bill Waite, Tony Bradley and others for scaling the heights.

D.H.

LONDON (Dunstable)

Indifferent weather has contributed to a lack of achievement recently; although Ron Grant would have got his Silver distance on August 10 if he had switched on his barograph. We have recently hosted a BGA task week as well as a K-7 and a Pilatus from the Vale of Neath (three of whose pilots **did** use barographs for their distances).

Four gliders attended the Vintage Rally in Switzerland: the Kite 1, Mü 13, Peter Bourne's show-stopping Scud 2 and the Weihe which was tragically smashed in a whirlwind. (See report on p213).

We also fly boring plastic gliders at Dunstable: there are now no less than four ASW-20LS, whose owners obviously know that flying 15m makes you deaf. Wiser still are Mike Bird and Clive Hawes who recently bought the magnificent ex-Delafield Nimbus which spans almost 21m. Your scribe will soon outdo them with a Glasfügel 604: this should blot out the sun permanently.

F.K.R.

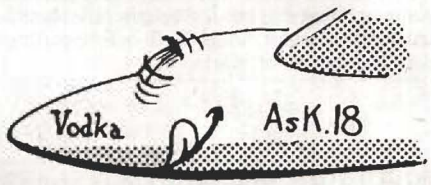
MIDLAND (Long Mynd)

The soaring season is progressing nicely with most days providing some combination of hill lift, thermal or wave. This has resulted in a considerable number of Silver heights, duration and distance legs by both club pilots and visiting private owners. The unusual number of days with fair to strong westerlies seems to have curtailed the long distance attempts but as a consolation is providing excellent wave soaring as the thermals decline in the evenings.

The task week began successfully with three flying days in the first five. The strongest August winds for a long time forced our task setter, Chris Day, to resort to a treasure hunt through the hilliest and narrowest lanes he could find in Shropshire. Many thanks to Chris and family for all their efforts to make the week successful and congratulations to all those pilots who have gained Silver legs, completed their Bronze or soloed for the first time.

D.L.W.

NORFOLK (Tibenham)



That's its name! Drawing by Charles Hall.

The club fleet now has an AS-K 18 as "topship" thanks to generous grants from the Sports Council and others. Skylark 2(120) is up for sale. A PIK-20B and a Dart 17 have arrived to boost our considerable collection of syndicate aircraft, while fledgling CFI, "Woody" Woodhouse, and his veteran predecessor, Joe Podolski, are off to Germany to collect a Std Astir.

The two hardworked Condors are showing signs of fatigue in the form of valve trouble, so the many heavy evenings of passenger flying are out for the time being. A retired telephone exchange will shortly provide much needed workshop facilities.

Last year's popular advanced soaring course is being followed up by a cross-country course in the two K-13s. The summer *ab-initio* courses are now in full swing. Ernie Cunningham has taken his IS-28B to France to compete in the Rouen Gliding Club's task week, and a plane-full of colleagues will fly over from Tibenham to cheer him on and to further develop friendships with our twin club.

M.T.B.

SCOTTISH GLIDING UNION
(Portmoak)

By coincidence probably the best conditions during the last two months came on the anniversary of "The Weekend" of last year. Good wave returned and four 300km triangles were flown.

Andy White carried the Scottish flag to the first European Club Class Championships in his K-6E, doing well by coming 26th overall and fourth in the wooden ships, flying 1500km in eight days.

Friends of Bert Jarvis, who was going to crew for Andy and was taken ill while *en route* to Sweden, will be pleased to know he is fully recovered and hard at work in the workshop.

R.H.

SOUTHDOWN (Storrington)

A rare spell of decent weather has allowed Richard Bragg to complete his Silver C with a flight to Ringmer. Paul Wainwright did his five hours while on holiday at Sutton Bank.

We have been running an experimental group training scheme on Tuesday evenings throughout the summer. Progress made has been extremely encouraging and the normal drop out rate during training has been reduced by about 400%!

The new Astir has arrived but to the horror of one of the larger syndicate members, the cockpit sizes have been considerably reduced from the earlier CS model. Obviously anyone contemplating buying a new aircraft should try out the current model for fit before parting with the sackful of Marks.

B.A.B.

SOUTH YORKSHIRE & NOTTS (Winthorpe)

At our AGM we were sorry to hear that our Chairman and CFI, Tony Faulkner, was leaving us due to pressure of work. We were most fortunate in finding a willing Chairman, our Secretary, Stan Denner, with Steve Evans as CFI. With their guidance the club has been looking up. In March we purchased a K-8 complete with barograph and parachute and it is being put to good use.

Our CFI has gathered together a good team of instructors — Dennis Snowden and John Sentance have been joined by Keith Bowdler and Len Cooper. Two further instructors to qualify from the club are Mel Guard and Dave Foster.

The benefits from our gliding week at the end of July were shown by Andy Lloyd claiming Silver height and distance in one go; Bob Grant, Neil Meakin and John Brassington getting their Bronze C; John Cawrey achieving a duration to complete his Silver C and Ron Cousins and Bob Grant completing 50km. Our youngest member, Kate Denner, went solo at 16 and Pete Waller has also soloed.

The annual pilgrimage to Portmoak has taken place with a rebel going to Lasham and returning with great enthusiasm and glowing reports.

We had a film show followed by a cheese and wine evening and a social evening with the presentation of annual trophies. Tony Faulkner has been presented with a testimonial showing our appreciation for his services to the club.

We have had a record number of people wanting to take part in our Friday night air experience flights and wishing to join the club.

R.M.

STAFFORDSHIRE (Morridge)

Alan Jones flew the K-8 for 70min during the second club course week on June 27 to gain his second Bronze leg. Pauline Gwinnett and Peter Dyke have completed their C certificate, both in the K-8, and Ken Whitton and Joe Yarwood have had cross-country flights in their Olympia 2B. Joe's retrieve crew found the glider surrounded by bales of hay which had been made after the landing.

We have had a loan of £1000 from the Philip Wills fund for site improvements. Our launch fee has increased from 60p to 70p but flying fees remain the same.

Members went on a canal trip by horse drawn barge on August 17, which was a change from flying at Morridge.

P.F.F.

SURREY & HANTS (Lasham Airfield)

The dreary summer continues, very nearly washing and blowing out the Lasham Regionals. After a number of incidents including a mid-air collision, fortunately with no injury to pilots (see BGA News), worthy champions arose. Ralph Jones took the Open Class, Ted Lysakowski the Racing 15s and our star club pilot, George Metcalfe, the Sports Class.

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George has gained his 300km, 500km and 5000m Diamonds over a recent period of nine months then in a K-6 wins his first contest. The Comps organisation ran very smoothly throughout and we await the Nationals next year.

C.L.

ULSTER (Bellarena)



Alan Sands has drawn this map to show the Bellarena area. The contour lines are at 600ft and the shading is above 1000ft.

May 13 was a perfect sunny day at Bellarena without a single cloud in the sky — as seen from 10000ft in the south-westerly wave anyhow. The PIK and the SF-27M both made about 11000ft some way to the south, Mike Miskimmin achieved 10500ft in the Skylark 3 only five miles from the site while the Twin Astir bobbed up and down like a cork for 8hrs, to between 7500ft and 10000ft each time. Radio reception was excellent: we could hear most of the clubs within a 300km radius from Scotland through the Midlands to the south coast of Ireland.

Mervyn Farrell flew the Capstan and Ruth Hall the K-6CR to the west of Lough Neagh on June 24, which, with Ruth's subsequent height climb, completes two more Silver Cs.

The next week saw the club's best ever wave day. John Dent, up from Dublin with his K-6, reached 13000ft, while the club record was broken in the PIK by Jeremy Bryson with 15000ft, and later by Alan Sands who climbed to 18200ft (it was still going, albeit slowly), to show that a Diamond height really is possible less than ten miles from the field. With a NW wind, the wave was being triggered by the Inishowen hills north of Derry, whose highest point is 2019ft.

Other recent exploits include Louden Blair's five hours and first solos by Glen Rainey and Tommy McBride. By the beginning of October our next expedition with the Dublin GC to Farranfore in Co Kerry (in search of yet more wave) should have taken place; and maybe we will have cut through the red tape to get our hangar put up at last . . .

A.S.

YORKSHIRE (Sutton Bank)

The season has been disappointing with few excellent days. However Richard Blackmore is to be congratulated on a 486km out and return to Didcot power station starting from a 100ft winch launch onto the ridge. Congratulations also to Catherine Hibbs, Jim Shield, Geoff Hardisty and Michele Walker on going solo and to John Shanley on completing his Silver C.

Our old faithful gave up the ghost in July and we are grateful to the Markington group for the generous loan of theirs. Our new winch should be in action for our autumn wave visitors. In addition we are operating three tugs so that a high launch rate should always be possible in the future.

E.S.

SERVICE NEWS

BICESTER (RAFGSA Centre)

At the end of July we bade *au revoir* with a presentation of tankards to two of our keenest American members who have returned to the States. Tony Sabino — father of three small boys — will be missed as the member guaranteed to have completed DIs of the winch and a few gliders by 8.30 on a winter Sunday morning, and for his Mexican hot pepper dip which warmed everyone in the bar at the end of flying. As instructors, both Tony and John (Littleton) did much to encourage their compatriots at Upper Heyford to come gliding.

Although the weather has been rather mixed, there have been a few near misses at 300km and some cross-country flying by pilots at weekends or on task or soaring weeks in July/early August. It has been a good year for Silver legs with at least ten more Silver badges completed recently. The pilots included two Centre staff — Pete Lewis and Vic Carter — and a former staff member — Bob Welsh, who often helps with our glider maintenance. Andy Parker and Gerard Ivey did their Silver legs in the university glider and showed that a K-7 is not to be despised as a cross-country machine. Others to be congratulated include Gwen Babcock, Whitson Bush, Andy Leitch, Steve Smith and especially John Armstrong (a Halton apprentice) who had a slow start to solo and then completed his Silver C in eight weeks! Thanks to westerly winds Dunstable has been a more popular 50km goal than in other years with Alex Robertson and two others pioneering a new route from Farmoor reservoir near Oxford to Dunstable on August 5.

About 15 pilots, including some on the Joint Services Adventure Training week, have recently gone solo or obtained Bronze legs.

J.W.

CHILTERNS
(RAF Weston on the Green)

The bad weather at the beginning of the year gave us fairly low launch figures. However members worked hard, especially on the clubhouse which is being modified. The launch rate improved in the summer after an enjoyable expedition to Bannerdown GC. Our thanks to their CFI for putting up with us.

Following that we have had three A and B certificates and several Bronze and Silver legs. Congratulations to Richard Andrews who went solo on his 16th birthday.

The longest day started well at 4.30 a.m. but was soon spoiled by a military parachute drop. The whole fleet was in good working order and we welcomed back our long lost K-4 which has been under major repair. The Cadet Mk I was flying in the morning mist and both winches and the two tractors were in working order which quickened our launches when the Hercules left our circuit.

L.A.R.

CLEVELANDS/HAMBLETONS
(RAF Dishforth)

We have had our share of westerly winds in the north which has brought a crop of good wave flights including a duration for Kev Morton. Chris Lodge and Yvonne Washer gained their five hours over Sutton Bank and we have had one Diamond height, four Gold heights and one Silver height.

We held two *ab-initio* courses in June with nine solos being achieved. Our barbecue was a great success thanks to all those who helped to organise it and members who put themselves out to obtain such things as a marquee, bales of straw and cooking utensils.

J.A.S.

CRANWELL (RAFGSA)

The Gull 4 has just returned from the vintage meet at Camphill — thank you Derby & Lancs for your tremendous hospitality. The K-8 visited the Welland GC and had a very enjoyable day.

Gliders are always welcome at Cranwell but please **weekends only.** During the week it is a very active military base and unusable for gliders.

Our congratulations to Ray Walker on his Silver distance and height; to John Ibbitson on Silver height; John Renshaw and Ken Pick on completing their Bronze; Dick Kenny on Bronze leg and Terry Addcock on going solo. Numerous non badge cross-countries have also been flown.

The longest day was enjoyable, especially the barbecue organised by George Baker.

P.S.

CRUSADERS (Cyprus)

Our soaring season was Easter weekend! Since then we have watched with mounting frustration the cumulus forming over the border. We've had numerous visitors over the past weeks including George Lee who flew

our K-13 in a very successful dual tow with our CFI, Ray Brownrigg, in our Blanik.

Congratulations to Mick Long, John Salmon and Nigel Grant on gaining both Bronze legs; to Mick Samson and Geoff Speake on going solo; to Avo Mangoian, Steve Vaux and Chris Lodge on completing their Bronze Cs; to Avo and Steve Vaux on Silver height (and Steve has qualified for passenger carrying) and finally to our two new baby instructors, Dave Lancaster and Chris Putt.

We have said farewell to Richard Halliburton, Pete McLaren and Arthur Watt, Arthur completing his Bronze C before leaving. We have also welcomed many new Crusaders too numerous to mention.

J.S.

FOUR COUNTIES (RAF Syerston)

We are still here and although our move from Syerston at one time seemed imminent, the question of the gliding club being "posted" elsewhere is now merely lurking in the dim murky background.

Nick Lewinton soloed in the T-21 with the "bomb" ballast weight in the front of the nose and a 30lb ballast weight where the instructor used to be. There have been a number of achievements by K-18 pilots including first Bronze legs by Sandra Wardle, Dennis Martin and Pete Singleton and second for Clare Farmer and Tony Satchel. In between repairing our gliders Bren McMasters has completed his Bronze C. Silver heights have been gained by Clare Farmer, Cliff Edmundson and Derek Jones.

Our congratulations to Gary Singlemore on successfully completing his instructors' course and we welcome three more instructors, Phil Willsher on his recent return from Germany and two full Cats, Martin Durham from Cranwell and John Taylor from Dishforth.

The arrival of the ASW-20 has compensated for the PIK 20D going to a Buckminster GC syndicate. The new Motor PIK 20E, the second to enter the country and the first to be flown here, has aroused considerable interest. It is jointly owned by Bob McLucki, Rod Whitter, Jake Jacobs and Ron Jones. Andy Penswick went to Germany to collect his DG-200 which features extendable wings taking it from a 15m to a 17m wingspan.

Finally, 617 Kestrel syndicate has returned from Le Blanc in Central France. During a fortnight they achieved a total of 56hrs and 3500km, along with envious suntans.

L.R.B.

FULMAR (Kinloss)

Soaring achievements have been rather disappointing this summer, the sea breeze keeping the thermals an annoying few miles inland. However we congratulate Andy Bould on his 300km goal and Diamond leg, which completes his Gold C. Mark Bonthron starred during his K-8 conversion by soaring in very weak wave for 30min for his first Bronze leg.

We are very pleased to have George Lee flying with us at the moment. On his first day on the airfield Ron Jackson showed George around the winches and left him there for an hour. We hoped that this would set a trend amongst the other club full Cats but they chose not to follow the example.

Our longest day celebration was a great success and we managed 201 launches in the day followed by a barbecue party in the evening.

The club Astir trailer took another knock on the return journey from the Inter-Services Regionals. The trailer and aircraft were slightly damaged but are serviceable now.

Jan Everett is doing a great job running our bus, giving us a good range of food throughout the long days. We also congratulate Jan on converting to the K-8.

R.G.H.

HUMBER (RAF Lindholme)

We have had a big influx of pupils and the two-seaters are working overtime. Andrew Croson went solo on his 16th birthday and Clive Brealey flew Silver distance to RAF Syerston. Stan Cooper achieved two Bronze legs and a Silver height. Mick Breeze also gained his Silver height on the same day and has converted to the Astir 77 along with Clive and Phil Airey. Vic and David Wilson are putting their Sky to good use by flying their Bronze legs with David missing his Silver height due to not having switched his barograph on!

Four of our pilots have just competed in the Northerns but there was hardly any flying due to bad weather. Better luck next time!

K.M.G.

KESTREL (RAF Odiham)

The last couple of months have seen three more members completing their Silver badge, Harry Chapple, Simon (son of Pam) Davis and Martin Eldridge. Since then Martin attempted to aerobat a Ford Escort and is now hospitalised as a result, we hope not for long.

Andy Ginever and Roy Dalling have survived their assistant instructors' course, and are now firmly entrenched in the rear seat.

Our venerable Cirrus has flown its last competition as an AGA glider, the Lasham Regionals, flown by Mike Pobjoy into a creditable 7th place. The competition number 52 now passes to our new flagship the Mini-Nimbus.

Recent visitors to Odiham were members of the Vintage Glider Club. The Mü 13 liked us so much that it adopted us and now resides here. We have also had the use of the IS-28B2 demonstrator for a weekend.

Our Secretary, Pam Davis, having apparently felt the need of a break from gliding has gone for a walk round the Himalayas!

P.W.A.

PEGASUS (RAF Gütersloh)

This month we have sadly said farewell to "Q" Oswell, our founder and Chairman, who almost single handedly brought this club into existence. We send him all our thanks for the incredible job he has done which has just allowed us to buy our sixth club aircraft in the two years we have existed. We are also losing Bob and Eileen Perry whose invaluable work in establishing and running the club's catering side will be very much missed, and Phil Willsher who has kept our finances in order over the last two chaotic years.

After a rather hair-raising two weeks at the RAF Germany Gliding Comps the club has settled down to a membership drive and to sorting out the fleet. We have purchased a replacement K-8 and the old one is recovering well in the hands of Pete Carr, who bravely bought what the storm left of it, and hopes to have it flying again by next summer. Our second winch is also due to appear any day now.

We congratulate John Jenkins on his full Cat status. Despite the poor weather we have had some A and Bs, notably Bill Gordon who has put in so much hard work and enthusiasm.

The airfield is soon to be operational again so we are checking our radios but don't expect any serious disruption. We are also building up good relations with the German ridge sites at Vennebeck and Disperode where we occasionally fly at weekends.

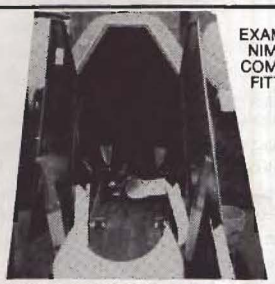
Finally, our thanks to Bob Bickers who, along with many other duties, is our new Chairman. He has been a driving force in the club for a long time.

C.M.E.

PHOENIX (RAF Brüggen)

Members are continuing their relentless march up the achievement ladder. Women's lib has been given an uplift with two of our recent first solos being ladies. Congratulations to Sue Banks, Patsy Beckley, Geoff Stevens, Dave Kent and Rick Cowley. Dave Kent and Rick Cowley have converted to the K-8 while Steve Wall, Al Stacey and John Duncan

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having completed their Bronze C are now flying the K-18. Congratulations are also due to Colin Davey and Rick Paradie on winning the Club Class pot in the recent RAFGGA Competitions during which Rick achieved his Silver distance.

The new club hot ship, the ASW-20, has at last been delivered. Our continued thanks to Jan Paradie for her untiring work supplying and cooking the food on the bus at weekends and for the first class barbecue on Dick Hunt's farewell night.

Finally we reluctantly say farewell to our CFI, Kev Kiely, his wife Liz and to Bill and Michelle Tootell and family. Many thanks to Kev for his guidance, prodding and occasional chastisement during the last four years and to Liz who has looked after the club stats and produced the duties list. Bill has been Treasurer and his unending searching for ways of obtaining money and generally managing the club funds has been much appreciated. Michelle has spent much of her time chasing us for snippets of information for the club news.

P.H.

WREKIN (RAF Cosford)

We have had a very successful two months with a host of achievements and many happy flying hours. "Percy" Dalton, Dennis Severs, Nigel Bennett, Mick Marshall, Bob Jones and "Ginge" Blackburn have A and Bs; Les Cadogan, Mick Greenway, Gary Feeley, Steve Charlton and "Mossie" Williams have Bronze legs and Rhod Evans recently completed his Bronze and, with Mick Greenway, gained Silver height. Our most noted achievement is a Silver C completed in two days by Rich Arnall.

Special congratulations to Jed Toal on gaining his assistant instructor category after waiting nearly four years. To celebrate he spent four days and three evenings instructing pupils on our very successful *ab-initio* course.

Finally, we say goodbye to Jim White, Treasurer, and Marty and Trish Platt, Secretary, and wish them the best for the future.

B.A.B.

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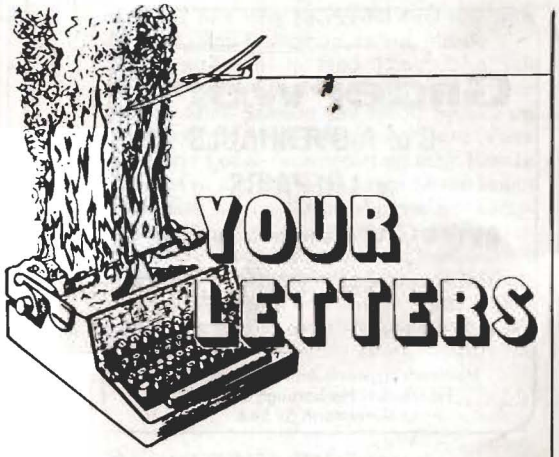


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SCHEME TO ENCOURAGE YOUNGSTERS

Dear Editor,

I noticed there were very few youngsters at our annual dinner at the Coventry GC and during the evening formulated the idea of finding ten members willing to donate £50 each to run a special competition. David Asquith, my syndicate partner, joined me and by the end of the dinner I had persuaded eight others to donate.

The scheme was to give three places at one of our full-time courses at Husbands Bosworth. The *Coventry Evening Telegraph* agreed to promote the competition and launched it with a full-page article on the club's activities together with an entry form. This consisted of six simple questions and a request for a short letter on why the entrant wanted to glide. We restricted the entry to 16 to 21-year-olds.

We had more than 40 entries and a panel of four sifted through the replies and shortlisted nine who were invited to the club, interviewed and then given air experience flights. The winners, two boys and a girl, joined a course at the end of July.

This has aroused great interest and may encourage other clubs to run a similar scheme to enable young people to participate in a sport which is becoming more difficult for them to afford.

K. D. DAVIES, **Coventry.**

A MATTER OF RULES

Dear Editor,

John Williamson's report in your last issue of the 1979 National Championships (p177) was a splendid article. (When is The Master going to write his book?) However, I must correct John's misinterpretation of the competition rules lest his devotees and students become misinformed.

First, John would not have had "to dump water, land, re-photograph the start board, re-fill water, take-off and restart" to re-establish his Recognition Time Interval (RTI), p178. All he needed to do was return and photograph from the air the RTI ground markers laid out for this very purpose, and then cross the startline.

Secondly, on p182 John states: "The day scores in each Class were devalued by the rule that allows not more than 5pts per kilometre flown. Thus the effective limit is set by the furthest non-finisher, with speed points added as a bonus for those that *did* finish." This is not the case, as the 5pts/km rule only applies when nobody at all finishes the race. When at least one pilot completes the task, distance points become a percentage of the maximum daily points determined in the normal way. Consequently, distance points on a completed race of less than 200km could be more than 5pts/km, as indeed they were for the 15 Metre Class on the last day of the Nationals.

I take no delight in pointing out these misinterpretations, for I would gladly trade my knowledge of the rules for John's soaring skill any day. On the other hand, if John had studied the Competition Handbook he might have won that first day and finished the Championships in his rightful place at or near the top!

GORDON CAMP, **St Neots, Cambs.**
(Chairman, BGA Competitions Committee)

TAKEN TO TASK

Dear Editor,

Readers, are you getting enough? How many cross-countries have you achieved this year? Do you think you would like to do more yet the weather never seems quite right, or when it is someone else is flying the aircraft? Suddenly the summer is over — "Next year I really must make the effort." Well I have found a magic wand: the BGA Instructors' Task Week.

It doesn't matter whether you fly a glass slipper or a wooden parachute, when set a task you will find that you can achieve more than you expected, even in less than good soaring conditions. After all, that is what a British standard summer day is like so you may as well have a go. Don't be put off by outlandings — farmers are a good bunch and their daughters even better.

Husbands Bosworth was the very hospitable venue and a varied selection of gliders gathered there from a Skylark to an ASW-20. Slingsby Engineering Ltd kindly lent us their Vega and IS-28s demonstrators.

Brian Spreckley and John Williamson, BGA National Coaches, organised the week, ably supported by Lou Franks and Vic Carr, and their tremendous determination and enthusiasm for cross-country soaring quickly spread to us all.

The National Coaches chose small groups to lead around seemingly impossible tasks. I tagged on to one of Brian Spreckley's gaggles and was amazed at the increase in my cross-country speed, realising that circling in those safe 3kt thermals is wasting good travelling time to the next 6kt climb. We seemed to make lunatic diversions off track, park in thermals to wait for lift ahead to develop, or press on through murky weather towards a patch of sunshine and manage to get away from adrenalin altitude. Then there were the final glides; thanks for the calculator JWS but one has to be brave to trust it!

The experts were full of good ideas ranging from TE and Netto fault finding to correct map preparation. The debriefing sessions were entertainment in themselves — you can guarantee some good stories and interesting comparisons with 11 gliders setting off on track. And surely comparison is the important factor? Press your club to have weekend tasks and get the cross-country bug. In a week of variable weather we managed over 300hrs flying and 6500 cross-country kilometres.

Keep it up BGA, you are spreading an exciting message.

M. D. ALLAN, **(Midland GC)**

KRONFELD'S SILVER C

Dear Editor,

The note following my article on Robert Kronfeld in the last issue at the end of p159 states that Wolf Hirth "made his first Silver C flight long after Kronfeld completed his three legs . . ." But how long is long? In S&G, February, 1934, p20, I gave the official list of the first 18 Silver C pilots, taken from *Flugsport,* with figures for the actual performance of each leg by each pilot. Kronfeld was still first on the list although Hitler had already been in power for over a year, Kronfeld's figures were 164km, 2160m, 7hrs 34min; Hirth's were 53km, 1028m, 7hrs 7min. Kronfeld's distance was flown from the Wasserkuppe to Markredwitz on August 24, 1929, and his altitude at the same meeting, but I cannot locate his duration, as durations rarely received publicity unless they were records. Wolf Hirth's duration and distance were flown at Elmira during the American Nationals of 1930 on September 30 and October 2 respectively; the latter was the world's first cross-country in pure thermals and he said he climbed 1000m above starting level twice. "Long" is therefore a year and a month.

The first record I can find of Kronfeld's demotion from No. 1 Silver C is in the official list given in one of the many supplements to Wolf Hirth's **Handbuch des Segelfliegens** published in 1938, and this change was repeated in a list of the first 1032 Silver Cs up to May 15, 1939, published in *Flugsport.* Curiously enough this list attributes No. 49 to Wolf Hirth and No. 50 to Martin Schempp (originally No. 8), both with the date 4.10.36 and the comment: "issued as replacement for lost badges"; yet a year earlier Hirth's book gave No. 49 as Max Kegel of Stuttgart and No. 50 as Ignaz Stiefson of Vienna. Kegel flew 56km in a thunderstorm in 1926 — the first Silver C distance ever flown. (The first Silver C leg was a duration of 8hrs 5min in 1923 by Maneyrot).

The deed was therefore done some time between 1934 and 1938. By whom? On the access to power of Hitler in 1933 the German gliding organisation, Rhön-Rossitten Gesellschaft, named after its two gliding schools, was abolished and the gliding people were absorbed into a larger organisation, NSFK — initials of the German words for National Socialist Flying Corps. It seems likely that someone at NSFK headquarters was responsible, perhaps trying to gain credit as a smart lad — though to a

xenophobe such things are done not by individuals but by "them". There may be a faint possibility of finding out: at the end of the war a vast amount of archives was brought from Berlin to England, even including reports on Zeppelin raids over England in the previous war which have already been used to produce two books. So there may yet be a chance of identifying the culprit.

In late 1945 I was being driven by a German youth from Gütersloh to Oerlinghausen along the foot of the Teutoburger Wald slope, and pointed it out as where Kronfeld had made the world's first 100km flight. He indignantly denied this, saying that Kronfeld had never completed the distance but had landed after going only part of the way. So official propaganda had deprived Kronfeld not only of his No. 1 Silver C but of his 100km record too.

A. E. SLATER, **Cambridge.**

A LICENCE FOR FACSIMILE RECEIVERS

Dear Editor,

With reference to my article in the last issue on the Facsimile receiver (p160) I would like to inform or remind prospective users that it is a legal requirement to obtain a licence. The procedure is as follows:

a) Write to the transmitting authority, *eg* the Met Office, asking for permission to receive the Met facsimile broadcasts. Non commercial organisations are not likely to be asked for a large fee.

b) Send the letter of approval to: Mr O. L. Baker, Licensing Branch, R2 Division, Home Office, Waterloo House, Waterloo Road, London SE1 8UA.

The Home Office will charge a small administrative fee, probably about £4.80, but the exact fee did not seem to be specified when I inquired.

T. A. M. BRADBURY, **Bracknell, Berks.**

COMMENTS ON THE ULTRALIGHT ENIGMA

Dear Editor,

I was so surprised at the content of "The Ultralight Enigma" in the April issue, p70, that I initially thought it was an April Fool's Day joke. However, on finishing the article I realised the author was quite sincere. I am therefore writing to correct some misconceptions and add my own comments. Also there seems to be an urgent need for a better understanding between hang glider and sailplane pilots generally.

Mr Sellars uses for his comparisons a first generation hang glider (Std Rogallo). They are not to be seen these days, 60% of all flexwing flying hours probably being on third generation gliders. The differences are as follows:

	1st gen	3rd gen
Wing loading (1bf/ft²)	.75-1.0	1.0-1.5
Glide ratio (ND)	3-4 (seated)	8.5-10.5 (prone)
Min drag speed (mph)	17-19	19-24
Min sink speed (mph)	16-18	16-20
Stall speed (mph)	13-16	15-18
Min sink (ft/s)	5-8	2.5-3.5
$V_{parachute}$ (ft/s)	12-24	—
VNE (mph)	30+	45-60
Structural weight (lb)	35-40	50-60
Stat strength *(g)*	?	+6.6/-4.5 (14st)
Cost	£150-£250	£450-£650

$V_{parachute}$ = rate of sink when descending fully stalled like a parachute

Larger spans, tight cambered low washout sails and prone harnesses have more than doubled L/D max but the speed for min drag is still too slow for extensive upwind flight. The polar is flatter though and reasonable glide angles exist up to 30mph. Ridge soaring can be achieved in smooth winds up to 40mph but gusty conditions usually prevent flying due to physical and mental fatigue plus the obvious landing hazards.

To correct a few of the statements made in the article, I offer the following facts: stalling in downwind turns is pilot error and **not** a fault of any glider; semi and fully rigid hang gliders are very rare beasts; thermal soaring is **more** than marginally possible; hang glider pilots do not care to fall from **any** height and hang gliders **are** airworthy and of similar stability to heavy sailplanes.

The paragraph entitled "Ultralight Design Studies" is vague, misleading and very weak justification for a new Class of glider. Surely low first cost mitigates low utilisation which is anyway secondary to the advantage of being able to decide for oneself when to go flying?

Nine metre span? Flexwing hang gliders have stabilised at 10m-11m! Despite the author ignoring the question, what really matters is that the ultralight can be legally transported on a car roofrack not whether it will fit into a standard garage. All modern flexible hang gliders can be stored outside with safety, although the majority aren't. Terylene sail, s/s rigging throughout, anodised Al-Mg-Mn seamless alloy tubes all held together with AGS nuts/bolts/pip-pins and wrapped in a drip-dry zipper bag is surely a good design aim for any ultralight?

Sailplane pilots must now expect to meet hang gliders almost anywhere during good soaring conditions. A 50 mile cross-country has been flown this year, the Mynd wave exploited to 2500ft and at "mixed" soaring sites sailplanes are constantly being overflown. As hang gliders pick up and circle in thermals at ridiculously low heights where they are at their smallest (positively no resemblance to the Goodhart Standard Thermal) sailplane pilots may find a flexwing circling tightly and coming up beneath them. Remember, the pilot can't see upwards or direcly inwards. However, he is used to flying in heavy traffic and one way of telling if he is initiating avoiding action is to watch his body movements. If meeting head on, he should move his body to your port. As yaw is induced by sideslip, the initial motion for larger span gliders will be unco-ordinated and skidding outwards. As soon as noticeable roll occurs a very tight turn can be made. Pitch response is so rapid that it would never present a problem, although the limited kinetic energy prevents extended zooms as practised by the heavy brigade.

Finally, although wishing Mr Sellars good luck with his Enigma proposals, I honestly believe that any practical developments in this direction will be made by the present very successful hang glider manufacturers moving up-market. The British clearly lead this field at present and with their design flair and foresight should be acknowledged in a country that imports 90% of its light aircraft and gliders.

CLIVE H. SMITH, **Garston, Herts.**

John Sellars replies: I am indebted to Mr Smith for supplying more up-to-date details of modern hang glider performance than were available to me when I wrote the article. Reworking the calculations with an average of Mr Smith's figures for the third generation hang glider gives a rate of climb in a standard thermal which is somewhat in excess of my "typical 15m glider." I would

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not rule this out as a possibility, but would be interested to hear from 15m pilots who had been outclimbed in any but very narrow thermals.

Accepting that hang gliders can now climb in thermals, we can only compare the machines further on the conventional basis of cross-country performance. Assuming the hang glider cruises at 30mph with a glide angle of 9.5 we have the following cross-country speeds; — third generation hang glider, 24km/h; Enigma variation one, 25km/h; Enigma variation two, 37km/h and typical 15m glider, 64km/h.

Hence the latest hang gliders perhaps reach the level of cross-country performance of Enigma 1 (as described in the article). Enigma 2 with a higher aspect ratio and semi-enclosed pilot (glide angle 18, as hinted in the article) promises to be 50% faster.

But performance is not everything. Mr Smith mentions airworthiness but apparently fails to realise that this involved more than pure structural strength. It is irrelevant to quote a design load factor of −4.5*g* for a sailwing which cannot operate at negative incidence without "luffing". I will start worrying about what the negative load factor should be when I have observed a hang glider in steady inverted flight. Until then I cling to my dictum "single surface wing — single sided flight envelope."

In case Mr Smith should think this dimension academic, I must remind him that "proper" gliders are designed to pull negative *g* so they can safely negotiate down gusts. All his −4.5*g* will do for him is to preserve the structure intact until he hits the ground after luffing.

The continual and skilful avoidance of such luffing is probably a major contribution to the physical and mental fatigue in gusty conditions which he mentions. Enigma will be easier and safer to fly in all weathers and will therefore have a higher utilisation.

The idea of three cars with Enigma bits on their roofs is admittedly hypothetical and stems from the initial assumption of trebling the resources demanded by one hang glider. In practice a light open trailer is all that is needed if the machine can be stored in an average garage.

I am touched by Mr Smith's faith in the limitless bounds of the self-taught ability of our sailwing designers, but I must comment on his implied criticism of British glider design. We have produced prototypes as good as anything in their Class in the world. If Mr Smith wants to know why they are not in mass production today he must talk to the real guilty men: sooner him than me!

A NEED FOR A SIMPLE GLIDER

Dear Editor,

I was very interested in the article by John Sellars and disappointed that there was only one comment in your correspondence columns in the June issue of S&G, since I believe there is a great need for a simple ultralight glider. The specification proposed seems sound, and limiting the longest component to 4.5m is logical and practical for the reasons given, despite what Nick Cranfield says (June issue, p151). Enclosing the pilot by transparent plastic sheet should considerably improve performance at minimal cost in weight.

Perhaps the most important of the final recommendations in Mr Sellar's article is that seeking the acceptance by the BGA Technical Committee of designs to BCAR Section E, non-cloud flying requirements.

What progress is being made with the home-built sailplane competition? The Ultralight Enigma would seem to lend itself to this, and if there were 14 or more Enigma variations on the 9m theme so much the better. For example, I believe it should be possible to improve on the aspect ratio and performance by adopting a canard config-

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uration where the elevator is contributing to the lift and so needing a smaller total wing area for equivalent lift.

How can progress of these projects be furthered? Could some modest annual financial contribution by those interested in return for regular information be organised?

R. G. THURTLE, **Ipswich.**

Roy G. Procter, BGA Technical Committee member, replies: The Technical Committee has now finished its consideration of the rules for a possible design competition. The matter is now with the Executive who, I expect, will make some announcement shortly.

As far as the non-cloud flying category of BCAR Section E is concerned, I would expect the Technical Committee would certify a machine against these requirements if specifically requested by the applicant, especially if this was helpful to a new initiative within the movement.

How can progress be furthered? Don't just stand there, do something!

HAYFEVER AND GLIDING

Dear Editor,

As a dedicated user of thermals (and any other lift I can find) I become rather resentful at the suggestion from the medical profession that I should give up gliding during the hayfever season, which can last from May to mid-August when we usually have the best soaring days.

Given reasonable care the symptoms of hayfever, prolonged sneezing, itchy eyes, streaming nose etc, are less evident on a good soaring day than when it is humid and breezy. Presumably the pollens are dispersed throughout the adiabatic layer by thermals during the day only to be concentrated as they sink earthwards during the night and interfere with sleep. Incidentally it is a fallacy that rain will bring relief. Hayfever is usually worse during the rain for the above mentioned reason. It is only in the fresher air behind the cold front that things will get better.

I have come to the conclusion over the years that chronic lack of sleep is probably the greatest problem and, in retrospect, may have contributed to the two relatively minor accidents I have had in the last 15 years. This manifests itself in August when the pollen count has returned to quite a low level and the symptoms of hayfever have largely disappeared.

Perhaps I should go sailing during the hayfever season, gnashing my teeth as cumulus clouds form. It would delight the gliding safety pundits no doubt, if not the coastguards.

I don't use anti-histamines so drowsiness as such is not a problem but a sleep deficit over a long period, however caused, must have some effect on concentration and reaction times. It would be interesting to hear from other sufferers how they cope and also to have their thoughts on why I can write letters with relative ease at 3am in the hayfever season whereas I find it virtually impossible to put two sentences together the rest of the year.

Now a comment on the article by Dr James in the June issue, "Models of Thermal Structure", p109. His "fact" No. 1 seems a bit suspect. Surely if there are ten thermals, each of one-tenth square mile in area, to the square mile, this would constitute continuous lift over one square mile? Very nice but somewhat unlikely. What goes up must come down somewhere. Surely thermals cover only a very small percentage of a given area, the remainder being similar sized areas of sink and large areas which are neither rising nor descending?

M. P. ANNISON, **Salisbury.**

Brennig James replies: That's right. Thermals are about $\frac{1}{100}$ sq mile in area so 10/sq mile = 10% air going up, 90% going down.

COMMENTS ON "THAT'S IMPOSSIBLE"

Dear Editor,

With regard to the article in the last issue, "That's Impossible" by Paul Whitehead, p171, I would like to mention a few salient points not really covered but which I feel are extremely relevant.

Releasing the cable. It is essential in any winch/car launch abort situation to release the cable *before* lowering the nose. This will help improve the rapidity of separation between the parachute and glider. Of course it is essential that the release cable is *not* under power from either the car or winch driver.

Parachutes. The ex-ejection seat drogue-chute is ideally suited, providing it forms part of the launching cable. It is strong enough (hence its suitability) and will not inflate on the launch. As mentioned, a knot should be tied with all the shroud lines at a point roughly 33in from the *base* of the parachute. I couldn't agree more that Phantom (or any other aircraft) brake parachutes are certainly far too large, even enormous, and one is asking for trouble. Tying a knot wouldn't solve the problem — the canopy is far too large to start with.

Shock absorber ropes. To further reduce the risk of the parachute/cable end assembly meeting up with the glider, it is wise to use a thick, heavy gauge rope. This helps the cable end assembly drop more quickly and is good for any release situation, normal or emergency, and when the student pilot lowers the nose too much. In addition, a thick section rope prevents any possibility of the rope wedging itself between the wheel and wheel-box on an overrun. Again, not impossible. I've seen it happen!

J. S. DOWNES, **Alton, Hants.**

The rear window stickers "Glider Pilots do *it* quietly" are 20p (5p extra for postage) from the BGA Salesroom.

PERHAPS NOT A 500KM?

Dear Editor,

The FAI sporting code states that distances flown must be calculated from geographical co-ordinates, using a value of the earth's radius of 6378.245km. The earth is not a sphere; it is ellipsoidal in shape, being some 43km shorter between the poles than across the equatorial diameter. If this fact is neglected, calculated distances will probably be less than they actually are. The maximum error in the UK is 0.2% (1km in 500km) on lines in the east-west direction.

Many pilots work out their distances by using Ordnance Survey map co-ordinates, which of course take into account the ellipsoidal nature of the earth. A pilot flying a real distance of 500km as calculated from his Ordnance Survey maps could find that the FAI consider it to be only 499km.

Luckily this problem will not affect most people since badge or record flights with such marginal tolerances are seldom declared. Also, really long flights in the UK are mainly north-south, a direction in which the distance errors are negligible.

TONY NORRIE, **Maidenhead.**

GROUND HANDLING DAMAGE

Dear Editor,

I feel compelled to comment on the needless damage club sailplanes suffer during ground handling by both pilots and crew who are in too much of a hurry to get flying. Such damage falls into two categories — the easily seen and the not so easily seen.

Easily seen — broken canopy locks, strained and broken hinges and cracked perspex. The correct procedure — always close and preferably lock the cockpit if the aircraft is to be parked and not used for some time.

Not so easily seen damage — strained wing fittings and mountings as a result of only two people, one on each wingtip, pulling hard forwards in an attempt to move the sailplane out of a deep rut on boggy ground. This causes huge strain on the inboard wing mountings and mainspar which can result in severe structural damage, compromising the glider's airworthiness and the lives of its pilots. Correct procedure — allow only one wingtip to be manned at any time, the other wingtip to be completely free, and let the remaining helper go to the cockpit area and pull on the pilot's harness straps in an effort to move the aircraft. If it still can't be moved, get more helpers. Remember that gliders are very strong machines when handled properly; however, if mishandled they are fragile.

In conclusion I would like to suggest that one particular procedure of the good old days be revised — the preflight morning briefing. This should include the fundamental points of correct ground handling in a concerted effort to eliminate the unnecessary damage to gliders as a result of inadequate ground handling procedure.

HENRY LESCHEN, **Victoria, Australia.**

classified section

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