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Magazine of the
British Gliding Association

Kimberley House, Vaughan Way
Leicester, LE1 4SG
Tel Leicester 0533 531051

October-November 1986
Volume XXXVII No. 5

SAILPLANE AND GLIDING

210 FEAR OF FLYING
A. W. F. Edwards

211 MARY AT THE NATIONALS
Mary Meagher

213 NEARLY LUCKY
T. Pearce

214 FIRST UK 1000KM TRIANGLE IN EUROPE
D. B. James

215 OLD RECORD BROKEN
Vivien Haley

216 COMPUTING A CROSS-COUNTRY
Elspeth Morrison

217 SAILPLANE NEWS
15 METRE CLASS NATIONALS
B. F. R. Smyth

219 GEC AVIONICS OPEN CLASS NATIONALS
Annette Hartley

220 A FOREST COMPETITION
Philippa Watt

221 ENTERPRISE 13
I. D. King

222 YOUR LETTERS
B. Gilman, R. R. Rodwell, D. B. James, M. E. Newland-Smith (reply by W. G. Scull), M. Steckner, Soar Ears, Geralyn Macfadyen

223 BOOK REVIEWS
B. H. Bryce-Smith, F. G. Irving

224 14th INTERNATIONAL VINTAGE GLIDER RALLY
C. Wills

226 THE MORTALITY OF GEL COATS
G. Thelen

231 TRAVELLER'S TALE
J. L. Rolls

232 BGA & GENERAL NEWS
OBITUARY – Norman H. Sharpe OBE by J. C. Riddell
GLIDING CERTIFICATES

234 CLUB NEWS

245 OVERSEAS NEWS

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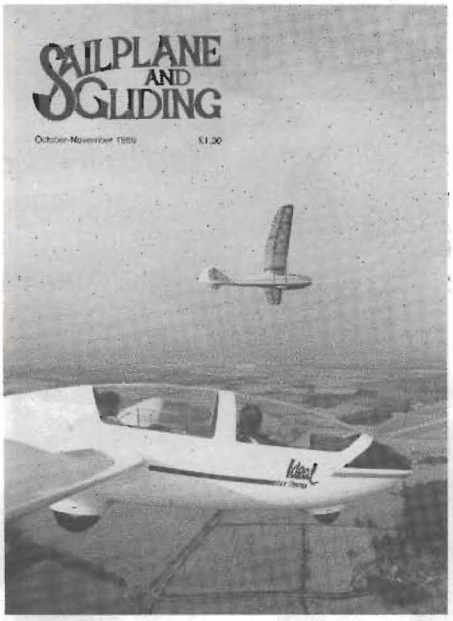
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Tel 0494 442423

PUBLISHER
British Gliding Association
(Barry Rolfe, BGA Administrator)



Cover: Old and new with a common purpose. Derek Piggott and David Ballard in the Grob Acro share a thermal with Colin Anson's T-31 (the Blue Brick) during the 14th International Vintage Glider Rally at Lasham in August. David took the photograph with a camera mounted on the wingtip.

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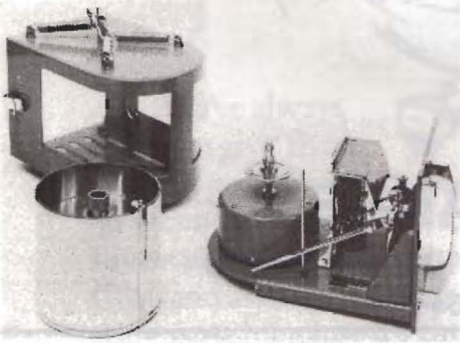
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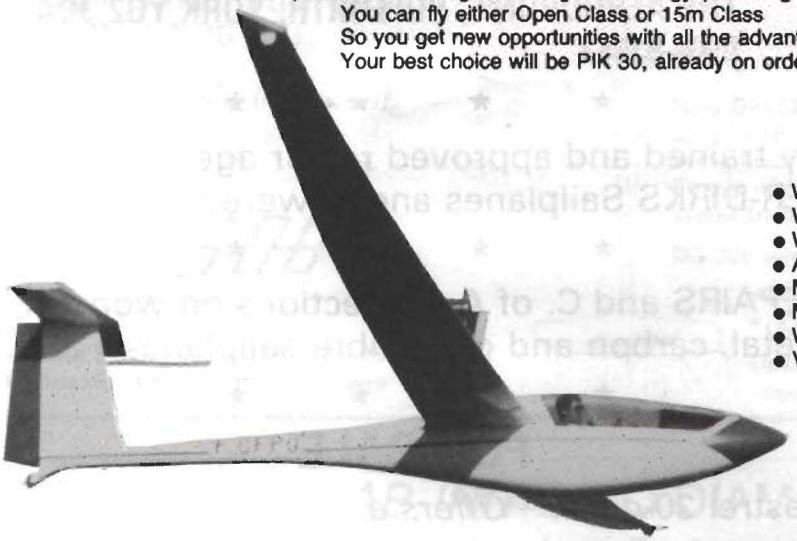
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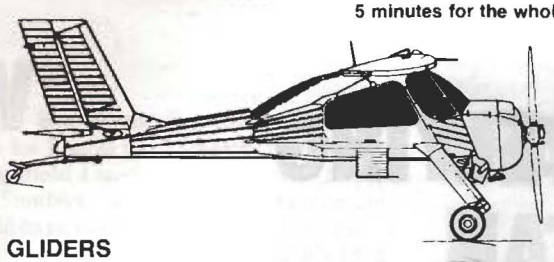
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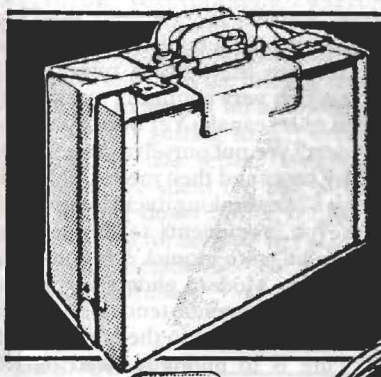
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ANTHONY EDWARDS

FEAR OF FLYING

In the first half of this article (August issue, p165) Anthony described how for twenty years he suffered from nervousness when flying until, in 1976, he was helped by the RAF Institute of Aviation Medicine at Farnborough.

One particular flight from about 1976 is etched in my memory. Only a few miles out of Cambridge on a rough cross-country I became so miserable and anxious that I determined there and then to *give it all up*. What was the point of carrying on gliding? I flew back to the aerodrome, turned on to the familiar approach, and instantly felt relaxed. Glancing sideways from the cockpit I caught sight of King's College chapel and the University Library tower, the old familar skyline, and I knew as I parted the grass again *this must not be the last time I see that view from a glider's cockpit.*

So it was with a mixture of fear and hope that, in August 1976 I went down to Farnborough, and the very first thing I learnt was almost the most important: *I was not alone.* Not only did other pilots suffer from the anxiety and phobia which occasionally gripped me, but for many of them it was much worse because their livelihood was at stake, whether they were military or civil pilots. I began to feel a bit of a fraud already, wasting the experts' time, until Dr A. J. Benson, who was helpfulness personified (and no doubt the possessor of some fearsome RAF rank I now forget), assured me that I was an object of some clinical curiosity through being the first glider pilot to have owned up. He had seen every other kind of pilot, but not an engineless one. Apparently helicopter pilots are amongst the commonest sufferers, and I'm not surprised, seeing how they dangle from their asymmetric Flymos in perspex goldfish bowls.

First, a physical examination. Was the equipment duff? Was I suffering from semi-elliptic canals? I had often wondered, but evidently I was not. The test was hilarious, for I was made to sit in a sort of giant centrifuge which was gently accelerated and then rather suddenly stopped. Normal people, if I remember rightly, were supposed to feel ill but not too ill at this, and I went the appropriate shade of green. So my problem was not in the ears; it must then be between them.

The remainder of the visit was taken up with discussions of spatial disorientation and the feelings of insecurity and detachment which power pilots had reported. It became clear that my own symptoms, though not identical because of the rather different environment in which a glider pilot operates, were indicative of much the same problem. A kind of anxiety neurosis induced by, or perhaps inducing, feelings of instability leading to great unease and a longing to be on the ground again.

But was there a cure? Not as such, but friendly reassurance and the knowledge that I was not alone coupled with some practical tips soon had me on the mend. I climbed into my Olympia 463 a few days after the visit and flew it from Cambridge to Henlow and back, the greatest distance for two years. The next year I managed two 100km triangles and in 1978 I stayed up for 3hrs 40mins, the longest time for four years.

"Five-hour flights are back again, and both a goal Diamond and Gold height have come my way . . ."

Then Catharina and I did something which turned out to be a great help. We changed our 463 for an Astir Standard and a whole new world of rock-like stability. Five-hour flights are back again, and both a goal Diamond and Gold height in wave have come my way, though on the flight previous to my Gold height I did have to open the brakes at 6000ft and descend because the roughness caused the old worries to emerge. But I can control them now, and allow for them. Let me tell other sufferers how.

First of all, don't be shy – talk about your problem. *You are not alone.* Try to fly only when you feel fit and relaxed, for other anxieties exacerbate this particular problem. Try to fly only when you really *want* to fly. This may rule out instructing, but I have found that task flying is no problem provided I don't take it too seriously (but then I never did). If you don't like a flight, land, and try again another day.

Be sensible about your equipment. I stuck to our Olympia 463 far too long (thirteen years) because I obstinately adhered to the maxim that bad workmen blame their tools. An Astir Standard is 50% heavier and a whole world more stable. Add waterballast and it's like riding a gyroscope. Look after yourself when flying. Eat and drink on long flights, and try to relax a bit. Take care of your semi-circular canals (now whatever can he mean by that?).

When I was in the Farnborough centrifuge I noticed that moving my head up and down induced nausea, and thinking about it afterwards I realised that such a movement when the body is turning will obviously set up very confusing motions of the fluid in one's canals. Yet what do we do in our gliders? We put ourselves into high-*g* thermalling turns and then move our heads up and down like drinking ducks, taking our eyes from the instruments to the horizon and back again, with a quick left-and-right scan thrown in. Modern gliders are better because the instruments tend to be both further away and closer to the horizon, but the real cure is to minimise head movements whilst thermalling – move the eyes instead, they're designed for it.

A few months ago I was on a Lakeland gliding expedition organised by Pete Whitehead. After a week of limited success we were positioning his Swallow in a field on the flank of Skiddaw when suddenly he offered me the cockpit. Before I had time to reflect on what was about to happen, I was jerked over the edge, my 6ft 2in jammed into Pete's winged tea chest. For a golden hour I soared Skiddaw, soared the finest slope in England, a beautiful clear 2500ft from bottom to top – three Long Mynds in height. On the top, and for a 1000ft, thick snow, and spread out at the bottom, Derwent Water. At that moment I was the happiest man alive, a moment I would have missed if I had not found help just when I needed it. Thank you, everyone, and for those who suffer still, take heart, you do not have to become an arm-chair pilot yet.

MARY AT THE NATIONALS

A worm's eye view of the first of this season's competitions, the 15 Metre Nationals, reported by Bernard Smyth on p217

When Bernie Fitchett asked me to crew for him in the 15 Metre Nationals at Nympsfield I said yes right away. (Except for Sundays, when other arrangements would have to be made.) "Sure, I'll do it!" I said, "but I don't know much about it. You'll have to tell me what to do." Bernie promised to get me a set of rules to study, but they unfortunately never materialised.

"You'll have to do *everything* for him" Elaine Townsend told me. (She crewed for Bernie last year, when he won by four points.) "He needs a lot of looking after. You'll have to scrub, pour, wash, mend, smoke, fetch and carry, and make sure he doesn't forget anything." I began to have misgivings. "In the air he's a genius, but on the ground, well . . ." I did have the notion that all I had to do was go and retrieve him if he landed out, which being one of the best, he was not so likely to do. This was beginning to sound involved. Oh well. At least it would be a learning experience.

Saturday was scrubbed. Sunday I got back in time to cheer like mad when Bernie's glider zapped over the finishing line second, only Chris Garton came in next and because he had started later, of course he beat Bernie. Very confusing. I was confused for the rest of the week.

Monday and Tuesday the only thing getting ready to fly was the briefing tent, which threatened to set out on a downwind dash (wind SW 20 gusting to 33) even as Phil Andrews, the task setter, remained grimly optimistic. We spent the rest of the afternoon staking down Bernie's tent, with an extra line tied for security to the trailer. Do *not* forget to detach your tent before driving off with the trailer.

I pushed and _____ polished and _____ fetched and carried _____

Wednesday was a cracker. Bernie showed me how to syphon water into the wing tanks. I pushed and polished and fetched and carried and did what I was told; attended the briefing at Bernie's elbow and dutifully copied down the track (Bridgnorth, Honeybourne, Rugby and home, a total of 310km) and Bernie's secret codes for Low, Landing, Final Glide, and Roll (which means get the show on the road). But it was such a super day, I was sure Bernie wouldn't land out, and he said I could slope off and do some local soaring which I did in the Nympsfield club K-13 with Sutty Sutcliffe.We had a grand time, six up all over the place, toured the Severn valley and Gloucester Cathedral and whooped it up over the ridge. Bernie came home safely. Pete Sheard, in the encampment adjoining, was very unhappy. He had forgotten to seal his camera.

You no longer need a committee watch from the ground while everybody dives for the startline at once. The clever Japanese have invented a camera that takes a picture with the time of day included. There is a lot of fuss in the briefing tent about setting the little clocks just right, and then the camera must be loaded, tied up with a bit of string and some sticky paper by Pat White in the control hut, backed up by a barograph that also has to be smoked, loaded, sealed up with sticky tape and signed. I let Bernie do all that because I didn't want to do anything stupid and mess him up. The competitor takes a photo of the startline (the SW corner of the white hangar) and when there is an opportunity informs control by radio of his starting time, later to be confirmed by the film.

All the TPs must show up on the film as well, taken from the correct angle and showing the correct landmarks. Poor old Chris Lyttelton took a picture of Junction 14 instead of Junction 13 on the M4, and of course they wouldn't take his word for it how far he got round, so that set him back substantially. So many ways to go wrong!

Ralph Jones made a fuss about Bernie using No. 9 for the competition. Did he have Charles Ellis's permission to use No. 9? Bernie doesn't have his own glider, he was using the ASW-20 Booker GC bought from the Italian Count Marco Gavazzi. The Italian registration is I FEEL. (I feel pretty? I feel sick?) The number on the tail, as befits an Italian glider, is Roman numeral IX. Yes, Ralph, Bernie *did* have Charles Ellis's permission to use No. 9 in the Comp.

"You've got to take it seriously, Mary" said Nigel Philpot, who was crewing for Pete Sheard. "I don't go skiving off round the neighbourhood, I stay right here and listen out for Pete."

Perhaps he's right. I noticed that nobody else went swanning about local soaring, despite the kind offer of Nympsfield GC of free day membership for crew. Everyone sunbathed intensively, keeping watch on the gliding frequency for important messages. In particular, Gill and Brian Spreckley were in frequent radio contact. "Brian!" "Gill!" "Brian!" "Gill!" Began to sound like "Kathy!" "Heathcliffe!"

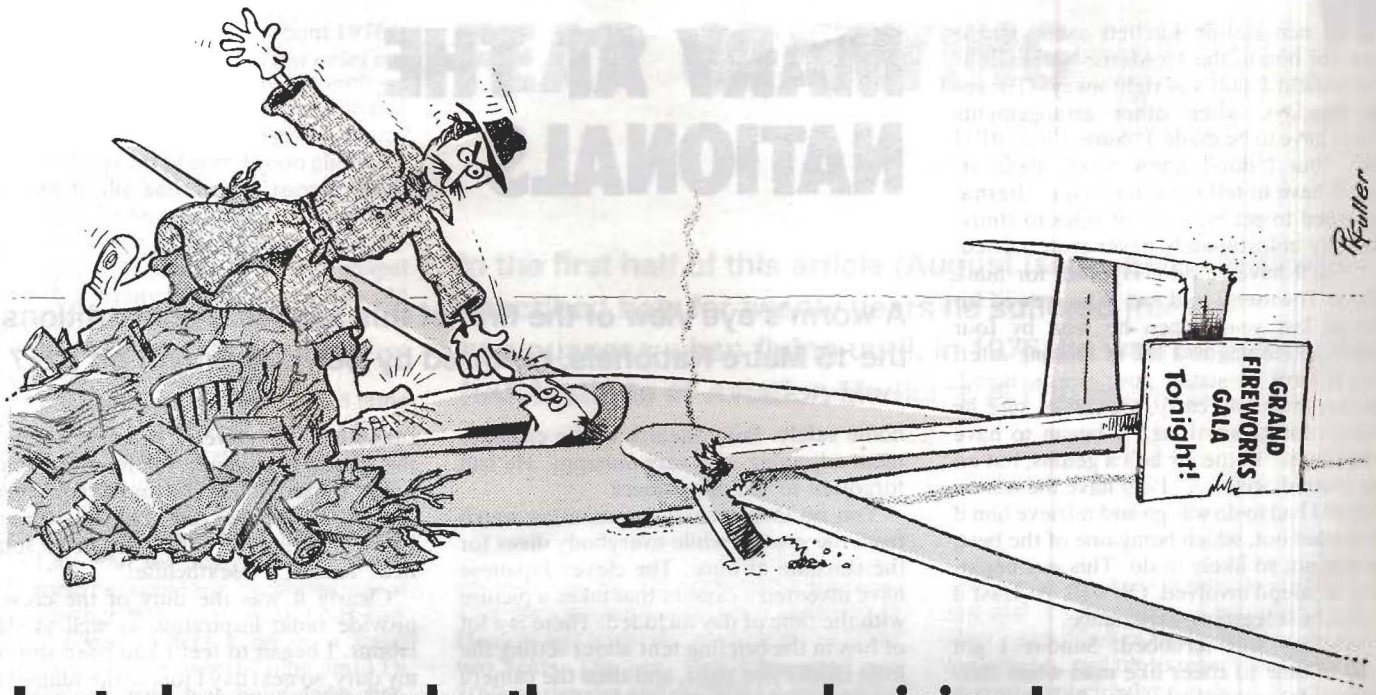
Clearly it was the duty of the crew to provide radio inspiration as well as slave labour. I began to feel I had been shirking my duty, so next day I joined the sunbathers and when Bernie called "No. 9, Delta," I cranked up the old valve set in the back seat of Bernie's car and acknowledged the call. Carried on sending acknowledgements into the ether but Bernie never heard any. I *did* press the button, I really did. They heard it on Brian's set.

Bernie tends to _____ wander off at _____ the last minute _____

Next day Bernie turned up with a check-list. He seemed surprised when I hadn't heard of his check-list; item one on the checklist should be don't forget the check-list. It is an exceedingly useful and necessary guide for the novice crew. The distillation of years of competition flying, compiled by Dee Reeves. Bernie's list includes under headings *Before Briefing, After Briefing, Stow, Load, Check, At Night,* all the nitty niggling vital details that must be taken care of before launch, *eg:* remove pitot tapes, check code, stow pee bag, **tail dolly off!!!** and in agonised caps, underlined, **stow pilot!** Bernie tends to wander off at the last minute, which can be hard on the nerves of the crew as the launch begins and the hookers dash and the tugs swoop and it will be our turn next and where's the pilot?

I felt a lot better with the check-list in hand. With Bernie among the first four, and because he won the Nationals last year, and because he needed to do well in this one to go to the Worlds, I was beginning to feel inadequate. A terrible fear of goofing. Remembered just in time *not* to polish off

Some guys...



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the mark the timekeepers scrawled on the canopy. Tucked in his pillow, ticked off the list, hooked up the cable and scuttled off with the tail dolly.

All day I stayed by my post, but never heard anything from No. 9 until he called two minutes to line. I dashed to the field, met Bernie on landing, and we towed IX back to base. Bernie was fairly pleased with his day, until he unclipped his camera. It wasn't sealed. Sealing cameras was not on the check-list.

Bernie was so mad he stomped off to control and forgot to take a picture of his tail fin. That cost another 20pts. Because Pete Sheard had forgotten to seal his camera the day before a precedent had been set and they only deducted five minutes from Bernie's time for not sealing the camera. I felt terrible. Somehow responsible. Should have thought of it! Thought he'd done it already, but it wasn't on the check-list!

Boris and Laura showed up on the weekend and did a splendid professional job of crewing for Bernie; he did much better on Saturday. Sunday everybody landed out on a miserably hot soggy day. Spreckley won, of course. Bernie ended up in 4th place.

Perhaps in the fullness of time it won't seem to matter so much.

* * *

All the big shots were lounging around waiting for the launch, while Justin Wills told a story about a competition in France, some years ago. Everybody landed out in the same big field some distance from base, so arrangements were made for 15 tugs to come next morning to retrieve the 30 gliders and the pilots were taken by coach to a very nice hotel nearby. Splendid dinner. They all got up early and went to the dew-soaked field. But one self-important German pilot, flying a Nimbus 2 (tremendous span) insisted his glider had to be first to take off because he had a very important business appointment. So the others helped him push the Nimbus up to the front of the queue. Eventually a buzzing in the distance, and the 15 French tugs arrived and the 15 French tug pilots got out and stood around in the morning air, eating their baguettes, etc. The German got very impatient with the delay and insisted on starting out right away. So one pilot shrugged, and still chewing on his baguette, etc, hooked up to the Nimbus and began the take off run. The tug took off. The Nimbus, however, being still wet with dew, declined to fly. There was a sound of expensive crunching in the far hedge, the tug released, came round and landed, and the pilot said, with nonchalance, "Who's next?"

NEARLY LUCKY

Tim writes about his first cross-country and Silver distance attempt which ended up as a 210km O/R to Lasham

I knew it was my lucky day . . . I just knew it. I could feel it in the air. As a family man, I had delivered the children to school and filled the car with petrol. I bought two boxed drinks and a handful of Harvest Crunch bars (for airborne lunch with luck) and checked that the chewing gum was already stowed in my hat.

I arrived at Nympsfield feeling relaxed and confident. James gave me a good briefing for my first cross-country and at 1153hrs I launched the K-6E into a hopeful sky on the start of this great adventure, releasing at 2000ft over the airfield.

I settled down fairly quickly and after establishing that I could remember how to thermal by taking a couple of local climbs to cloudbase, I set the stop-watch, pressed the start button and off I set. I must admit that I was never really confident, nor did I doubt myself, I just set off.

Aston Down and a 6kt thermal, fly south to Kemble, more lift, follow the railway line, Cricklade (cloudbase again), on to Swindon, Hey I'm at Swindon and just 38min into the flight. It was unbelievable. Around the northern outskirts and I picked up the motorway. The weather ahead looked poor with large areas of total cover, and my spirits took a knock when I spotted Joe Cook in a field with the club Astir.

I scratched on fairly regardless and made Hungerford with about 2000ft. Turning in weak lift I found myself in company with a Libelle (one of the few gliders I can identify at a glance) and, thinking my self-confessed erratic thermalling might put this other pilot off, I edged away to an area of promising fields about a mile away and straight into a brilliant thermal (what luck). Back at cloudbase (now about 3000ft) I made my way to Newbury where I realised that I was going to land. This sent me into a moment of panic and I heard myself thinking that I would crash as field after field had to be discounted for one reason or another.

Then there it was, my field, ahead of my port wing. It wasn't perfect (are they ever?) but it was big enough and near enough, and not too far out of wind. I flew over to check for slope, then back again to check once more. The downwind boundary was a low hedge with a few small trees but there were gaps large enough for an easy approach . . . perfect . . . Woosh . . . Should I? The book said no . . . I did . . . 2kt up all the way round . . . it held good . . . the altimeter started creeping up . . . back to the 1000, then 1500, 2000 . . . all the way back to cloudbase at 3500ft. What luck (does anyone else talk to thermals? I certainly chatted to that one all the way up).

I must say in defence of my decision to turn in a thermal, having already decided to land, that my altimeter at that moment (I won't tell you what it read) was under reading by about 300ft relative to Nympsfield. Anyway cloudbase again and glad of it with that heavily wooded area to the south of Greenham Common to cross.

A quick check of the map to assure me that Basingstoke was coming up ahead. Over the golf course Arthur Duke flew beneath me on his return journey and his cheerful wave was most welcome. I spotted gliders before I saw Lasham, but when I realised they were local machines I quickly sorted out the club from Odiham away to the left.

Flying in lift I reached the club and checked my watch . . . a little over two hours, not bad. Now photographs. Ray Lemin had cautioned me about photographic sectors but I think Keith Aldridge's succinct "Fly in on course well beyond the clubhouse, turn and take a picture of it down the wing" came to mind more readily, and that's what I did, twice. Just to make sure.

That was it. Silver distance in the bag (well in the camera anyway). I was pleased (understatement). If I'd known how I would have done a loop. Now for a big decision. Should I land and claim that distance or do I turn back?

I stayed high over Lasham and had lunch. I felt super cool and definitely a pundit eating my crunch bar and drinking my Caribbean cocktail whilst thermalling over the club. Mind you I did feel a bit of a wally when I squeezed the box ready for stowing and sprayed the canopy with sticky cordial.

The book says try up wind and see how you get on . . . so off I went. It is much slower isn't it? I remembered on my second climb on the return journey (for that's what it was by now) thinking that I would never be rid of Basingstoke, but gradually it

(Continued on p245)

FIRST UK 1000KM TRIANGLE IN EUROPE

Brennig, who in 1968 became the first in the UK to complete a 500km triangle, is the first British pilot to fly a 1000km triangle in Europe. On July 11 he covered 1004km in his Nimbus 3 in 8½hrs.

I figured no one would ever let me fly a Nimbus 3, so I had to buy one and now, about £50000 poorer, I had my own, visiting Fuentemilanos in Spain for the sixth time.

Having flown the first 500km triangle in the UK, I was keen to fly the first 1000km triangle too, but felt pretty certain that it wasn't on in the UK unless you got launched at 10am every good day for five years. Over the previous few days I had flown three 500km and a 600, I had pored over maps and glided down to Hervas and back to assess the TPs down there. The TPs I chose were first Monteagudo reservoir, Bejar, Monteagudo town, then home – 1004km.

My Nimbus 3 was fully loaded with waterballast to 750kg. I was launched at 12.04 local time which, being double summer time and 4° west, is about 9.50am on the sundial. Launching is down hill on the runway, but unfortunately downwind and crosswind, so there are ten seconds of naked fear while you wonder whether your controls will act before you have groundlooped into the hedge.

Already one or two cumulus were sitting on the local mountains and I asked the tug pilot over the radio to go to the southermost of these near St Raphael. On the way a stork flew across my track which I thought was a good omen, particularly as I was in the medical profession.

I cast off and climbed at 10kt to 11 000ft, came back to the airfield and photographed it to have a start. Along track a few cu were forming, so I went to these slowly pushing up my inter-thermal speed from 70 to 90kt as the clouds turned out to be reliable. Usually the lift is better over the mountains.



The airfield is at 3280ft and the mountains go up to about 7500ft. Cloudbase was 11 000 rising to 13 000ft, and I tried to stay above 9000ft all the time. I kept about 500ft clear of cloudbase since my view of the clouds would be obscured. I just flew along the weather in the general direction of the next TP.

I had worked out that above 140kt I was losing out, but at 12 000ft 120kt indicated is 150kt true – quite a useful speed. I was either going to do 1000km fast or not at all, so once I was established I would pick the next cloud then make a definite sprint for it at 120kt, then when I hit the thermal, heave back the stick to climb at 60°. Just before it stalled I caught it with stick and rudder and flicked it into a 45° circle. The zoom got back 500ft and three turns put on 1000ft – this was usually enough. I would pick the next cloud and make a definite sprint at 120 for it. Fairly soon I had settled into this routine and was knocking off the thermals with ease.



Brennig started gliding in 1947 and was a founder member of Thames Valley GC, now Booker, and is also a member of Oerlinghausen. He has All Three Diamonds.

Total energy is not much help as it cannot cope with 120kt. I used two variometers, a Winter and a simple Westerboer. Both the needles moved as one, the only advantage was that the electric was set to music so I could look out of the window occasionally.

I think centring on thermals is a myth. In Spain particularly lift is narrow and rough. You can often feel yourself well set up in 4kt lift, but after a little rummaging around, find 10kt to one side. I find three turns in one place is about the limit, so I either scratch around again or press on. I was getting 10kt most of the time and confirmed this with watch and altimeter. Occassionally I got 12kt climbs. 1000km at L/D 1:25 is 40km climb or 120 000ft, which works out at about 120 thermals, so my recollection of the flight is a little hazy – just a frantic rush from cloud to cloud.

The Nimbus 3 is a handful

With full waterballast and 80ft wingspan, the Nimbus 3 is a handful, but I found I quickly got used to it and could throw the aircraft around very easily. I hardly ever dolphined. I think three quick turns in a strong thermal pay off much better. Often I just could not keep up the required level of concentration to circle really well, so when I fell off the table of the lift the vario, instead of trilling, used to emit a discouraging durr. So I often centred by flying away from the durr – rather lazy, but on a long flight anything goes.

About three-quarters of the way to Monteagudo I got lost as one runs out of landmarks, but I found a railway with a village in the crook of a hairpin, a fix, so I was on my way. There was a nice cloud beyond the reservoir, but after I had worked it I found I had gone about five miles too far, but it was as well that I had because I was soon down to 6000ft which I considered was very low. I had my eye on a slope to soar but got away in a mere 6kt. Once around the first TP it was a mad rush down to Bejar. I just followed the clouds and found myself approaching Bejar from the east with a layer of cirrus above. There was a gap beyond, but by the time the sun was through, warmed the ground and the thermal rose to where I was, there would be considerable delay.

After Bejar I should have retraced my track and flown round the arc of mountains to the east, but I took a short cut and got down to 6000ft again. I hit ten down and made a dash for the nearest available field, about ten miles away, but immediately hit the strong lift which the sink surrounded and wound up smartly to 10 000ft and was on my way again.

In general, the mountains and a five mile band around them are unlandable. The plains are OK. Large fields, few hedges, often one field in three is fallow. Once back near cloudbase, it was back to the previous routine.

About two-thirds of the way back, along this leg, I tried entering a few healthy looking clouds, but they did not pay off, so I carried on as before.

Returning to Monteagudo, which again was out in the blue, I only got down to 9000ft, but had to dog leg a lot before I found strong lift to 13 000ft. About 80 miles from base on the return leg the clouds gave out at about 8pm, so I slowed down to best glide; 60kt indicated 75kt true, so now I began to dolphin a bit. It was hazy and flying into the sunset I only had a vague idea where I was, but the ship hardly seemed to lose height at all. In fact, I got home with about 2000ft in hand – I dumped 250kgs of water and landed with a flourish.

After a mild beat up I climbed up and turned downwind. Now the part I like the best – fly downwind about half a mile from the airfield which is now out of sight. I do a 180° turn and as I level out see the runway dead straight ahead. Half brake and touch down one-third of the way along the runway, roll and turn onto the tarmac outside the clubhouse.

"Ich habe ein tausend kilometers geflogen! Das ist gut."

OLD RECORD BROKEN

Vivien, who has always faintly disapproved of separate records for men and women, was bullied into attempting to beat the UK single-seater women's 100km goal held for 29 years by Rika Harwood.

Sunday, May 4 and I was up at 6.45am to a blue sky and high winds. Oh well, I thought, not much good for a cross-country today!

Driving to the gliding site at 7.30 cumulus was appearing everywhere. This was not a good sign, it meant that it would probably over-convect by lunchtime!

On arrival at the site, I was met with great gloom as very strong winds from the SE meant taking off on the short runway. Only one problem – "friendly" local farmer does not like us and has erected 8ft concrete posts at the end of the runway. Therefore, no flying today!

Paul Robinson, who is great on optimism, said to me "Why don't you do a downwind dash and try for the UK women's 100km goal? It's only 83km/h and has been held for 29 years. You could fly to Crowland!" As we obviously would not be able to launch a glider, I looked at my map, smoked my barograph, put film in camera and nattered as is the way at all gliding sites.

At 9.30am a committee meeting started in the clubhouse and a few of us were left outside to contemplate the beautiful cumulus clouds and the strong crosswinds.

"Come for a ride to Ipswich Airport to buy a map" suggested Colin and off I went for an hour or so.

On return, no gliding yet but the wind had veered to 170°. I then changed my destination to Langham Airfield on the Norfolk coast but this was only 98km from our site, so chose Raydon Airfield as my start point – both are deserted airfields.

By this time, Pete Wilby, our ex-CFI, had arrived and he offered to tow me off (towards the concrete posts which had never been done before!) Up until now I had quite happily been planning this flight (since I wasn't going anywhere) – now my tummy started to do peculiar things.

The Sporting Code and Official Observer's booklet were scoured but, although an OO could drive to a certain point at Raydon Airfield and I could be observed crossing the startline below 3000ft, record attempts were not able to accept a remote finish and timing by the barograph.

I heaved a big sigh of relief and had another cup of coffee. My partner, Kevin, 'phoned home to say he would be back for lunch.

The committee meeting finished and I told Paul the news that the record could not be attempted as there would be no one at Langham Airfield to observe my arrival. "No problem" he informed me, "we'll get an OO there!" and rushed off to 'phone Tibenham to see what conditions were like in Norfolk. I tried to remonstrate with Paul but all to no avail – he's like a bulldog when he gets the bit between his teeth!

I felt decidedly sick by now and sat down to have another look at the map, seriously, this time. Kevin said quietly that if I wanted to go, he would rig the glider, a Pirat, and not to worry about that side of things.

I went to the loo!

By now, everyone seemed to be involved as nothing else was happening and this was exciting, wasn't it? More calculations were made, distances and heights of airfields measured and a declaration board photographed. I couldn't do that, of course – my hands were shaking so much that I could not hold the camera.



Vivien photographed after her record flight. She flies her syndicate Pirat at the Essex & Suffolk GC and in her seven years' gliding has a Silver C and Gold height with Diamond goal ambitions. A teacher with three grown sons, Vivien also has a PPL.

Soon after 2.00pm Paul and Jonathan Abbess, the OO, set off to race to Langham Airfield. The trailer would follow after I had started. I was committed. Angus, our CFI, drove to Raydon Airfield to officially observe the start. Everything that could be done, had been done. The fact that no one knew what the conditions were like for soaring didn't seem to matter – it looked OK!

I visited the loo again, packed my handbag and crossword puzzle for when I had to sit in a field for four hours waiting for a retrieve and towed the glider to the launch point.

Nervousness gone — Just concentrating —

Everyone watched with interest to see if we impaled ourselves on the concrete posts at the end of the runway. No problem. Pete held the tug down until the last minute. I was all right now, nervousness gone, just concentrating on seeing where the lift was during the tow. It seemed very close to the ground which wasn't a great deal of help! Pete waved me off in the correct position at the correct height and I turned to cross the startline and headed towards Wattisham Airfield and Stowmarket. I encountered no lift where expected and had lost 1000ft! I made a decision – it was not good enough for a cross-country and I turned back towards the site. I felt bad. All the effort everyone had made, but it was better to land at the site than in a field 15 miles away.

When I was almost back at the site at 1500ft, I found some zero sink and tried a turn. Mmmmm, 1/2kt, 1kt, 2-4kt up. I climbed up to 3300ft and into cloud. By this time the wind had taken me downwind of Wattisham and I decided to go. I thought that I had blown the record attempt, but I would treat it as a normal cross-country flight. I kept a northerly heading and all my landmarks came up where I expected but, so very quickly! I found the lift difficult to work and was down to 1400-1600ft on three more occasions throughout the flight with beautiful fields picked out. I would fly from directly upwind of a superb looking cloud and not be able to find the lift anywhere, then the vario would start to beep at zero and I would have to scratch and work it until it became 2-4kt up. My language was unprintable! When I reached 3000ft I would set off in lift on the downwind side of the cloud, but altering my speed to whatever was necessary to fly level, then sink

and the same pattern again. The lift did not seem very good and the whole flight took place between 1400-3000ft.

I was climbing at 2000ft over Snetterton and looked at my map to see how far I had travelled in 35min. Mmmm, I was half way – I was still in with a chance. I continued on up to 3000ft and then set off again.

Shipdham, Swanton Morley – I had no time to admire the view further afield – all concentration was on staying airborne, on my immediate vicinity and navigation.

Just west of Swanton Morley, at 2000ft. I looked at my map again to see exactly where Langham Airfield was in relation to the coast. There was a spit which pointed directly at the airfield and as I knew that I would have no time to spare looking for the airfield, I headed slightly east so that Swanton Morley was directly behind me, before continuing on a northerly heading. This way I should fly directly over the top of the airfield.

I was flying at 1800ft and could see the spit, but no airfield. Where was it? I knew that I was going to land in a field! I was flying in reduced sink, bits of zero and sink. I did not think I was going to make it but it did not seem worth turning in anything. I still could not see the airfield. At last, there it was – it had been hidden by a cloud shadow and there was the car just moving up the runway. That must be it! I flew at 40kt in reduced sink just willing myself to stay airborne. There was not time (and I was too low) to get out the map and final glide calculator. 1500ft and I knew I was going to make it. I lowered the nose and crossed the runway at 1200ft.

I had taken 1hr 9min and four thermals to fly 102.69km and did not think I had broken the record but was just very happy to have completed the flight.

Paul and Jonathan came roaring up with big grins on their faces. They thought I was still in with a chance of the record. Jonathan was still recovering from being driven by Paul at breakneck speed and was feeling decidedly delicate!

It turned out that I had flown at a speed of 89.30km/h and had to buy everyone a drink!

GLIDER INSTRUMENTS

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COMPUTING A CROSS-COUNTRY

A Computer Aid to Planning a Cross-Country Task

Portmoak is an excellent soaring site, at least for local soaring. Two ½hr flights for the Bronze C is easy. Progress on Silver legs proceeds rapidly as the 5hrs just needs to be endured and a 1000m height gain is frequently on. Even Gold height can be achieved fortuitously by early solo pilots flying on the right day in the right conditions.

But Portmoak pilots, with a few notable exceptions, are not renowned for cross-country activity. The atmosphere is clear. The views are superb. There should be no problems of navigation and yet we remain locked into local soaring. Breaking away is difficult.

Hill lift disappears as we move away from the escarpment. There are thermals but they are insubstantial and uncertain, discouraged by the sea breezes and the local expanse of water, Loch Leven. Portmoak is situated in its own blue hole. So back to the hill we go. A pity because they tell me 10km inland and west the thermals are waiting.

Of course there is the wave but to exploit wave requires flair and courage. Ten thousand feet may increase the radius of the local soaring territory but as the wave clouds close in under you and the gaps disappear, navigation becomes more difficult and photographing of TPs nearly impossible. As the ground visibility diminishes so does the nerve.

Go east and we move towards the coast and the forbidden airspace around Leuchars. Go south and we must cross the estuary of the Forth and stray into the Edinburgh TMA. So we must head west or north. Then the real trouble is not Blue 22 but unfriendly terrain. Hills and mountains offer few attractive choices for unscheduled field landings.

To maximise the possibility of lift, to encompass the desired distance with identifiable TPs and to provide a reasonable chance of a safe landing if all lift fails cross-country tasks from Portmoak need to be carefully planned.

Few 300km triangles have been declared and successfully accomplished within Scotland. However, the changed rules permitting zig-zags and closed tasks with three TPs increase the possibilities enormously and planning has become the latest hobby for every glider pilot with aspirations (should I say fantasies) beyond the Silver C.

The mercator projection onto a flat sheet of paper known as a topographical airchart is of limited use for precise measurement. Thus the simple approach of chart, pins and a measured piece of string is inaccurate.

For accuracy calculations must be based on spherical geometry. The exact distance between two points may be calculated provided the latitude and longitude of each point is known. A formula for use on a scientific calculator was developed with A. Shelton. But even with this the calculations are tedious, time-consuming and error prone. The obvious solution is to use a computer. The program, which provides a generalised solution for any valid task, was written in BBC Basic but may be easily converted for any other microcomputer.

To use this program you must understand the current rules which permits a task to (a) be open or closed and (b) have a minimum of one leg and a maximum of four.

An open task does not return to the starting point in contrast to a closed task where the finish and the start are the same point. Examples of closed tasks are the two leg O/R and the three leg triangle. While the two leg dog leg and the three leg zig-zag are open tasks.

With N legs the closed task has a common start and finish point plus N-1 TPs. The open task has a start point, a finish and N-1 TPs.

Longitude and latitude are recorded as degrees, minutes and seconds. In the UK, being north of the equator, the latitude is always a 'northing'. Usually the longitude is a 'westing' as most places in the UK lie west of the Greenwich meridian, however, allowance for an 'easting' has been made for pilots flying around East Anglia, Kent or other points east.

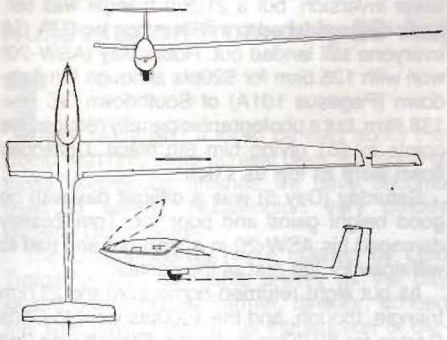
Using this program it has been shown that theoretically a 750km task and even a 1000km task could be done within Scotland. Perhaps only one pilot has the experience, the skill and the glider to achieve this. Will he be ready to fly the day the right conditions prevail?

For most of us our fantasies are more modest. In ignorance of the normal pattern of thermals I once thermalled north and east of Portmoak to achieve an acceptable Silver C distance. Now I know better but perpetually fail to break away from the blue hole of Loch Leven. Ten kilometres west the thermals are waiting! Ten kilometres west I hit sink and turn tail towards home. While some pilots break the sound barrier I struggle to break the ten kilometre barrier. Once I make it I believe anything is possible . . . In the meantime I can occupy the rainy day by studying charts, choosing TPs and calculating without tedium.

Any reader wanting further information should contact Elspeth at 5 Riselaw Terrace, Edinburgh, EH10 6HW. She is happy to send listings, notes etc if you send a sae and will supply the program on disc, plus supporting documentation, but would appreciate £2.00 to cover the cost of the disc and p&p.

SAILPLANE NEWS

DG-600

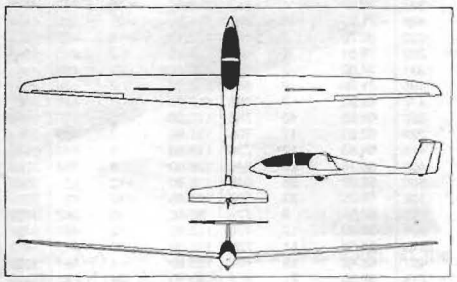


Development work on the new 15m Class DG-600 is in an advanced stage with the maiden flight scheduled for 1987. It has 17m wingtip extensions and a new thin wing section with boundary layer control which has only 12% max thickness, developed by Messrs Horstmann and Quast of the DFVLR Braunschweig. This carbon fibre wing, plus a small diameter fuselage boom and a new tailplane, promises to give an increase in performance.

The well proven DG cockpit will be used and all controls will be hooked up automatically, which is an important safety feature.

The predicted glide angle for the 15m is 1:45-1:46 and 1:49-1:50 for the 17m version.

Grob G 103C



Grob have brought out a new two-seater, the G 103c Twin III, which uses the fuselage and tailplane of the Twin II Acro, but has an entirely new wing. The planform resembles that of the Discus, whilst the profile, by Horstmann and Quast, is said to be much less sensitive to rain. The wingspan has been increased by ½m to 18m. Claimed performance is 1:38 at 110km/h. To improve aerobatic performance, wide span ailerons have been fitted, giving a roll performance of four seconds from 45° to 45°. The use of carbon fibre has allowed Grob to maintain the empty weight at 370kg, whilst increasing the maximum all-up weight to 600kg (from 580kg). VNE has also been increased by 30km/h to 280km/h.

BERNARD SMYTH

15 METRE CLASS NATIONALS

Held at Nympsfield from June 7-15 with six contest days



Rebriefing.

Brian Spreckley won the 15 Metre Nationals at the Bristol & Gloucestershire GC's site by the skin of his teeth. He won two days but was closely chased by Justin Wills and managed to win the trophy in the end by only 34pts.

This Booker LS-6 pair pushed Lasham's Chris Garton (Ventus B) into 3rd place. He was only 53pts behind Justin.

Brian Spreckley came 7th, 4th, =15th and even =18th on four days, but managed to stay in front on points except for Day 2 when Chris Garton became overall leader for a day.

Booker's Bernard Fitchett (ASW-20) was usually in the first seven throughout the six days with Spreckley, Garton and Wills, but on his best days he was only 2nd and 3rd, and came 4th overall.

Out of the six days there were three 1000pt ones and a 958. One day gave 520pts and the final one 489, so it was altogether a testing Comp with conditions varying from an almost 100km/h day to near gale-force winds with everyone landing out.

"Marvellous fun" was how Brian Spreckley described the event in thanking director James Metcalf and his team for all their work.

The first day (Saturday, June 7) began ignominiously, with 25 gliders taking off in worsening conditions for a 226km triangle. Cloudbase dropped from 2000 to 1200ft while launching was going on and the 25 soon landed back and the day was scrubbed.

But the first contest day on Sunday was much happier, if windy. Brian Spreckley was first back from the 242km triangle at 59.82km/h. Chris Garton was 2nd at 56.24 and Bernie Fitchett 3rd at 55.58km/h, Chris arriving with just enough energy to land ahead.

Fourteen gliders made it back with a big landout near Enstone along the return leg. Robert Dall (Discus) got within sight of Nympsfield but had to land on Minchinhampton Common. Task setter Phil Andrews was glad to see the 14 make it home to prove the task had been "on".

Day 2 (Wednesday, June 11) was a day of days after two rest days – a 310km quadrilateral. Chris Garton won at just short of 100km/h and all but James Weston (DG-100) of Ulster got back, many finishers arriving only seconds apart.

Martyn Wells was 2nd at 97.89 and Justin Wills 3rd at 94.73km/h.

Brian Spreckley won Day 3 (Thursday, June 12) – a 227km triangle – at a creditable

WEATHER SUMMARY BY TOM BRADBURY

Day 1. Sunday, June 8. *A warm front moved eastwards across Ireland but a weak ridge over England gave moderate lift beneath an inversion at 5000ft. Some areas of spread out developed and the inversion lowered during the afternoon. Mean wind: 270° 17kt. Freezing level: 4000ft and 9000ft. Max temp: 17°C, dew point: 7°*

Day 2. Wednesday, June 11. *A warm front wave moving eastwards over Brittany brought much overnight rain, clearing early in the morning as a new high began to form over Ireland. Although the air was intially very unstable a subsidence inversion rapidly reduced the size of cumulus over the west Midlands. Strong thermals developed giving generally very good soaring. Mean wind: 360° 10kt. Freezing level: 4000ft. Max temp: 16°C, dew point: 4°C.*

Day 3. Thursday, June 12. *The high continued to build and was centred just off East Anglia at midday but upper cloud ahead of the next Atlantic frontal system covered all except the south-east. This cloud broke up during the day allowing weak thermals to develop below an inversion at 4000ft. Mean wind: 240° 8kt. Freezing level: 11000ft. Max temp: 18°C, dew point: 8°C.*

Day 4. Friday, June 13. *The belt of high pressure extended from Denmark to Cornwall but although the Atlantic fronts had weakened there was extensive upper cloud. In the morning there were inversions at 1500 and 4000ft and the cirrus was so thick that the few thermals which did form were weak, only becoming usable where the cirrus thinned out. Mean wind: 270°8 kt. Freezing level: 11000ft. Max temp: 21°C, dew point: 8°C.*

Day 5. Saturday, June 14. *The belt of high pressure had moved north to lie over northern England. Although the frontal system had decayed the residual moisture was just sufficient for very flat clouds to form for a time along the route. A little further to the south and east the air was too dry for any cloud. The inversion limited thermals to about 3500ft. Mean wind: 090° 7kt. Freezing level: 11000ft. Max temp: 24°C, dew point: 13 falling to 9°C.*

Day 6, Sunday, June 15. *The high had receded northwards and the easterly winds strengthened during the morning. The air was almost isothermal to 5000ft and it was mostly too dry for any cu except for a short spell when a few very flat clouds appeared, chiefly over the higher ground. Most thermals only reached about 3000ft. Mean wind: 090°, 24kt. Freezing level: 12000ft. Max temp: 26°C, dew point 13°C.*



Brian Spreckley, the Champion, with Gill, his wife. Both photos by Bernard Smyth.

94.53km/h in difficult conditions under an inversion. He went up from 2nd to overall leader.

Ralph Jones (Ventus) had trouble when he returned to Nympsfield not long after take-off with camera problems. His wingtip hit long grass and he ground-looped, damaging his starboard aileron and tail. He was out for the day but was back overnight after quick repairs.

All but three of the remaining 38 got back, one landing on Selsley Common just off the east end of the airfield.

Friday the 13th (Day 4) promised an even lower inversion, but a 212km triangle was set. Later it was reduced to a 180km dog leg O/R, but everyone still landed out. Robin May (ASW-20) won with 135.6km for 520pts although Ian Ashdown (Pegasus 101A) of Southdown GC flew 138.6km, but a photographic penalty reduced his points to 481 giving him 6th place. Distances flown were as low as 11km.

Saturday (Day 5) was a difficult day with no good height gains and poor viz. Tom Zealley damaged his ASW-20 in a land-out and had to withdraw for the rest of the contest.

All but eight returned home from the 217km triangle, though, and the 1000pts went to Chris Garton for 82.72km/h. Bernie Fitchett was 2nd (78.81) and Booker's Mike Young (77.02) was 3rd in a Ventus B. Brian Spreckley's 4th place was good enough to keep him in first place overall, but only just, at 34pts.

After several stand-downs, a 185km triangle was set on the final day, Sunday, June 15, but everyone landed out and it was a late prize-giving after Martin Durham's win in his Ventus B with 128.6km.

FINAL RESULTS
15 Metre Class

Pos	Pilot	Glider	Day 1 8.6 242km ▲ M4 junction 13, Silverstone			Day 2 11.6 310km ■ Bridgenorth, Honeybourne, M1/M45			Day 3 12.6 227km ▲ Lasham, Didcot			Day 4 13.6 180km d/l O/R Wantage, Cricklade, Wantage			Day 5 14.6 217km ▲ Southam, Silverstone			Day 6 15.6 185km ▲ Hereford Wye bridge, A34/A429			Total Points
			Speed (Dist)	Pos	Pts	Speed (Dist)	Pos	Pts	Speed (Dist	Pos	Pts	Dist	Pos	Pts	Speed (Dist)	Pos	Pts	Dist	Pos	Pts	
1	Spreckley, B. T.	LS-6	59.82	1	1000	91.86	7	886	94.58	1	958	105.10	=15	383	72.07	4	847	113.80	=18	422	4496
2	Wills, T. J.	LS-6	53.54	4	944	94.73	3	928	85.00	2	827	130.60	4	498	71.99	5	845	113.30	=21	420	4462
3	Garton, C.	Ventus B	56.24	2	968	99.63	1	1000	82.89	6	799	68.90	=25	220	82.72	1	1000	113.80	=18	422	4409
4	Fitchett, B.	ASW-20	55.58	3	962	91.94	6	887	85.19	5	*810	84.90	19	292	78.81	2	944	124.30	=2	470	4365
5	Young, M. J.	Ventus B	53.43	5	943	87.21	16	818	73.13	=19	665	112.6	14	*391	77.02	3	918	110.10	=29	406	4141
6	Wells, M.	LS-6	(177.20)	25	518	97.89	2	974	84.24	4	817	129.90	5	495	71.80	6	843	118.60	=9	444	4091
7	Morris, G.	ASW-20	50.08	8	912	88.04	15	830	72.43	24	656	124.60	7	471	68.53	7	796	113.30	=21	420	4085
8	May, R.	ASW-20	(215.70)	17	645	92.22	5	891	79.16	10	748	135.60	1	520	66.65	10	768	113.30	=21	420	3992
9	Elliott, B.	Ventus	52.32	6	933	91.42	8	880	80.09	8	760	70.90	24	229	62.33	17	706	121.60	7	457	3965
10	Throssell, M. G.	Ventus	43.84	10	856	88.87	13	842	67.25	28	585	112.10	11	415	64.43	12	736	118.60	=9	444	3878
11	Durham, M. W.	Ventus B	43.17	11	850	84.75	=22	782	67.96	27	595	109.60	12	403	58.16	27	646	128.60	1	489	3765
12	Murdoch, M.	ASW-20	(163.20)	32	472	86.83	18	812	75.60	15	699	131.10	3	500	58.27	26	648	115.80	=12	431	3562
13	Dall, R.	Discus	(237.00)	15	716	70.15	37	567	78.73	11	742	107.80	13	395	59.25	23	662	115.80	=12	431	3513
14	Sheard, P. G.	Ventus A	(172.50)	26	503	89.22	12	*847	81.54	7	780	82.90	20	283	67.01	9	774	82.60	35	282	3469
15	Cook, I.	Mini Nimbus	(172.20)	=27	502	90.01	9	859	78.08	12	733	64.70	30	201	62.30	17	706	115.80	=12	431	3432
16	Stuart, T.	DG-300	44.97	9	866	77.73	30	679	65.17	32	557	53.20	=31	149	64.58	11	739	111.80	28	413	3403
17	Hill, D. J. M.	Discus	(172.20)	=27	502	74.94	36	588	73.12	=19	665	125.90	9	*457	62.42	16	707	123.80	=4	467	3386
18	Watson, A. J.	Mosquito	40.60	14	*777	87.60	24	*773	66.83	29	580	68.70	28	219	60.08	21	674	83.80	34	287	3310
19	Redman, S. J.	ASW-20L	(231.00)	16	696	84.76	=22	782	70.06	26	624	32.70	35	57	58.77	25	655	120.10	8	451	3265
20	King, P. A.	Mini Nimbus	(64.30)	38	146	86.34	20	805	73.31	18	668	122.40	8	461	64.18	14	733	113.30	=21	420	3233
21	Roberts, D.	Vega	(178.50)	=22	523	85.22	21	789	66.03	30	569	75.40	21	249	68.20	18	791	74.10	36	244	3165
22	Jones, P.	Ventus B	(178.50)	=22	523	84.03	25	771	63.23	34	*434	105.10	=15	383	63.56	14	724	92.80	31	328	3163
23	Jones, R.	Ventus	51.70	7	927	94.07	4	918	0	39	0	132.90	2	508	(158.80)	35	285	123.80	=4	467	3105
24	Stingemore, G.	Ventus	(170.70)	29	497	89.36	10	849	73.47	=16	670	25.20	37	23	62.16	=19	704	89.30	32	312	3055
25	Macfadyen, T. E.	ASW-20L	(182.00)	20	534	72.44	35	601	79.81	9	757	116.80	10	436	(177.60)	36	*274	113.30	=21	420	3022
26	Bastin, J.	Ventus B	(198.00)	18	587	81.73	27	737	84.91	3	826	68.90	=25	220	(184.60)	32	338	89.10	33	311	3019
27	Hawkins, Pamela	Nimbus 15	(190.70)	19	563	87.02	17	815	75.90	14	703	98.80	17	355	(78.70)	39	121	121.80	6	458	3015
28	McAndrew, G.	Pegasus 101	(181.20)	21	532	79.04	32	*648	72.93	21	663	11.00	38	0	62.17	=19	704	113.30	=21	420	2967
29	Farmer, A. T.	Mini Nimbus	(166.50)	31	483	83.62	26	765	(224.80)	36	310	65.40	29	204	62.58	15	710	115.80	=12	431	2903
30	Ashdown, I.	Pegasus 101A	(178.50)	33	423	89.27	11	848	67.40	31	*567	138.60	6	*481	(182.80)	33	335	61.10	38	185	2839
31	Zealley, T. S.	ASW-20	42.01	13	840	78.46	29	689	75.96	13	704	87.70	18	305	(159.80)	34	287	DNF			2825
32	Hamill, E.	ASW-20	(84.00)	36	*191	81.36	28	732	73.44	=16	670	53.20	=31	149	59.77	22	669	110.10	=29	406	2817
33	Smith, G. N. D.	LS-4	42.90	12	848	72.55	34	603	(63.70)	38	66	68.90	=25	220	58.87	24	656	113.80	=18	422	2815
34	Baker, R.	ASW-20	(178.50)	=22	523	86.55	19	808	74.07	33	*534	72.20	23	235	(166.60)	37	*201	116.10	11	433	2734
35	Dawson, M.	Std Cirrus	(169.00)	30	491	66.01	38	*407	55.07	35	419	73.90	22	243	60.45	28	629	124.30	=2	470	2659
36	Glossop, J. D. J.	ASW-20	(72.00)	37	171	75.81	31	650	72.51	23	657	46.20	33	118	58.52	29	*601	115.80	=12	431	2628
37	Moulang, T.	ASW-20	(87.20)	35	222	88.12	14	831	72.74	22	660	30.70	36	48	81.20	38	126	113.30	=21	420	2307
38	Lyttelton, G.	ASW-20s	(30.80)	39	36	75.19	33	641	70.78	25	633	DNF			52.19	31	560	64.30	37	199	2069
39	Weston, J.	DG-100	(142.50)	34	404	(232.20)	39	197	(184.80)	37	250	40.50	34	92	54.35	30	591	115.80	=12	431	1965

* = penalty; DNF = did not fly

GEC AVIONICS OPEN CLASS NATIONALS

The GEC Avionics Open Class Nationals was held at RAF Hullavington from July 26-August 3.

There really isn't a lot to be said about this Comp with only three contest days and none of those spectacular finishes we have become used to seeing. Hullavington very quickly became Dullavington.

The Championships were opened by Lord Trefgarne with admirable brevity as the day looked promising. Al Farmer, director, echoed this time saving during his introduction of dignitaries and officials, and the pilots moved off to the grid.



Alister Kay, the Open Class Champion, in the cockpit of his ASW-22.

For the next three days that was as far as we got. On the Sunday, less than 150km away, pilots were at 10000m+ in wave.

At last a contest day – Tuesday, July 29. The depression moved out over the North Sea and the pilots' depression went with it, but despite the morning's optimism no one completed the 241km triangle, Draycott water, Headingham roundabout. Alister Kay (ASW-22) was the nearest home followed by Frank Pozerskis (ASW-22) with Ralph Jones (Nimbus 3) in third place after a photographic penalty.

Wednesday was as wet as Monday but Thursday saw a change in the dreary weather and once again the pilots were off and away, this time on a 218km polygon, Frome, Newbury, Gloucester.

Again no one arrived home, however the day resulted in a superb win for John Glossop (ASW-17) showing the big wings how it was done with Frank Davies and Hamish Brown taking 2nd and 3rd places respectively, both in Kestrel 19s. Until the penalty points had been awarded Frank Pozerskis was in 2nd place for the day – he was almost as thrilled with the thought of becoming National Champion as he was at becoming a father again. As it was his admin problem cost him a few places and left Alister Kay in 1st place with John Glossop 2nd and leading the 21 Metre challenge, with Frank Davies after the 19 Metre cup.

Friday was another flying day. With a remote finish as part of the 295.1km polygon, Lutterworth, Cambridge, Stoke Mandeville to Bicester, the trailers and crews were on the road again. With 12 finishers at Bicester, the day was pronounced a masterpiece of task setting by Andy Miller. The day brought a win for Ralph Jones with Alister Kay 2nd and Ray Foot 3rd. John Glossop's 4th place maintained his lead on the



John Glossop, who finished in 2nd place, photographed before Day 3 having won Day 2. Both photographs are by Jane Randle.

21 Metre cup and Jed Edyvean (Ventus B) beat Frank Davies to go into the lead for the 19 Metre cup.

Congratulations to Alister Kay, a very deserving Champion, who won with consistently good flying, and to John Glossop whose awards consisted of the Trust House Forte prize, kindly organised by Philippa Watt, for the best handicapped flight on Day 2, the 21 Metre cup and the trophy for 2nd place. Last Year's Champion, Ken Hartley, finished 3rd. Jed Edyvean collected the 19 Metre cup with superb flying in his first ever Nationals. John Taylor, 7th, won the weekend for two donated by Trust House Forte.

FINAL RESULTS

Open Class

			Day 1.29.7 241km ▲ Draycote Water, Headington			Day 2.31.7 218km polygon Frome, Newbury, Gloucester			Day 3.1.8 295.1km goal race Lutterworth, Caxton Gibbet, Stoke Mandeville, Bicester			
Pos	Pilot	Glider	Dist	Pos	Pts	Dist	Pos	Pts	Speed (Dist)	Pos	Pts	Total Points
1	Kay, A. E.	ASW-22	207.3	1	749	137.7	=6	471	71.0	2	964	2184
2	Glossop, J. D. J.	ASW-17	161.1	16	564	156.5	1	546	66.5	4	931	2041
3	Hartley, K. J.	Nimbus 3	189.6	4	678	143.3	11	*440	63.3	10	907	2025
4	Foot, R. A.	Nimbus 3T	180.2	7	641	132.7	13	*424	69.7	3	954	2019
5	Edyvean, J.	Ventus B	170.6	11	602	148.8	5	*489	62.1	11	899	1990
6	Lysakowski, E. R.	Nimbus 3	161.2	15	565	137.7	=6	471	65.3	7	922	1958
7	Taylor, J. R.	ASW-20FL	157.1	18	548	120.8	15	403	65.5	=5	924	1875
8	Wells, M. D.	LS-6	167.3	12	589	126.4	12	426	56.0	12	853	1868
9	Pozerskis, P.	ASW-22	200.1	2	720	151.8	8	*445	(277.9)	17	674	1839
10	Davies, F. J.	Kestrel 19	178.7	8	627	151.3	2	526	(280.6)	15	681	1834
11	Roberts, D. G.	Nimbus 2	113.0	27	372	143.3	4	494	65.6	=5	924	1790
12	Jones, R.	Nimbus 3	200.2	3	*684	40.9	18	84	75.8	1	1000	1768
13	Hood, L. S.	Janus C	171.3	10	605	130.7	9	443	(262.6)	=13	686	1734
14	Pozerskis, A.	ASW-17	186.3	5	665	33.5	20	54	63.2	=8	910	1626
15	Norrie, A. J.	Ventus B	164.0	=13	576	130.0	10	441	(248.1)	22	596	1613
16	Rowland, C. D.	Jantar 2	146.0	23	504	122.8	14	411	(270.2)	20	654	1569
17	Brown, H. F.	Kestrel 19	22.7	=29	11	149.8	3	520	63.7	=8	910	1441
18	Moulang, A. P.	ASW-20L	181.3	6	645	27.8	24	31	(282.6)	=13	686	1362
19	Lyttleton, C. C.	ASW-20BL	164.5	19	*541	44.9	17	100	(278.7)	16	676	1317
20	Young, M. J.	Ventus B	172.2	9	609	31.6	21	46	(266.9)	21	645	1300
21	Fleming, A. M.	Nimbus 2	153.2	=20	533	32.2	28	*2	(274.7)	18	666	1201
22	Webb, M. J.	Ventus B	140.6	24	482	31.1	=22	44	(270.7)	19	655	1181
23	Ellis, J.	DG-400	159.7	17	559	22.2	26	9	(224.2)	25	534	1102
24	Boydon, M. V.	Ventus B	164.0	=13	576	36.9	19	68	(187.6)	27	438	1082
25	Brice, P. F.	ASW-20	161.3	26	*415	21.1	27	4	(263.6)	23	*587	1006
26	Throssell, M. G.	Janus C	153.2	=20	533	31.1	=22	44	(220.5)	28	*374	951
27	Docherty, T. P.	Nimbus 3	153.2	=20	533	122.3	16	*136	(125.2)	31	275	944
28	Tull, V. F. G.	Kestrel 19	65.4	28	182	8.1	=29	0	(216.2)	26	513	695
29	Clarke, M. A.	Janus C	15.5	=31	0	23.7	25	15	(242.5)	24	582	597
30	Cook, P. G.	Nimbus 2CS	144.0	25	*421	0	=29	0	(60.2)	32	105	526
31	Tapson, B.	Nimbus 2B	22.7	=29	11	27.7	=29	*0	(130.7)	=29	289	300
32	Charlett-Green, J. A.	Ventus B	14.8	=31	0	18.4	=29	0	(130.7)	=29	289	289

A FOREST COMPETITION

Philippa takes a squirrel's eye view of the European Championships

The third European Gliding Championships were held in Mengen, Germany from June 12-29 with six contest days. Seventy four pilots from 16 countries came together in a competition, billed by many as a World Championships – without the Australians and Americans.

Mengen is located in southern Germany, west of Munich and to the north of Lake Constance. Although the immediate locality of Mengen is a poor soaring area, the site provided a good base for tasks deep into the excellent soaring country of the Black Forest and the Swabian Alb.

Whatever their final result may have been, every single member of the British team at Mengen regarded the time and money invested in flying in the Championships as invaluable. The general consensus of opinion was that the standard of flying was quite exceptional in all Classes and that team flying, particularly by the French, German and Dutch pilots, demonstrated itself as an increasingly powerful tactic.

This was certainly clear in the final results of the Open Class, where the two German pilots, Klaus Holighaus and Holger Back, took 1st and 2nd place, closely followed by the three Frenchmen; Gabriel Chenevoy, Gerard Lherm and Marc Schroeder. Holger was flying a Nimbus 3D with Stefan Senne as P2.

Both British pilots in the Open Class – Ken Hartley and David Watt – were impressed by the French performance. Ken told me – "You could see the French looping out, one pilot would act as a marker, whilst the other two sought out the strongest core within the thermal. The lowest pilot was always supported by the other two." It is a sign of the French team's dedication to the practice of team flying that they very rarely needed to use the radio to communicate.

Ken Hartley was particularly tenacious

The Open Class was won by Klaus Holighaus, the legendary competition pilot and glider designer. It was a jolly close finish in that 1st and 2nd place were tied on the penultimate day between Klaus Holighaus and Gabriel Chenevoy (France) at 7901pts apiece with the top four pilots neck and neck to the finish line. Of the British pilots' performances, Ken Hartley was particularly tenacious on the difficult scratchy days at the beginning of the competition. Sadly a calculated risk on the last day didn't pay off and this dragged his overall position down.

After a poor start, David Watt's performance improved. He was the winner of the competition's longest task at 550km and ended the competition in 6th place.

The 15 Metre Class certainly contained more than a smattering of internationally renowned pilots, amongst whom one should note: Kees Musters (Holland), winner of Austraglide 1986 and former World Champion, Stig Øye (Denmark), another former World Champion, not to mention Dutchmen Daan Paré and Otto Blankenzee and Henry Stouffs (Belgium).

The British team fielded three pilots – John Cardiff, Ted Lysakowski and Mike Jefferyes.

Although Mike may not have achieved the final place he would have liked, he did say that flying this particular competition had had a major impact upon him – he felt reasonably good during the first few days, but subsequently realised that he had been lulled into a false sense of security. The standard of competition was the highest that he had experienced. "You can't be chicken", he said, "the competition was frightening."



Klaus Holighaus, the European Open Class Champion. *Photo:* Philippa Watt.

Ted Lysakowski's experience saw him through many a gritty moment and procured him the respectable position of 13th.

John Cardiff showed quite how well he can fly by winning two of the competition days in a quite spectacular fashion, meantime he landed out on three race days!! Needless to say, he maintained his sense of humour throughout, ably abetted by his crewman Rex. John did say it was one of the best competitions he had ever entered.

Competition in the Standard Class was every bit as fierce as in the other two Classes. John Bally and Warren Kay were the two British pilots.

Whether Warren's assessment that "20 out of the 30+ pilots in the Class would be in the top five in any UK Nationals" is true or not, the competition was undoubtedly daunting.

Local experience proved a great advantage with good thermal sources easily identifiable to those "in the know".

Warren was certain to gain a great deal of valuable experience even though his placing was not terrific.

John Bally put up an excellent performance and was lying 4th towards the end of the competition. Unfortunately his final position of 18th nowhere near indicates the level of fight which he put up. John was impressed and pleased by the level of competence in his Class. World famous Gantenbrink (Germany) hardly ever faltered – lying in the first three on seven out of ten competition days and winning by more than 500pts.

By the time the competition had ended I had spoken to all the pilots in the British team and to the team manager, Ben Watson. Their opinion was unanimous –

- Team flying is vital to the ultimate success of the national team, together and individually.
- Britain cannot afford to be isolationist. The world competition is catching up and overtaking.

Ben was very pleased with the overall performance – British pilots were winners of three days and he felt the final results were a definite improvement on overall results at Vinon.

Ben certainly feels that professional crews are a must. Something that certainly surprised me – as a most inexperienced crew member – was that he believes wives/girlfriends make the best crew!

A team manager certainly needs helpers. The workload can be quite over the top at times – particularly during the start, when knowledge of other teams' tactical flying can be quite crucial.

Finally a word from Uli Pillich, startline administrator who said the French were relaxed, the Germans were efficient but the English were fun!!

Leading results: Open Class, 1 K. Holighaus (W. Germany), Nimbus 3, 8834pts; 2 H. Back/S. Senne (W. Germany), Nimbus 3D, 8810pts, 3 G. Chenevoy (France), ASW-22, 8780pts; 4 G. Lherm (France), Nimbus 3, 8634pts; 5 M. Schroeder (France), ASW-22, 8399pts; 6 D. Watt (GB) ASW-22, 7696pts; 10 K. Hartley (GB), Nimbus 3, 6381pts. 15 Metre Class: 1 D. Paré (Holland), Ventus B, 7154pts, 2 K. Musters (Holland), Ventus A, 7119pts; 3 G. Navas (France), Ventus, 6906pts; 4 H. Schmacht (W. Germany), ASW-20C, 6632pts, 5 S. Øye (Denmark), ASW-20, 6584pts; 6 O. Blankenzee (Holland), ASW-20, 6552pts; 13 E. Lysakowski (GB), Ventus, 5688pts; 21 J. Cardiff (GB), ASW-20B, 5135pts; 23 M. Jefferyes (GB), DG-202, 4802pts; Standard Class: 1 B. Gantenbrink (W. Germany), Discus, 7116pts; 2 B. Selen (Holland), DG-300, 6525pts; 3 S. Baumgartl (W. Germany), LS-4, 6146pts; 4 J. Trzeciak (Poland), DG-300, 6132pts; 5 R. Schramme (W. Germany), Discus, 6076pts; 6 J. Forsten (Finland), Discus, 6014pts; 18 J. Bally (GB), Pegasus, 5482pts; 28 W. Kay (GB), DG-300, 4575pts. There were 14 entries in the Open; 27 in the 15 Metre and 33 in the Standard Class.

ENTERPRISE 13

Ian reports on the 13th Competition Enterprise, held at North Hill from June 28-July 5.

Photographs and captions by Chris Riddell

Yes, they did ask me to direct again but I decided to compete. However, after such a good series; 1983 at Aboyne, 1984 at North Hill and 1985 at Sutton Bank, it couldn't last. For me the taking part was its own compensation, but for many I suspect 1986 will be recorded as a poor Enterprise vintage; more so for the absence of a Wills from our number, although Justin, flying in Norway, did figure in our reckoning.

There were four task days with 44 gliders, four of our number flying *hors concours* and Mike Garrod, when he believed his forecasts, flying ex-officio. First place and the Enterprise plate was shared by Tony Maitland (Mini Nimbus) and Nick Gaunt (Kestrel 19) who were 2pts apart.

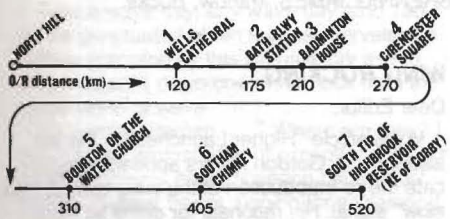
After the opening on Saturday, June 28, by a Devon & Somerset founder member and intrepid aviator now resident in the USA, Brian Masters, we heard of Justin's glide to the midnight sun and approved his honorary Enterprise entry, with promises of regular reports when 'phones were available.

The Met was discouraging with pea-soup visibility. John Fielden set tasks but continuing bad visibility made it too dangerous to fly.

On Sunday thunderstorms pushing north from France roused us early and dampened our enthusiasm. Later an unexpected squall made us scatter to hold everything down and the Cairngorm's K-7 in the visitors' glider park would have gone berserk but for the fortunate presence of Joe and Flo Watt, Picket-punched wingtip fabric was the only damage.

On Monday the continental high was on the retreat and a clearance from the NW was promised, but too late for a task.

At last on the Tuesday we had a task. Mike's forecast was for light SW winds backing later and freshening. Cloudbase was 4000ft+ with possible high cover spreading from the W later. Thermals improving to 3-5kt. The task was the Fielden line-shoot, NE to Corby, choice of TPs.

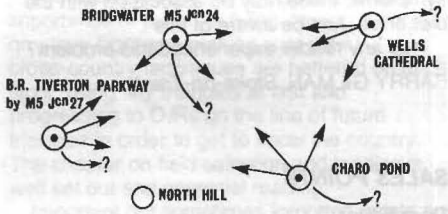


This turned out to be the biggest task of the week. Ben Watson (Nimbus 2) took the long way out to TP7, *via* Dorset, Hampshire and points east, and returned almost as far as Edgehill (355km). Tony Maitland turned TP6 and found that the Cotswold thermals deserted him near Chipping Norton. A flurry of long wings turned TP5 but only Mark Darby (Cirrus) and Chris Simpson (ASW-20L) made the return. Lesser mortals and later starters found conditions "interesting" and re-adjusted their plans or lowered their sights.

Late on the launch line, having declared TP5 for a possible badge claim, I found difficulties in the Badminton area and returned to the Somerset Levels to be downed by sea air. Others who beat the sea air to return to North Hill were Lemmy Tanner (Vega) TP4; Tony Newbery (Pegasus) TP2 and Colin Watt (Club Astir) TP1.

So for the day Mark Darby, Chris Simpson and Lemmy Tanner took top places, with Charles Owles (Dart 17) as top wood. The Moulang Gang (Challock K-13) were 6th behind Ben Watson, having turned TP4 and landed back at Kingweston SE of Glastonbury (224km). My pleasure was to share thermals with the Gull between Wells and Bath.

The forecast for Wednesday was not inspiring – winds 220/5 to 10kt, with thermals 1-2kt at best but an improvement expected later. With morning Royal flights in and out of Exeter, briefing was delayed until noon when John revealed his Supacat Cradle.



Turn any combination of TPs (not the same one each time!) for 50pts each, return to land at North Hill for 100pts and distance points 1pt/km from the last TP. As you might guess, enterprise was well demonstrated. Norman Parry (LS-4) rounded five TPS and landed at Booker while other variations were Dave Reilly (Libelle) to Blackbushe, Chris Simpson to Dunstable and Simon Minson (Club Astir) to Shrivenham. However, simple dedication to the task, and landing back having turned seven TPs, won the day for Lemmy Tanner. Tony Smallwood (Gull) put us to shame by rounding three TPs, including Wells, and landing at Somerton to finish 7th for the day.

Mike promised better for the Thursday. Winds NW light backing W and freshing later; some high cover but generally broken. The tasks were 110km O/R, Meldon quarry (Okehampton), 205km O/R Salisbury Cathedral or a 315km triangle, Meldon, Salisbury.

A day of highs and lows, amply demonstrating the love-hate relationship of soaring pilots with their sport. Tony Maitland visited Meldon slowly, lowly and scratchily (and hated gliding), then returned to North Hill with only one climb and on to the south coast sea breeze, dashing joyously through to Blandford and left hand down a lot to Salisbury. Dashing back to the sea breeze he found that it had developed into a strong convergence and he romped happily home. Nick Gaunt, professing ignorance of these parts, followed Tony home. Meanwhile Justin (DG-402) crossed the Arctic Circle twice.



Joint winners Nick Gaunt of Yorkshire GC and Tony Maitland of Herefordshire GC share the Enterprise plate.



Tony Moulang receives the Wooden Ship award from Viv Fitzgerald, Enterprise secretary.



John Fielden sets the O/R task with Michael Garrod in attendance.

YOUR LETTERS



Lemmy Tanner contemplates the prizes with evident satisfaction.



John Cadman coaxes a song from Michael Pope, Viv Fitzgerald looks unimpressed.

Mike Garrod, Norman Parry, Ken Moorhouse (Mini Nimbus) and Peter Roberts (DG-202-17) all completed the main task – John Cadman (Ventus BT) did also but whether "turboed" or not I haven't discovered.

Snag of the day. A Libelle landing at Crewkerne observed too late an electricity cable which snagged an airbrake and bingo – a local power cut which reached the local radio news that evening. Thank goodness there was little damage to the glider and none to the pilot.

Friday, July 4, was not cause for celebration for Enterprise with the task scrubbed. Saturday dawned grey with a forecast for rain spreading from the NW. To keep us within easy reach for the evening's events, at the 1230 briefing John set a 102km dog leg O/R, Merryfield, Rampisham masts, Merryfield with bonus points for landing at Merryfield or North Hill. Only 27 pilots flew and Lemmy Tanner alone completed the task having been almost first to launch.

So to the prize-giving. Director Ken Bunyan thanked John Fielden and Mike Garrod and the North Hill team (with a bouquet for Vivienne Fitzgerald). Mark Darby and Lemmy Tanner tied exactly for second place and the meritorious effort award went to the Challock K-13 gang under Tony and Mike Moulang.

Tail piece. A pilot landing in standing corn in the valley below North Hill found the farmer's conversation turning to thoughts of compensation. After a long chat, terms were agreed – £30 to be paid to an RAF charity, the pilot to pay £15 and the farmer the balance.

Tail twist. The farmer sold us North Hill.

HAVE YOU A SOFT DRINKS PROBLEM?

Dear Editor,

I noted from a recent article in *Radio Control Models & Electronics* that the author, whilst flying a model helicopter, had experienced a disorientation problem which he accidentally found was related to drinking "diet" soft drinks. Some time later (after laying off the soft stuff) he read of a report in the Experimental Aircraft Association's magazine *Sport Aviation* (February 1985 issue) which explained the problem which could have a lot of relevance to our own sport.

The report, written by Dr Stanley R. Mohler, concerned a substance called aspartame. This is marketed under the brand name "Nutrasweet" and used in a number of soft drinks. The report states that . . . "I found that there are numerous reports by persons who have experienced visual impairment, dizziness, loss of equilibrium or disorientation following its use". The effect is attributed to an allergic reaction which *some* people may have to the methanol which is produced when aspartame breaks down in the body. The report concludes: "I'm not advocating that you don't drink diet soft drinks – but if you do develop headaches, dizziness, blurred vision or other symptoms, these may be associated with the diet drink. Just be aware of this".

Has any reader experienced this problem?

BARRY GILMAN, *Stoke-on-Trent*

SALES POINTS

Dear Editor,

I was fascinated to read that an advertiser in your last issue was selling a Winter barograph "that has *achieved* several successful badge flights." (My italics.)

What offers for a set of well-worn Ottfur rings that have launched probably even more; a soldering iron used for a wiring fix before a Gold C completion, and a pair of Long Johns that have often soared in wave? The soaring hat once used to wipe dead bugs from a national record holder's leading edge is not, I regret, for sale.

BOB RODWELL, *Belfast*

COMPETITION GLIDING

Dear Editor,

One of the accepted beliefs in the gliding movement seems to be that competition gliding is the be all and end all of the sport.

I agree that it is tremendous fun and you can easily get hooked so you finish one competition with the resolve to get a better machine etc to do better in the next year. This has paid off enormously in terms of the aircraft and technologies which are available, but I find myself that competitions are better considered as a means to an end than an end in themselves.

The air is a very rich environment and I think the object of the exercise is to gain a mastery of it. Sometimes one wants to slow down to study something which is interesting on the ground or to detour to a wisp of cloud or a slope to see if it works, activities which lead to a massive loss of points in a competition.

Competitions are rather too short. I find I need a week or two of practice to get myself properly cranked up to fly well and I suspect most other people do as well, so we are at a disadvantage compared with full time instructors who are already in practice.

Competition gliding at the highest level requires a fine judgment of what the weather is likely to yield. The inexperienced pilot may put up with a rate of climb of 2kt, the more skilled pilot knows that under that particular sky he can get 4kt so he keeps hunting until he finds it. Such considerations score a lot of points but are not essential if all you want is to enjoy the environment.

I greatly enjoy cloud flying, although in modern competitions you nearly always lose out by doing it. I think forbidding cloud flying is like forbidding going under water when you swim. The risk of cloud flying can be calculated and is very small, particularly when you realise that in about half of collisions in clear air the pilots had little warning.

You can calculate risk in the following way. Supposing you are 40yrs-old and have an expectation of 70yrs. You cross the Atlantic by air in six hours compared with a crossing by sea of four days. The risk of the flight is one in 100000 (say) so the life shortening is

$$\frac{70\text{-}40\text{yrs}}{100000}$$

which is about 2hrs, but the sea crossing is three days 22hrs longer so in effect you make a profit on the deal. By the same calculation, gliding shortens the life of every other person that flies by a fraction of a second while enhancing the lives of glider pilots by a factor of ten?

BRENNIG JAMES, *Marlow, Bucks.*

WING ROCKING

Dear Editor,

In his article "Higher Launches" in the last issue, p173, Gordon Peters appears to advocate the re-introduction of the wing rocking "too slow" signal. His rationale for doing so being that "as the speed is now normal the manoeuvre is now safe."

This signal was generally discouraged so long ago that many pilots will probably have never heard of it, and I would question the wisdom of bringing it back into fashion. Consider the following points:

1. Is the "normal" speed required to rock the wings safely not increased due to the weight of the cable?
2. Is the penalty for a wing drop with a cable attached not too high to encourage pilots to adopt the practice?
3. Is the signal likely to be seen anyway?

If given at a reasonably high altitude the rocking of wings seen in planform is in most cases unlikely to be noticed. It will only be obvious when the glider is low enough to be seen head on. At this shallow angle lowering the nose with a slack cable attached is inviting

a parachute over the canopy or a cable over the wing.

I am all for higher and more efficient launches. However too little speed is a killer, with or without a cable attached. Surely the only sensible action to take with a launch that is too slow is to pull off.

M. E. NEWLAND-SMITH, *Epping, Essex*

Bill Scull, BGA director of operations, replies: Right! Recommended Procedures (RP11) only gives a signal for "too fast". I doubt that the BGA Instructors' Committee would approve the re-introduction of a "too slow" signal since nothing has changed.

CAN ANYONE HELP?

Dear Editor,

Help! I have a Crossfell electric variometer. Unfortunately the cable that leads from the dial to the electronics box was broken. There are nine wires in that cable and the colours on the other side are different. I have no information about this vario. The company has apparently gone out of business. All I can say about our unit is that it has a x1 scale, a x3 scale and a battery check switch. Can any reader help?

MICHAEL STECKNER, *108 Hampton Crescent, London, Ontario, Canada N6H 2P2*

A LETTER TO JULIET

"O Romeo, Romeo! Wherefore art thou Romeo?
For thine hour is up and thou art without my sight"

Take a wave day, any wave day, and 130.1 will be punctuated at ten minute intervals of a military precision by this plaintive cry as the shepherd calls down one of his flock from the magic world of wave.

"O Romeo, Romeo, . . ." Where are they? I can tell you. Almost without exception they will be within 5nm of base, hovering hang glider fashion at great height, hoping for a Diamond to fall from a lennie of an even higher system. I imagine them waiting tensely – is there time for a further 1000ft gain before the dread call comes – "O Romeo, Romeo . . ."?

What a way to spend a Sunday! As I sit, high in my own sunlit freedom, I pity them. Fancy being recalled just before they are high enough to feel their wings brushed by Gold and Diamonds and fancy having all the lovely lift and height and not being able to use it – after all, an hour doesn't go very far does it?

"O Romeo, Romeo! . . ." Yes, I know that I can switch you off, but if I do I might miss what 130.1 was made for – such as passing information, both vital and interesting, maybe for greeting old friends heard at great distances and certainly for calls of jubilation – but not for this!

So Juliet please, please brief your pilots on the ground or get your own radio channel and if you must limit their flights, why not install cockpit alarm clocks so that you only depress them and not the rest of us?

But Juliet, I must also thank you – your incessant calls have given me the incentive to travel in an attempt to escape. Yes, it is momentarily possible, *eg* by being low in the Lake or Peak Districts or by changing frequency to cross the Scottish TMA – you fade that far north anyway! So thanks for the lovely photograph collection I now have of Scotland and northern England from wave – I might drop in and show you some day. How are yours of the racecourse coming along?

To your flock/pilots: Dare you join me? We won't be going high enough for oxygen, we'll just be going far so bring your lunch and maps, have a pretend radio failure and come and see the rest of the world! I'll be passing over your Diamond mine early next wave day.

To you Juliet: Find your Romeo quickly and elope if you must, but remember, glider pilots are supposed to do it q..... however long they can stay up!

Best wishes,
SOAR EARS

Please send all contributions to S&G to the editorial office, 281 Queen Edith's Way, Cambridge CB1 4NH and not to the BGA office.

BOOK REVIEWS

Soaring Across Country By Bill Scull, published by Pelham Books at £9.95 and available from the BGA at £10.95 including p&p.

Bill Scull's revised edition of **Soaring Across Country** is recommended to every aspiring cross-country glider pilot. There is virtually nothing superfluous, with the longest chapter (55 out of the book's 191 pages) being quite rightly on navigation.

Many early cross-country pilots have great difficulty in navigating as well as searching for the next lift and keeping an eye on everything else, and Bill gives plenty of excellent advice on what to do and, more importantly, what not to do. Unusually he has described a 180km triangle flight with photographs taken along the route and using a half million and/or a quarter million map. It is a very useful exercise for an inexperienced pilot to follow.

The main emphasis of the book is on the importance of accurate flying, having a purpose on every flight and making sure your cross-country techniques are bettered on each flight, using tiny triangles at first and progressing to O/Rs on the line of future triangles in order to get to know the country. The chapter on field selection and landing is well set out and essential reading.

Important but sometimes forgotten points are covered in the later chapters and appendices – TP photography, retrieving advice, flight documentation and many other useful features.

B. H. BRYCE-SMITH

Calculating the Aerodynamic Loads and Moments on Airplane Wings by Harmen Koffeman, Published by Itek Aero Engineering, Ontario, Canada with 203 pages and priced at US $29.65.

If the methods described in this book were applied to a wing of suitable planform with the type of structure suggested, the results might not be too greatly in error. But it encourages the use of magic formulae in an uncomprehending fashion and could lead the innocent reader seriously astray. At no stage does the author indicate the limitations of his approach, although he does hint darkly that "the spanwise lift distribution is a rather complicated business." Since no references are quoted the reader is not encouraged to seek more sophisticated methods and he is given not the slightest hint that washout may be desirable for some of the planforms considered and that it will affect the results.

The section on torsion is extremely confusing. The "stress" on p91 is actually a shear flow and the "strain" on p93 is actually a stress. There are so many misconceptions and half-truths that one seriously questions the author's grasp of his subject. We can, however, deduce that he owns a calculator displaying an unusually large number of digits.

Despite the evident diligence lavished on its preparation, this book is a thoroughly bad buy, to be avoided by the aspiring designer of flying machines.

F. G. IRVING

THE EASY WAY

Dear Editor,

Poor A. Etchells (see the last issue, p185) certainly seems to have been "ripped off" by that Nairobi taxi driver, but scores zero for initiative! There is an adequate "up market" bus service, run by RVP, to take you up-country to Nakuru and beyond. From Nakuru it's easy to hitch a lift from the Rift Valley Club or get a taxi or bus the fifteen miles or so west to the gliding club at Njoro Country Club – and having got there, why not stay at the club? It's a wonderful place and the sun hasn't quite set on that bit yet. No winch driving or glider pushing there!

The way to do it with style is to go to Wilson Airport Aero Club, Nairobi, check the flight plans in the tower (just look authoritative) and note the registrations of the aircraft bound for Nakuru (or if you're really lucky, Njoro). Then, stand on the runway threshold with your thumb out as the appropriate ones do their holding checks. You generally get to fly the plane into the bargain and expatriate hospitality is legendary. It's always worked for me but . . . what are A. Etchells' vital statistics?

GERALYN MACFADYEN, *North Woodchester, Glos.*

PS – see GLIDE IN KENYA advertisement in this issue.



A trio of T-31s – Colin Anson (Dunstable) owns the one on the left, in the middle is the newly restored Smith/Ballard version (Lasham based) followed by another newly restored owned by Jan Forster of Holland. The restoration of T-31s is very popular thanks to the many recently sold by the RAF.

CHRIS WILLS

14TH INTERNAT VINTAGE GLIDE

There were an incredible 88 entries for the 14th International Glider Rally, at Lasham from August 2-8, the next largest Rally ever held having had only 51. It was the first time we have had an American team flying with us and gliders new to an International Rally were the Gull 3, Falcon 1 (Falke), Crested Wren, Manuel Condor and Gnat, Fauvel AV 22 flying wing, Fauvette, Octave Chanute 1910 replica, Mg-19A, Jaskolka and Rhönlerche. A Rheinland, Goevier 2 (Munster), Arsenal 4-111 and an AIR 102 were specially restored for the Rally and the high standard of finish was very evident.

As to the weather, we inherited the previous week's continuous stream of trailing warm fronts, but a high pressure system with good weather was forecast for the latter half of the week.

To our surprise we were allowed good but windy weather for the opening and had an impressive air display (without balloon launching because of the wind). Speeches were made by Johnathan Spencer, managing director of Ideal Homes Solent, our sponsor, and Richard Noble, holder of the world land speed record. (Chris, as president of the Vintage Glider Club, also made a speech. Ed.) The Vintage Glider Club's new flag was run up the masthead having been parachuted from 3000ft by Julie Shea-Simmonds, wife of the Royal Aero Club's chairman. Music was by the Benson and Roke brass band. (Chris plays in this band. Ed.)

Sunday, August 3, brought heavy rain with no flying and Mike Russell managed to pack 76 gliders in the hangar.

Monday allowed a maximum duration task to be set which was won by David Charles (Skylark 2) who flew for 5hrs 3min to earn 70pts. At the British evening we were entertained by morris dancers.

On Tuesday the first prize went to Ron Davidson who flew his 1938 Petrel for 6hrs 10min, achieving an 88km triangle, Winchester and Middle Wallop. We held a children's party in the evening.

It was not so much the rain that stopped flying on the Wednesday as the wind. At the International evening the national teams provided food, drink and a song for a song contest which was won by the Dutch with a ditty which seemed to include much mention of our sponsor. It was all a tremendous success.

At last on Friday it was possible to set a 100km O/R to Membury airfield which was achieved by Ian Smith (Sky), David Chapman (Mg-19A) and Ted Hull (Moswey 4A). The weather did overdevelop later making the return difficult. Derek Piggott gave the Falcon 1 its first flight and commented most favourably on its characteristics.

We have created two VGC presidents – Paul Serries of Germany and Willi Schwarzenbach of Switzerland who have attended all our International rallies.

Colin Street and David Ballard organised this most successful rally with six helpers. The work they achieved was prodigious and their willingness and good humour at all times did much to create the magnificent spirit which characterised the entire event. We, and Lasham, will always remember that good time at the beginning of August 1986. We wish particularly to thank Ann Welch, Derek Piggott and everyone at Lasham for helping us. As to our sponsor, we could never have held such a rally without the support of Ideal Homes Solent and thank them with all our hearts.

The overall results were: 1 David Charles/Arthur Elvin (Lasham pilots), Skylark 2, 210pts; 2 Evert and Jan Vermeer (Holland), Prefect, 197pts and 3 Ron Davidson (Coventry GC), Petrel, 159pts.

The Rheinland owned and restored by Mike Beach from Twickenham.



The Fauvel (AV 22) flying wing owned and flown by Ian Dunk three flying wings entered.



ATIONAL
ER RALLY

Ideal Homes
14th INTERNATIONAL VINTAGE GLIDER RALLY LASHAM '86

Rendez Vous International Rally. This was held the week before, July 26-August 2, at the London GC and attended by some 35 gliders from France, Germany, Switzerland, Holland, Norway and Britain, Imre Mitter, his wife and son, represented Hungary but alas without a glider.

The weather map presented an ominous stream of trailing warm fronts stretching back to Newfoundland which were exactly lined up on Dunstable unless drifted off by a high pressure area to the SW of England. This did not happen and we had them all with their strong winds and rain.

In spite of this there were three days of SW wind and thermals which allowed prolonged flights on the hill. The bad days were spent visiting Duxford, Doc Slater at Cambridge, the RAF Museum and Shuttleworth. The outstanding achievements were two hill soaring duration flights by the Norwegian, Bjorn Reier, in his Grunau 9 (Skullsplitter) open Primary. He flew it for more than an hour above the hill. Norway has many mountains but few aerodromes so the Grunau 9 had only been flown for 3min circuits before.

Our best day was Thursday, July 31, when there were many long duration flights.

Credit for organising this successful event must go to Geoff Moore and Colin and Alice Anson.

Dunkley of Derbyshire. This was one of





Above, the Minimoa (1936) owned by Werner Von-Arx of Switzerland. Below, the French entered an AV 22 flying wing owned by Christian Ravel.



The Falcon 1 replica (the original was Slingsby's first type built in 1931) which was rebuilt by Southdown Aero Services at Lasham. With Derek Piggott at the controls it made its first flight at the rally.



GEORGE THELEN

THE MORTALITY OF GEL COATS

There is mounting evidence that gliders need more care than they are sometimes given and we reprint this excellent article by kind permission of *Soaring*. George, the owner of Northbrook Inc, is a specialist in the repair of coatings (gel coats, porcelain and synthetics).

Virtually all major manufacturers of glass-fibre sailplanes, past and present, are using one of two German-made gel coats (made by the same company) as the outside finish that comprises almost everything we see except the canopy, and any lacquer contest number or anti-collision markings. This year the French company, Centrair, reports beginning the use of a similar French-made product in their most recently delivered ships.

Gel coats are a polyester coating with additives to make them hard, resistant to ultraviolet light, and flexible enough not to break when bent somewhat. These additives make them as similar to a paint such as DuPont Imron, as to just a normal polyester gel coat. Exceptions were the Finish PIK sailplanes, which were made like Corvettes; a glass-fibre structure, sanded, filled, and painted like a car. I've heard that the French are using a similar system since they took over production of the PIK 20E. One problem with this approach is that a great deal of the strength of the thick gel coat is lost in substituting soft fillers and thin paints which must be made up with a heavier inner structure.

All other glass-fibre ships are made backwards. If they made people this way, they would put the skin on first, and pour the bones in later. A clean mould is coated with a wax mould release, pulled into the spray booth, and shot with a thick layer of gel coat which was freshly mixed just before the application. A pressure pot sprayer throws a maximum amount of material with a minimum amount of air or thinners added to the material, unlike the syphon-type of sprayer used in auto paint shops. Modern plants in the USA use a spray system that mixes the catalyst and any thinners at the gun head, though I haven't heard reports of these being used in the sailplane factories.

In laying down the gel coat, of course, the side against the mould will be as smooth as the mould surface is. But on the "inside" the gel coat achieves a wavy surface which is the result of its flowing somewhat in a thick application. At this point, depending on the thinning, the type of material and the temperature, the gel coat is left to **tack** for various periods of time. This may be from an hour to much longer (according to differing accounts). The coating is left to get firm but still with a sticky surface. Then the first layers of epoxy resin and cloth are laid up, bonded to the tacky material. Remember that this is the first structural layer, and it is **not** flat, but wavy as it adheres to the back of the gel coat. This is an important point because in a recoating of the sailplane, the cloth is not smooth, and if the old gel coat needs to be totally removed, almost invariably either the cloth is damaged or there is the possibility that future surface problems may reoccur when everything can't be taken off. Much more about this later.

Next, three or four layers of thin silk-like glass-fibre cloth are applied and, using various techniques, pushed as tightly as possible to the gel coat attempting to avoid air bubbles that may show up later as **air voids** (small hollow pockets just below the outside finished surface that may easily break through in future times).

These glass cloth layers are the main structure of glass-fibre construction and in aircraft are bonded with **epoxy resins**, primarily for strength reasons in contrast to **polyester resins** which are used in boat and bathtub construction. Remember this point in the future when we discuss moisture penetration.

To these existing layers, sheets of fairly coarse, rigid foam are bonded, again using an epoxy resin to mate them to the other materials. From this we get the proper name for what we are flying – it is a **FRP structure** (standing for Foam Reinforced Plastic). The foam is a hard, coarse stuff, and by having a lot of porosity has a large surface area to bond to the surrounding cloth layers.

Some English sailplanes used quite a different approach here, having a much denser (read smoother feeling) white foam, which has a very much smaller surface to be grabbed by the epoxy resin. My tests show that this may be broken free of the cloth structure more easily, because there is a very shallow resin penetration zone compared to other coarser foams.

Finally, usually one but sometimes two layers of fine cloth and epoxy are used to seal the "inside" of the **sandwich**. This produces an astonishingly strong and rigid structure for such small and light materials. (Strong, but maybe not as far as **you** go over the red line, chump!)

Before we get on to the reason that all of this is important, a few more points about the manufacture of the finished pieces are in order. First, remember that each hull, wing, tail plane, aileron, etc, is made in two parts and joined together after being removed from the mould. Each of these joint lines needs to be smoothed and coated, using either a spray or brush application of gel coat to smooth the finish.

These types of applications never have the uniformity, hardness, holding power or chemical resistance of the gel coat laid up against the mould. And furthermore, since these joint area layers are often mixed in small or odd-sized batches, there is quite a chance that the percentages of hardeners and thinners (if any, depending on whether the mixture is to be shot or brushed on) are nowhere near the optimum to give the material its best characteristics. This is because most often it is an "eyeball" mixture, and the tendency is for there to be far too high a percentage of hardener.

"Brushing" is another factor here, this being a technique where a workman with a pot of gel coat and a brush wanders around the nearly finished pieces daubing or smoothing on extra layers where needed. Careful sanding and polishing "feathers" these new layers into the other gel coat, though on almost every sailplane I've ever seen, the layers are visible when subjected to close examination.

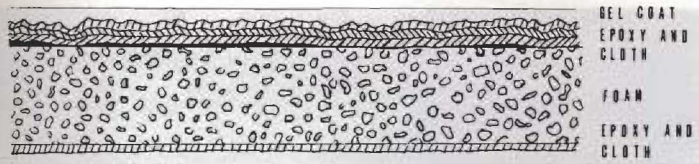
OK, now that we have established the basics, let us go on . . .

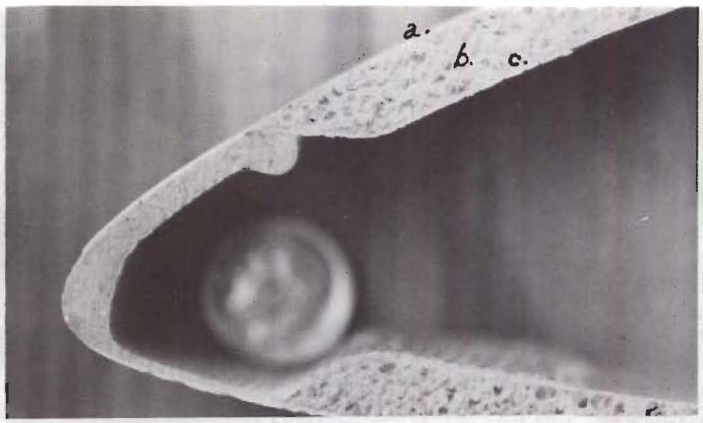
Problems were not only on older ships that were abused or not properly maintained

Over the years I've had friends ask me about problems that they were having with the finish on their sailplanes: blistering, cracking, yellowing, chalking, etc. I figured that this was only on older ships that were abused or not properly maintained. You know, the kind of guy who does outside loops on the way back from the house thermal; or the one who leaves a 30000ft wave by flying into the "down," and lands back at the airport 15min later (the spar being −40°F and the skin at +60° air temperature.)

Not being in the sailplane repair business, I wasn't being confronted with this daily, so I didn't form too many opinions as to what was going on here. However, a great number of things fell into place at the San Diego SSA Convention during a conversation with Mike Borgelt of Australia while we were discussing the similarities and differences between soaring here and there. As it turns out, the lack of pollutants in their air increases the amount of ultraviolet (UV) light coming through the atmosphere, as it does in many of our higher altitude soaring sites in the west. Moisture is generally a bit less of a problem there, depending on the local climate, but still very much a factor. They have been experiencing a problem with the finish on their sailplanes and have been looking into the characteristics of gel coats.

This rang some bells with me because I





Two ways of looking at a glass-fibre sailplane construction; above is a drawing of how it's done but on the right is the real thing, a section of a broken Glasflügel 604 wing. The gel coat and outer glass cloth layer are at a, foam layer at b and inner cloth at c.

recently had been asked to inspect several hundred glass-fibre shower stalls that had been stored outside through a hot summer. Almost all had suffered considerable UV damage (partly because the gel coat was not an "iso" or UV-protected type) after they were left standing facing the sun. As the light during the various times of the day was focused and reflected, each of the showers exhibited yellowing, particularly in "stripes" down the corners, where there were hairline cracks and checking.

Mike came to visit here in northern California after the convention, and during a trip to do some soaring we looked at a couple of sailplanes together. The first was a popular new two-seater – this one less than eight months old – which was tied out regularly. It had rained a couple of days previously and the coated-fabric canopy cover was still sopping wet underneath. A 6in discoloured stripe on the upper surface of the nose had what appeared to be hundreds of light scratches. These were to be seen also on top of the hull behind the second seat, and were particularly evident around the access door for rigging the ailerons and spoilers farther back. Each of these areas would be ones that would have been "brushed" at the factory. After this, I started to look at as many ships as I could find.

It is well known that ultraviolet light ages your skin. It also does the same thing to your sailplane. Remember the old insinglass, a flexible clear material used as windows on convertible car tops that would heavily yellow after a short useful life? Or remember the old plexiglass of years ago that would turn bright yellow and then totally opaque with time? Long since, additives have been developed to eliminate or delay this effect. The plexiglass skylight I put in my bathroom is still as clear as it was when I installed it ten years ago. So, have the chemists eliminated these problems? Take a look around at all of the metalic paints being delivered on expensive new cars these days and realise that chalking, crazing, and oxidation are still very much with us.

While the gel coat on a sailplane is white and reflective of much light shining on it, there is also an amount captured by the surface. The light penetrates somewhat into the coating – it has a certain transparency. This is the factor that along with smoothness makes something appear shiny. My theory is that the gel coat laid down in the uniform first coating during production stands up well because it is consistent in the capture and reflection of the ultraviolet rays. At the seam areas where thin "onionskin" layers of coating are repeatedly laid up and sanded. There is less reflectivity (more UV is captured) not by a thick uniform material, but by very thin separately bedded layers.

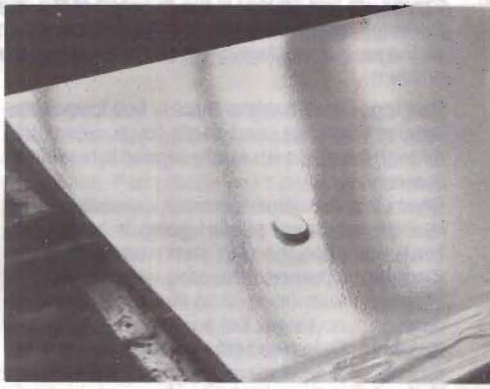
This may account for my observation that the areas on a sailplane that show the effects of crazing first are a stripe over the full top of the fuselage; the leading edge of the wings, tail and stabiliser; and specially coated areas like around the aileron hook-up door behind the cockpit. What initially appears are very fine parallel crack lines. Later these cracks increase in number and widen (capturing even more UV); the gel coat darkens and yellows; finally full-blown cupping, flaking and deterioration of the substructure occurs. This is particularly true of manufacturers who "brush" these zones.

Interestingly, the orientation of the cracks will be in whatever direction the sanding was over that area – on the wings the crazing will initially go over the chord, though on the flaps and ailerons the cracking will run along the length of the wings. I really don't have the answers here – all I have are my observations of this kind of cracking on many glass-fibre sailplanes.



A glider wing may be somewhat less robust than you think. Here is a section through the aileron of a broken Glasflügel 604 with a dime aft of the main spar for scale.

To relate this to our later discussion about moisture, let us follow the diurnal cycle of a sailplane left tied down outdoors. During the night dew, rain or fog might moisten the surface, but selectively; the water runs off or collects in droplets which penetrate, wetting the gel coat somewhat, but not uniformly. As the sun comes up the surface is now heated and the moisture dries, leaving "water spotting" or dust behind. As the day progresses, less light is reflected from these wet, dirty areas and they selectively receive more insolation. That night the dew collects more readily over the previously laid down water spots and the cycle goes on. This seems to be especially true over the seam areas. How can I be so sure? Commonly there is virtually no damage *under* the wings or under painted anti-collision wingtip areas. An example is one of the sailplanes shown in the photos where the gel coat is a mess with heavy cracks right out to the thin bright orange wingtip lacquer, where everything is as smooth as can be underneath.

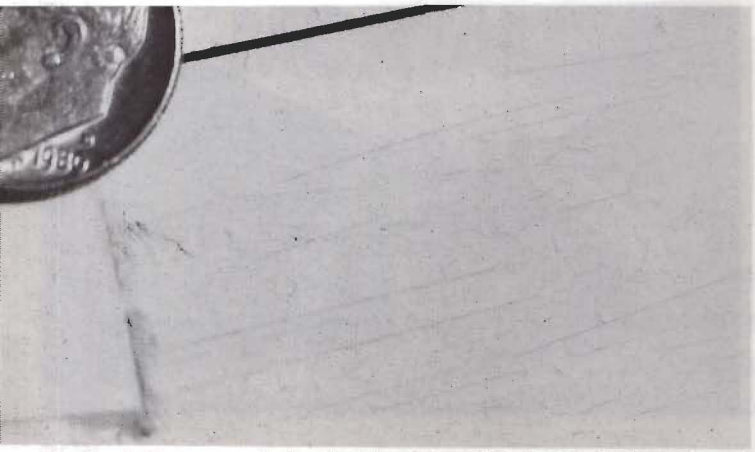


It's hard to see, but that's the dimpled, wavy and irregular surface of a fresh gel coat in a wing mould before the first layer of cloth has been applied. It will be wavy too when it bonds to the gel coat, making total gel coat removal difficult without damaging the cloth.

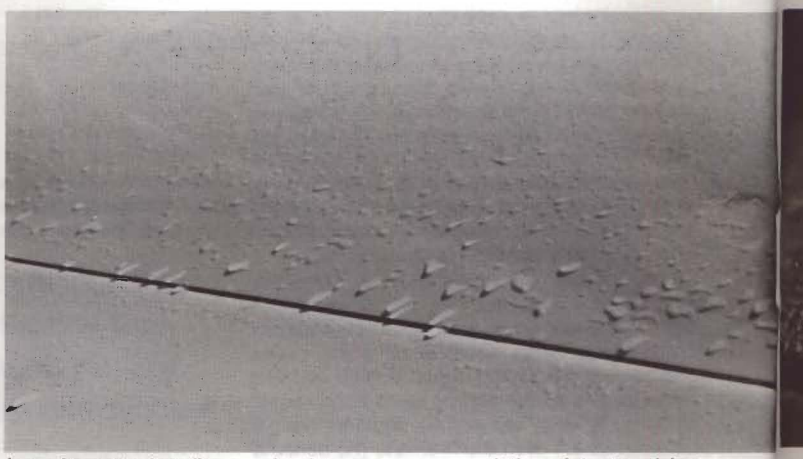
Definitions

Ultraviolet Light: Light having wavelengths shorter than 4000 Angstrom units, or short enough to sneak right inside your gel coat and eat it alive. After this happens, don't count on the gel coat doing any of the things you paid for it to do.

Oxidation: Whether all of this is caused by oxygen or also by other contaminants in the air, oxidation produces chalking on the surface. Polishing from time to time takes care of this. Gerhard Glaser reminded me that it takes two years after manufacture for a sailplane to cure so he suggested a sanding board with 600 grit wet and dry sandpaper, every couple of years, run across the cord of the wings to smooth minor waviness. This may be a good maintenance technique, followed by polishing. *(Ed note: some experts contend that epoxies* **never** *stop curing, and grow continuously harder and more brittle with time.)*



Cracks will first appear in the direction of the original sanding; chordwise on the wings, spanwise on the control surface. When it gets to this stage, getting all the way down through the cracks to get the bad gel coat off is a real problem.



Irregular water beading can lead to uneven accumulation of dust particles, patchy UV absorption and eventual irregular gel coat deterioration. It can cost more than the glider is worth to remove and replace the gel coat.

Crazing: Small hairline cracks, first to look like parallel scratches, and finally to go completely through the gel coat, usually aligned in one direction only.
Checking: Small hairline cracks, usually laid out in a chequerboard pattern going in both directions, and often the next step past crazing.
Cupping: Advanced checking where the edges of the squares have lifted like "cornflakes" to produce a no longer flat surface.
Chalking: Oxidation of the gel coat leaving a dull surface with a powdery residue.
Yellowing: Ultraviolet light acting on the gel coat gives the material a slight to extreme yellow cast.
Discolouration: Usually in areas where the extra finishing occurred – the gel coat looks darker, holds dirt more distinctly, is less chemical resistant, yellows more readily and is often somewhat duller with time than the gel coat laid up against the mould.

Remember the story of Icarus who flew so high that the sun singed his wings? The bad news is that it is not totally untrue. There is a 4% increase in the Ultraviolet "B" light per 1000ft of altitude gain. This means at my normal summer soaring site at about 5000ft elevation, my ship is getting 20% higher UV incidence than at my favourite wintertime gliderports near sea level. And, at our normal 12000 to 15000ft summertime flight altitudes, the gel coat is getting 50% more UV exposure. The worst sunburns I've ever seen have been on skiers' faces, or exposed skin areas, on sunny winter days near my home in our high Sierra Nevada mountains here in northern California. All of this is not due just to reflections from the snow.

The Australians have recognised the consequences of exposure damage to gel coats and FRP structures by going so far as to issue an airworthiness-directive aimed at the problem of entirely removing an old gel coat surface from a sailplane without damaging the epoxy-glass cloth matrix below it in the process. They are requiring an inspection of the upper remaining surfaces to determine if any damage has been done to those few layers of glass cloth that constitute the real structural members of the sandwich. What they are saying is that it is very difficult, if not impossible, to use *any* mechanical means to get the old surface off without doing significant damage below it. They are worried that after a slipshod recoat the damage might be bad enough to cause a structural failure. This concern also includes structural damage from letting the gel coat cupping and chipping go to extremes of also causing delamination of the cloth layers.

I think that the Australians have legitimate concerns, and I especially respect their research into this topic. Maybe we need not go so far as to require the FAA, to do this sort of inspection; but we *do* need to start a dialogue to begin to resolve this whole area of problems – one at which we can be successful.

Definitions

Moisture: Is by far the most damaging element to gel coats (especially with prolonged exposure) either during production or during the life of the sailplane. This is important because moisture in gel coats adds another element of porosity which can lead to crazing or blistering. Worse yet, chlorine in tap water or some elements in soap added to clean the ship can accelerate the effects of porosity.

So then, how do the boat manufacturers get away with this? Their gel coats, not being under such rigid weight restrictions, are much thicker; the hulls are laid up in one piece, without seams which require manual joining; and, if the boat is to be left in the water for extended periods of time, they coat the area below the waterline with water resistant paints. Wet canopy covers, damp tiedown straps, wet wing holders, moist wing covers, etc, either inside or outside of trailers hold moisture against the gel coat, causing at the very least discolouration, or at the worst, crazing or blistering. I mentioned earlier a 2% penetration of gel coats by water. Studies have proved that this also affects the strength of the whole structure, but this is beyond what we are talking about here.

Blisters: Bumps in the gel coat (which may have a minute pinhole at the centre) where separation has occurred between the gel coat and the underlying epoxy structure; almost always caused by moisture, either during manufacture, during use, or in storage in the hands of the owner.

It still is a common practice for many sailplanes to use hollow portions of their wings to hold waterballast without the use of the water bags. I would personally prefer to have that extra layer of protection against a crack or other anomaly leaking water into the structure. In talking to Ray Gimmey the other day about this he reported that they have had no indication whatsoever on Dick Brandt's Nimbus 3 of any moisture-related problems despite leaving ballast in the bags for many days at a time.

I think he is right, which leads me to believe that the main problem that we are observing is moisture penetration through the gel coat from outside the wing, and that the crisis point is at the gel coat/cloth juncture. Water that actually reaches down to the upper layer of cloth may stay there for long periods of time (like underground water) from even a limited exposure.

Gliders have water inside and out – do your best to limit its effects.

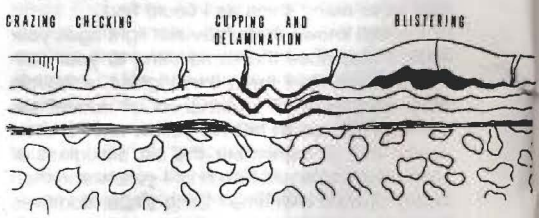
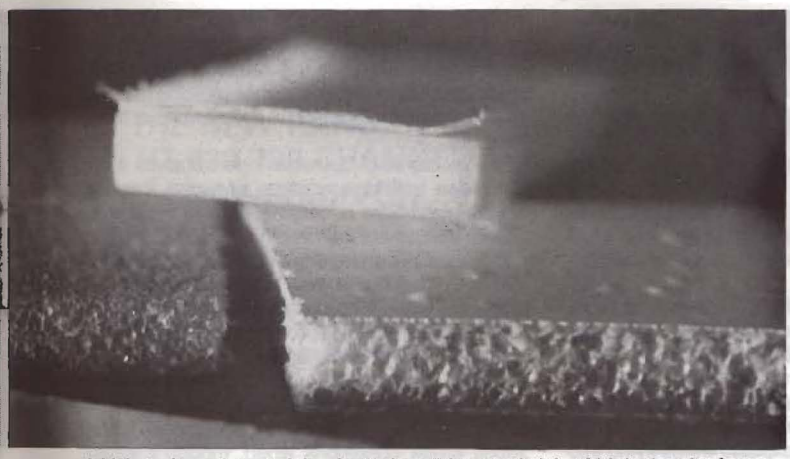


Fig 1

A discussion of blisters on sailplanes reminded me of the hundreds of glass-fibre baths we were asked to repair a few years ago before everyone switched to acrylics. What happened was that the chlorine in the water at the temperature at which baths are maintained attacked the colbalt dryer in the gel coat, boring pin holes through the coating and separating the gel coat from its backing (See Fig 1.) Because there is a natural 2% penetration of gel coat by water in normal circumstances, this together with the hot chlorine was devastating to these coatings below the water line where there might be thousands of black marks and bumps. This led me to relate this to a couple of friends who have



A high-tech soak test delaminated a glider sandwich of high density foam, blistered one of a typical current low-density foam but did not harm a sample of glass-fibre from a bath. Water is not for sailplanes.



Areas where the gel coat was applied by brush are particularly susceptible to early deterioration if not properly protected. Here cracking has reached the cupping stage, admitting more moisture and aggravating the situation.

had blisters on their ships and ultimately to ask questions of virtually all of the representatives of manufacturers at the San Diego convention about the coatings on their sailplanes.

Further thought on these problems led to a real scientific inquiry . . .

Does moisture affect these gel coat and FRP materials? Using a mayonnaise jar full of water, I put in sample pieces of sections cut from a sailplane wing, a section of the German rigid foam used in the FRP structure, a British foam-epoxy-cloth laminate, and a chunk cut from a normal glass-fibre bathtub.

As you can see in the picture, one month's submersion resulted in blistering in the wing section; delamination of the glass cloth from the foam in the other sample; little or no change (besides a weight gain due to absorption) in the coarse foam; and finally, no effect at all on the bath tub piece.

My high tech conclusion is that while the moisture penetration of the gel coats is probably the same in polyester bathtub and epoxy aircraft FRP structures, some combination of additives or combination of materials makes blister separation of gel coats in the aircraft case an endemic problem. I have seen or have heard of blister separation of gel coats with sailplanes made by most major manufacturers.

The term "paint" in reference to gel coat almost makes my skin crawl! Gel coat is a catalised liquid plastic that makes a *lousy* paint. It doesn't stick well to things that are not themselves resins. It doesn't lay down flat when it is installed in the proper depth. And it is awful to shoot out of a gun in any sort of well-controlled manner unless it is thinned so much as to lose most of its inherent strength. So why do they use gel coat? It is thick and can be easily sanded to depth. It can be made into extremely smooth surfaces. It is flexible. And it adheres chemically to its backing, **but**, not when it is put on "backwards".

Going back to the first part of this article, remember that the gel coat is made to be laid up against a mould to have a flat surface on the outside of the finished piece. If, however, it is laid up during a recoating of the sailplane, the surface that we see will not be as wavy as the inside used to be. During the factory installation the gel coat adheres to the glass cloth-epoxy matrix by TACK, a chemical bond. In a recoating the gel coat adheres to an already cured surface by means of TOOTH, or scratches made by coarse sandpaper in the surface to be recovered. This is definitely not as good as the original. Invariably, the finished product is heavier.

Almost all of the factories report using heat curing and humidity control equipment during the manufacturing process. Few repair shops can muster the resources to equal the best installation conditions (unless they are in the desert at the right time of the year). Moisture in the air is translated into increased porosity, less strength, and less density in the recoat.

Further, if any of the crazed surface is left, or if any of the separated portion of a blister remains (filled with air or water with a vent hole) under the new surface of a recoat, it probably will reappear with time through the new coating. The truth is that even the best refinish job is never as good as the original surface of your sailplane. And remember the weight gain penalty of any refinishing job.

One other problem associated with refinishing is the use of primers, feather fill or other soft pre-coats. These are potential separation points (between the surface coating and the epoxy-cloth layer) which during strong flexing of the wing can produce heavy cracking on the underside, thereby letting the gel coat break loose. Moisture penetration of gel coat also travels readily along these porous materials causing blisters, separation, crazing, and flaking of the surface. Those ships that included these materials in their original manufacture also have a reputation for an increased incidence of these problems.

Being in the repair-recoating business myself, I can say that our sailplane repair shops do us a wonderful service; but, the smart money takes care of their equipment so these problems never happen in the first place. As John Sinclair (JJ) pointed out for those of you with glass-fibre gliders on lease-back, a $5000 T-hangar is a great investment against a much more expensive refinish a few years later.

If you wouldn't buy a Florida swamp then why would you pay someone good money to park your expensive glider in a local one? To start with, it is quite logical that they build airports in flat places. Flat places don't drain well when it rains. Buildings, runways, even flagpoles have priorities in placement over where sailplane trailers are parked. The major criterion for where sailplane trailers are tied down is that there is no other use for that area. Most often this is the least well-drained section of the already flat property. Why do we expect something parked axle deep in water for months on end not to have some kind of deterioration (if not grow barnacles) whether it was made of metal, clay or even glass-fibre?

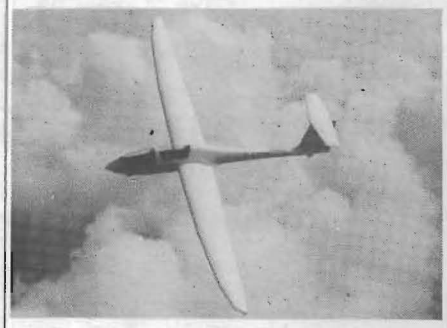
I believe the blister damage shown in the earlier pictures was caused to an otherwise perfectly good glass-fibre sailplane because it was stored for two seasons in a trailer sitting usually in shallow standing water (during a four to six month rainy season). This is a gliderport a short distance from a large body of water. Just by its proximity to high humidity and condensation for extended periods, blister damage to the gel coat was inevitable.

Here's the dilemma. You need to get bug spots, dirt, tape residue or grease off your sailplane, but you don't want to scratch, chemically damage, remove or otherwise damage the gel coat. Worse yet, the major gel coat manufacturer warns against chlorinated hydrocarbons (paint removers), acetone, lacquer thinner, ethyl acetate or methyl ethyl ketone. There is the temptation to use acetone or lacquer thinner to remove tape residue, grease, or asphalt spots from the gel coat. This should be resisted as "brushed areas," repaired zones or after-mould finishes are quite prone to damage or removal by these solvents.

Further limitations are suggested; limited usage of isopropyl alcohol, or rubbing alcohol in small amounts "without strong rubbing." Use of organic solvents or Tri-Sodium Phosphate (TSP) is discouraged. My own experience is that many household soaps and cleaning agents have some absolutely vicious components (acids, tints, etc) that let them compete with the abrasives on the market in speed of 'cleaning." A big bucket of hot soapy water and a sponge might not be a very good idea, either.

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So what **can** you use? I use a damp chamois to clean bug spots. Scratches or marks can be taken out with DuPont 606S Fine White Lacquer Rubbing Compound, available from auto paint suppliers. Small amounts of soap, or mild liquid soaps may be used in the water for the damp chamois on especially dirty areas (followed by rinsing with clear water in the chamois). As for tape residue, grease/tar spots – kerosene, white gas, wax and grease remover (from auto paint stores), or paint thinner are probably the safest to use.

Wax is yet another dilemma. If moisture is a problem, why not wax everything on a regular basis? Again, wax penetrates the surface and causes barriers to refinishing. But even more importantly, I have some very real problems with wax after watching test results at the San Diego Convention, of waxed sailplane wings flying into rain. They lost, due to beading of the water droplets, as much as two-thirds of their L/D almost immediately – a problem I deem to be a safety issue. So, for most of the country I would recommend against wax. However, if I owned a ship and lived along the Gulf Coast, Florida or any other hot, humid area, I would use a pure carnauba car wax (without cleaners) and pay special attention to the other problems.

Don't use silicone *anywhere* on the gel coat on your sailplane. Used as a sealer, glue or an additive to wax, the stuff is virtually inert when it is set up; and that is precisely the problem. It penetrates the structure of the gel coat similarly to moisture and holds on. So far, so good. But there comes a time when you may want to do a repair or bond some new gel coat to that surface and you will find that *nothing* sticks to silicone. Even after heavy sanding to penetrate the gel coat, it is very common to have extensive fisheyes (hollows in a new coating caused by dirt, grease, or silicone, making the material thin out or run away from the contaminated spot) when silicone has been applied in any form. Silicone caulk is routinely used to seal shower doors on bathtubs, and my co-workers will attest to the problems of doing anything that requires adhesion anywhere near the wretched stuff.

Therefore I was dismayed to read in a care sheet from the major manufacturer of sailplane gel coats that a silicone wax is recommended.

Follow me for a moment. You wax your ship with a silicone base wax. On your first flight the tow plane throws a small stone which chips the leading edge of your wing. Being a fastidious person, you decide to repair the damage. You sand the affected spot and either add a filler or apply thick layers of gel coat to build the surface back out. BUT, (this is a big "but") the outer edges of your repair don't seem to stick. You sand outward to a larger area, but the edges still don't stick. At this point you can settle for coating only the inner area of the repair, and significantly alter the wing's profile, or go on to Plan B. Theoretically we are now talking about sanding off all of the gel coat, refinishing, and profiling the entire wing to properly make your repair; hence using lots of gel coat. Let's not get carried away, but I sure won't be using silicone waxes on a glass-fibre sailplane.

Silicone adhesives do have their uses on gliders. I attach sealing materials over openings in the spar ends of the wings, and as an adhesive for upholstery in the cockpit on my DG-300, but I am careful to keep them off any of the exposed exterior surfaces. For this reason I have grave questions about using silicones as adhesives for sealing materials applied to the ailerons or tailplane.

It's in the box. But what kind of box is it in? Sailplane trailers are made of wood, canvas, metal, glass-fibre or combinations of the above. Some trailers are well ventilated, some are not; some leak like a sieve, and others are tight as a drum. Cold has (as tested in Germany) not much effect on glass-fibre sailplanes, but high heat is not terrific for them. It produces unwanted waviness in the FRP structure.

So as long as the trailer is enclosed, what difference does it make? Well, I have been in metal sailplanes trailers (including my old one) in moist winter conditions when, though it wasn't still raining outside, it definitely was inside from heavy condensation. My daughter did a Science Fair project that checked the level of condensation build-up in a model wood trailer, a model metal trailer, and a model glass-fibre one. It all has to do with rapid relative heating or cooling of the surface or the air during humid conditions. Wood trailers are best, glass-fibre next and metal worst. Look again at the picture of the blisters under the gel coat in the previous section.

In short, whatever trailer you have, open it fairly frequently, pull covers off and open the canopy to air everything out. Improve the generally poor ventilation provided in most sailplane trailers. If I still had a metal trailer, I would look to installing foam or other insulation on the inside of the upper surface. Finally, park the trailer in areas with good drainage to decrease the humidity inside.

Overall, the recommendations made in this article should include the care given to sailplanes made by all manufacturers, especially those having to do with moisture control. In fairness, many of the comments made about ultraviolet/moisture-produced crazing damage do not apply to sailplanes currently made by Burkhart Grob Co or Glaser-Dirks GmbH. Again, however, I would consider the factors of care and maintenance to apply to all glass-fibre gliders alike. Not to do so will be a conscious choice, and the consequences won't come as a surprise to you. If you love sailplanes and soaring as much as I do, maybe everyone involved can work together to improve our gliders and the care we give them – to all of our mutual benefit.

Now that I have insulted glider manufacturers, distributors, fixed based operators, repair services, gel coat and wax manufacturers, my fan club may be smaller than I had hoped. But as Sgt Joe Friday used to say on the old Dragnet TV series, "Just the facts, ma'am; only the facts." After concerned and careful observation, these are the only conclusions that I have been able to come up with. As for my fan club, send only large denomination bills, no lawsuits accepted.

* * *

My thanks to Mike Burns, chief technical officer airworthiness of the Gliding Federation of Australia; Mike Borgelt; Tim Montagne; Gary Knapp; Oliver Dyer-Bennet; John Sinclair; and Roger Clark. These comments are my own and don't fully relfect the views of the above persons.

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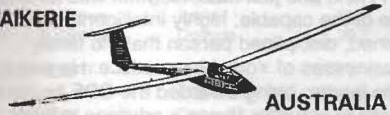
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AUSTRALIA

John Rolls gives his impressions of flying in Australia

During the past three years I have spent some time gliding at various locations in Australia and was lucky enough to have six months driving through and around the country covering 27 000km — Karen could never understand why we saw gliders in the sky wherever we went!

The Australian glider pilots are totally spoilt as they have, in my opinion, one of the best conditions in the world. In Southern Australia, where I have flown most, it is possible to glide nearly the whole year. Most pundits pack their ships up for the winter simply because they can't fly cross-countries every day. It is amusing that 5000ft is the magical height to leave the field for your cross-country. They think you are mad leaving at, say, 3500ft.

Most Brits tend to tease them, nicely of course. They don't mind as they love to hear the horrific stories of gliding in Northern Europe with low heights and postage stamp size paddocks (fields).

Last February, whilst at Waikerie, South Australia, I was returning from a cross-country and about 25km from the field when we had a radio message to either land immediately or stay high. A line squall was coming through which was a most interesting experience.

I was already at 4000ft in a club Nimbus 2 dodging scattered rain showers from very high alto cu. About 10–15km from the field the squall was heading in that direction, blowing up dust to about 4500ft before it curled over, just like a desert sandstorm. The main band was 4–5km wide and travelling at 35–45kt. I found the lift around me increasing enormously to over 10kt in places.

Within a very short time I was just under 12 000ft, but alas being middle-aged I didn't think it safe to remain at the altitude too long without oxygen. I estimated at least a further 2000ft to go to cloudbase. Visibility at the time was 100km plus. One could watch this fascinated and be quite safe at altitude with plenty of height in hand to follow it for some time. As the squall hit some of the newly ploughed wheat paddocks it lifted a dense cloud of top soil. When I landed an hour later the surface wind was back to about 5kt.

I had previously seen a rain squall whilst gliding at Sebring in Florida and that appeared like a curtain of water in a straight line. When that went through it must have deposited an inch or so of water within a very few minutes.

In Australia you have to have an official DI number and if you rig your own glider you can't DI it — which could make sense. At one club when I told the CFI I hadn't a number, he asked whether I was qualified and then suggested "Well put your telephone number down." Low tow is the general rule. Recently it was approved that instead of going all the way up to a high tow to release, probably missing your thermal, you may now release just in the lower part of the slipstream of the tug.

This reminds me of an amusing autotow I had at Alice Springs. The towcar was a decrepit V8 of some kind with a huge length of cable which the driver said would launch the glider to 2500ft. We set off but I shortly noticed the end of the airfield fast coming up and the glider by this time at about 100ft. "That doesn't matter," the driver yelled, "you watch". With that we continued over the end of the strip and turned half right on to a dirt road. Thundering towards us was a 50m long road train — "It's okay," the driver assured me, "because the cable is on our side!" The pilot did achieve his 2500ft.

Our club insist when you join them that you can land on tow, which really is bordering on the ridiculous. One needs a powerful arm to hold the airbrake, especially if the tug pilot has an extra knot or two on, Women can't do it!

Every club has its own "piecart" which is normally a shed on wheels about the size of a caravan and is used as the control point at the launch area. The name originated from the street pie seller's cart used in the early days. It's an excellent idea for both efficiency and comfort.

Every aircraft and gliding site uses radio as a standard which, when you think of the size of the continent and the difficulty you may have when landing out, is important. You can relay to an airborne glider who in turn relays to base giving, we hope, reasonably close co-ordinates for the tug.

Another useful item is the old wartime metal mirror with a hole in the middle which you flash to attract the tug. And finally, clanger of all clangers is not remembering to allow for the correct magnetic variation to the east. How does it go? "East least, West best."

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BGA & GENERAL NEWS

NATIONAL LADDERS

Ed Johnston, ladder steward, says that some pilots haven't noticed the weather has been appalling with 500kms by Dave Nunn and John Bell and a 672km on July 17 by Chris Starkey, all from Lasham.

Open Ladder

Leading pilot	*Club*	*Pts*	*Flts*
1. P. O'Donald	Cambridge Univ	6832	4
2. J. Bridge	Essex	6682	4
3. F. J. Sheppard	Booker	6605	4
4. M. B. Jefferyes	Essex	5578	4
5. S. N. Longland	Cambridge Univ	5528	4
6. A. P. Hatton	Yorkshire	5362	4

Club Ladder

Leading pilot	*Club*	*Pts*	*Flts*
1. M. F. Cuming	Booker	3539	2
2. D. Taylor	Yorkshire	2110	2
3. J. Ellis	Coventry	1825	4
4. B. Shaw	Yorkshire	1150	1
5. G. Wills	Coventry	984	3
6. A. Beaumont	Yorkshire	960	2

GLIDING COMMITTEE JOINS OSTIV

The International Safety and Training Committee, formed in 1972 to interchange ideas on safety and training, has now been incorporated into OSTIV.

It first met in Germany and since then meetings have been held in Denmark, England, Finland, USA and the Netherlands with the next in Belgium from November 14-16.

Membership was initially limited to European countries but with the American offer to host the 1983 meeting there was a wider response and Australia, Canada and USA are represented, with many more now being eligible.

Bill Scull, BGA director of operations, is the chairman with Ole Didriksen, the Danish Gliding Union's national coach, and Jürgen Sagemühl, responsible for glider pilot training within the German Aero Club, as vice-chairmen.

DOC SLATER

Doc Slater has been moved from the Saffron Walden old people's home to Primrose Croft, Primrose Street, Cambridge, tel 0223 354773. While comfortable and in good health, he is lonely and welcomes visits from glider pilots.

INTER-UNIVERSITY TASK WEEK

Held at Aboyne airfield, home of Aberdeen University GC, from July 12-19, the only losers at this year's Inter-University task week were those who didn't attend. Sadly, the distance to Aboyne put off a few clubs, but those who made it were not disappointed with wave on almost every day. Cross-country tasks were set for the more experienced while points for height gain kept local soarers busy. Silver and Gold heights fell like ninepins and there was a Diamond height of 22500ft.

The first two day's tasks were 100km and 107km triangles respectively, with mini-triangles for pre-Bronze C pilots. Aberdeen, helped by local knowledge and a DG-100, won both days. Edinburgh's K-8 did well to reach Dallachy in a fairly strong north-westerly, while Surrey's K-21 got in some more field landing practice.

The weather then deteriorated slightly but one daring duo from Southampton disappeared with their K-13 through a rapidly closing wave gap, only to reappear over 5hrs later at about 2130hrs having completed the 310km triangle task, Dunblane, Huntly. As nobody else had attempted it because of the overcast skies, Southampton leapt into a last-minute lead which proved unbeatable.

Congratulations to Southampton and many thanks to the teams from Edinburgh, Surrey, Bath and my fellow team-members from Aberdeen who helped make it so enjoyable, to Deeside GC and to Alan Middleton, CFI, for his excellent weather forecasting and task setting.

Robin Cutts, *Aberdeen University GC*

WE WOULD LIKE YOUR HELP

We would be grateful if readers would contribute their knowledge and experience on the management of winch launching cable (solid and flexible-stranded), including such matters as the use of swivels, laying-on procedures etc. There is a desperate shortage of such information and if we could pool your ideas it promises to make a valuable article.

Please send your articles/comments/notes (all forms will be welcome) to the editor.

HOLIDAY ESCAPE

If you are on holiday in Cyprus and can escape for some gliding, you will get a welcome from the Crusaders GC at Kingsfield Airstrip, Dhekelia, eight miles east of Larnaca.

They fly at weekends and Wednesday afternoons and have five aircraft, a K-13, Blanik, T-21, Swallow and Pilatus B-4 with the promise of a Motor Falke soon. A winch launch costs about £1.00. A Cessna 172 tug puts in an appearance for aerotowing approximately one weekend every couple of months.

Socially, the club offers a clubhouse with bar and a very friendly atmosphere. During the summer barbecues are a way of life. Visitors are always most welcome.

For further details tel Larnaca (041) 53000, Ex 244/216 or write to P. Jackson, 12SU, BFPO 53.

OBITUARY

Norman H. Sharpe OBE

With the death of Norman Sharpe on July 28 we have lost one of the great pioneers of the sport. Norman was a bachelor who, with his younger brothers Billy and Donald, made a significant contribution to the development of soaring in Yorkshire. Donald survives him.

Impressed by the soaring flights by Carli Magersuppe and Robert Kronfeld at Beamsley Beacon near Ilkley in 1930, the Bradford GC was formed with Norman as chairman. He persuaded the Bradford Newspaper Co, publishers of the *Telegraph and Argus,* to put up the money for a glider as an advertisement. The aircraft, a Dixon Primary, was constructed by a local boatbuilder from drawings published in *Flight* magazine and used when the club started operations at Apperley Bridge.

When the Yorkshire GC became a limited company in 1935 Norman was one of the founder directors and with Phillip Wills and Fred Slingsby negotiated the lease of the Roulston Scar site in 1933 from the Church Commissions which is now the home of the Yorkshire GC.

As CFI since the club's inception, Norman flew the first circuit from a winch launch at Sutton Bank in October 1934. He realised the advantages of winch launching for ridge soaring and training circuits. He also saw the advantages of aerotowing and the club was the first to offer this choice. He was one of Slingsby Sailplanes' first customers acquiring a Professor, later a Kite and then a Gull 1.

He remained as chairman and a director until 1958 and was the epitome of good sense and good judgment. His advice was always sought and valued. It was his generosity after the war which kept the club in being. With his brothers he gave us the T-21A prototype and later the donation which paid for the 44 acres of the airfield. He was equally as successful in his business career being chairman and managing director of W. N. Sharpe Ltd, printers of Bradford.

A kind and just man, Norman was an example of the capable, highly intelligent, determined, disciplined person that the family businesses of Yorkshire produce. He was a fine leader, being awarded the OBE for his services to industry. It was a privilege to have known him.

CHRIS RIDDELL

GLIDING CERTIFICATES

Rarely does a pilot's Silver Badge have a lower serial number than his subsequent Gold Badge, but Graham Pratt of East Sussex GC, having 26 years-ago gained Silver No. 933 in the days when the number was individually engraved on the back of the lapel badge, has now completed his Gold Badge, No. 1162.

Few pilots would contemplate taking off on a duration attempt at half past five in the afternoon, but on July 14 David Dash released from an aerotow at Aboyne at 1734hrs to land 5hrs later, less than 1½hrs before midnight! High latitude does have its compensations in high summer.

Further west, at Feshiebridge, William Longstaff simultaneously achieved Silver distance, Silver height and Gold height in a Swallow, completing his duration a few days later in the same ageing Swallow.

Scotland has been particularly prominent in badge claims this year. Of a total of 57 Gold height and distance legs in Britain up to the end of July, nearly half originated from Scotland, and whereas wave soaring to Gold and Diamond height is traditionally confined to the spring and autumn, several such height gains have been achieved this summer.

Gordon Camp, *FAI certificate officer.*

ALL THREE DIAMONDS

No.	Name	Club	1986
206	C. G. Corbett	Essex	16.5
207	A. J. Hogg	Bicester	3.7
208	B. D. Scougall	SGU	8.7
209	J. G. Bell	Surrey & Hants	16.5
210	M. F. Cuming	Booker	16.5
211	G. E. McAndrew	Booker	16.5
212	D. Hilton	Booker	16.5

DIAMOND DISTANCE

No.	Name	Club	1986
1/321	D. Edwards	Booker	16.5
1/322	C. G. Corbett	Essex	16.5
1/323	R. D. Payne	Bristol & Glos	18.6
1/324	A. J. Hogg	Bicester	3.7
1/325	F. J. Davies	Coventry	3.7
1/326	E. W. Richards	Bicester	3.7
1/327	B. D. Scougall	SGU	8.7
1/328	J. G. Bell	Surrey & Hants	16.5
1/329	M. F. Cuming	Booker	16.5
1/330	G. E. McAndrew	Booker	16.5
1/331	D. Hilton	Booker	16.5

DIAMOND GOAL

No.	Name	Club	1986
2/1476	D. J. Gordon	Fenland	16.5
2/1477	Jill Walker	Surrey & Hants	16.5
2/1478	P. W. Butcher	Essex	16.5
2/1479	M. O. Breen	Booker	16.5
2/1480	M. J. Haynes	London	18.6
2/1481	G. N. Gilkes	Lasham	18.6
2/1482	P. J. Disdale	Lasham	18.6
2/1483	E. W. Richards	Bicester	18.6
2/1484	A. J. Baldwin	Booker	18.6
2/1485	D. P. Aknai	Bicester	3.7
2/1486	R. C. Willis-Fleming	Bicester	3.7
2/1487	G. R. Brown	Booker	3.7
2/1488	J. A. Stephen	Deeside	20.7

DIAMOND HEIGHT

No.	Name	Club	1986
3/725	C. Wilby	Derby & Lancs.	18.5
3/726	G. F. Brindle	Clevelands	26.5
3/727	P. D. Craven	Lakes (in USA)	10.5
3/728	R. G. Cutts	Deeside	16.7

GOLD BADGE

No.	Name	Club	1986
1151	R. J. Baker	Cambridge Univ.	15.12.85
1152	P. W. Butcher	Essex	16.5
1153	P. D. Craven	Lakes (in USA)	8.5
1154	M. J. Haynes	London	18.6
1155	G. N. Gilkes	Lasham	18.6
1156	A. J. Baldwin	Booker	18.6
1157	R. C. Willis-Fleming	Bicester	3.7
1158	G. G. Dale	Dorset	26.5
1159	G. R. Brown	Booker	3.7
1160	J. A. Stephen	Deeside	20.7

GOLD HEIGHT

Name	Club	1986
J. W. Stemerdink	Deeside	1.5
R. J. Baker	Cambridge Univ.	15.12.85
D. A. Rankin	Bicester	9.4
P. Holland	Yorkshire	18.5
B. J. Taylor	Ouse	18.5
A. D. Evans	London	26.5
R. D. G. Hill	Cleveland	18.5
M. P. Ellis	Burn	18.5
B. Shaw	Yorkshire	19.5
G. G. Dale	Dorset	26.5
G. H. Earle	Deeside	14.7
W. R. J. Longstaff	Cairngorm	20.7
R. G. Cutts	Deeside	16.7

GOLD DISTANCE

Name	Club	1986
D. J. Gordon	Fenland	16.5
Jill Walker	Surrey & Hants	16.5
P. W. Butcher	Essex	16.5
P. D. Craven	Lakes (in USA)	8.5
C. R. I. Emson	Oxford	16.5
M. J. Haynes	London	18.6
G. N. Gilkes	Lasham	18.6
P. J. Disdale	Lasham	18.6
E. W. Richards	Bicester	18.6
A. J. Baldwin	Booker	18.6
D. P. Aknai	Bicester	3.7
R. C. Willis-Fleming	Bicester	3.7
G. R. Brown	Booker	3.7
J. A. Stephen	Deeside	20.7

SILVER BADGE

No.	Name	Club	1986
7177	P. B. Walker	Bristol & Glos	16.5
7178	T. J. Milner	Wolds	16.5
7179	T. Copp	Yorkshire	16.5
7180	A. J. Chappell	Staffordshire	16.5
7181	J. P. W. Towill	Imperial College	16.5
7182	J. B. Taylor	Midland	16.5
7183	C. Constantinou	Crusaders	16.5
7184	J. G. Jury	Fenland	16.5
7185	R. C. S. Edmonds	Pegasus	16.5
7186	D. M. Edwards	Two Rivers	19.5
7187	M. R. Brooks	Blackpool & Fylde	19.5
7188	M. J. Philpott	Booker	19.5
7189	P. A. Gelsthorpe	Bristol & Glos	23.5
7190	B. Lomas	Blackpool & Fylde	23.5
7191	A. Robinson	Two Rivers	25.5
7192	B. A. Delmer	Four Counties	26.5
7193	S. K. Buckner	Bicester	28.5
7194	Julie Hunt	Fenland	28.5
7195	Alayne Bradbrook	(in Australia)	3.1
7196	D. W. Gauntlett	Fulmar	19.4
7197	J. A. Gee	Phoenix	31.5
7198	P. J. Joslin	Essex & Suffolk	26.8.85
7199	Anne Bolstad	SGU	3.6
7200	J. J. Baker	Essex	4.6
7201	D. S. Hawes	Lasham	16.5
7202	M. Morton	Fenland	13.4
7203	J. C. Gibson	Blackpool & Fylde	19.5
7204	W. R. Mills	S. Wales	4.6
7205	B. M. Littler	Southdown	4.6
7206	W. E. J. Pottinger	Essex	4.6
7207	G. D. Rivers	Newark & Notts	5.6
7208	D. A. Woods	Blackpool & Fylde	8.6
7209	S. C. Moss	Bristol & Glos	11.6
7210	T. Miller	Brackley	19.6
7211	A. Bailey	Avon Soaring	12.6
7212	Susan Hutchings	Cranwell	14.6
7213	Sharon Morgan	Four Counties	14.6
7214	C. Dewhurst	Deeside	15.6
7215	R. McGough	N. Wales	16.5
7216	R. Skingley	Bicester	16.5
7217	R. J. Jeal	Southdown	18.6
7218	S. O. Young	Cotswold	18.6
7219	Patricia Payne	Bannerdown	18.6
7220	J. A. Luck	Cranfield	18.6
7221	T. R. Dews	Bath & Wilts	19.6
7222	T. J. Wiltshire	Hambletons	8.6
7223	T. Cust	Burn	24.6
7224	T. Gatt	Pegasus	28.6
7225	C. A. I. Hickling	Booker	3.7
7226	D. J. C. Wheeler	Humber	3.7
7227	H. J. Guyton	Lasham	3.7
7228	G. C. Bishop	Bristol & Glos	3.7
7229	M. J. Dicken	Bannerdown	1.7
7230	A. R. Bushnell	Welland	6.7
7231	R. M. Hitchin	Bath & Wilts	6.7
7232	T. G. Hum	Black Mountains	26.5
7233	J. Crawford	Bicester	26.5
7234	R. G. Buick	Lasham	18.6
7235	D. Holt	Pegasus	29.6
7236	P. R. Woodruffe	Bicester	1.7
7237	T. M. B. Guy	Midland	3.7
7238	A. D. Evans	London	3.7
7239	M. S. A. Skinner	Marchington	12.6
7240	M. J. Driver	Surrey Hills	18.6
7241	D. R. Hurley	London	18.6
7242	P. E. Farrelly	Wyvern	24.6
7243	Helen Quirke	Cranwell	1.7
7244	J. M. Salt	Channel	4.6
7245	B. J. Taylor	Ouse	3.7
7246	P. S. Smart	Phoenix	26.4
7247	C. R. May	Shalbourne	26.4
7248	R. G. Cutts	Deeside	14.7
7249	I. R. Robinson	London	9.7
7250	A. M. Barham	636 GS	9.7
7251	A. W. Webb	621 GS	11.7
7252	B. S. Chadwick	Welland	15.7
7253	I. C. White	Southdown	17.7
7254	K. Scott	Welland	17.7
7255	A. J. Oultram	635 GS	18.7
7256	D. A. Stewart	Deeside	20.7
7257	Patricia Marlow	Deeside	20.7
7258	R. A. Cheetham	Buckminster	24.7
7259	F. P. Wilson	Hambletons	20.7
7260	I. D. McLeod	Kent	22.7
7261	W. R. J. Longstaff	Cairngorm	26.7
7262	M. R. Fisher	Devon & Somerset	27.7

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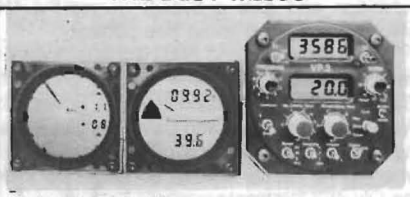
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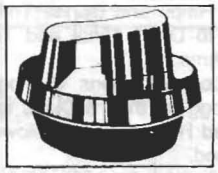
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EVENINGS

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, telephone 0223 247725, to arrive not later than October 7 and for the February–March issue to arrive not later than December 2.

GILLIAN BRYCE-SMITH
August 13

AQUILA (Hinton-in-the-Hedges Airfield)

After a brief skirmish we have learned to live with the Upper Heyford MRA mid-week. But it doesn't affect us at weekends so visitors are more than welcome.

We have the whole fleet back on line, sparkling in new paint schemes. Our at home encouraged Oxford GC to visit us for good companionship if poor soaring.

Good luck to our ex CFI, Roy Dalling, who goes to the Long Mynd as manager. Our loss is their gain!

J.R.

BATH & WILTS (Keevil Airfield)

We are moving into the fashion world – or some of our gliders are. Organisers of a large annual fête are planning a fashion show and their posters and press photographs have two club gliders in the background. We will also have a static exhibition and give a flypast during the fête, which should bring some free publicity.

Tim Dews (Pirat) and Bob Hitchen (Skylark 4) have completed their Silver Cs and Bob came 2nd in his first competition at Aston Down. Ron Weaver has resoloed and Dave Morgan is making rapid progress since going solo, finds lift where none seems to exist and has now joined the Oly 463 syndicate.

We have another *ab-initio* course spread over four weekends starting at the end of September with Jim Gardiner and Phil Gascoigne as instructors.

T.K.

BICESTER (RAFGSA Centre)

We are happy to report that Jackie Hymers is well on the way to recovery.

There were few spectacular flights in June apart from Bronze and Silver legs. Well done all new solo pilots including Ruth Brown, Nick Wilson, Peter and John Ralph and Donna Tutor. Congratulations also to Dave Aknai and Ted Richards on their 300kms.

July was better. Congratulations to Roger Couch and Paddy Hogg on their 500kms and well done again to Ted Richards who followed Roger and Paddy round.

The first flight on our longest day, June 28, was at 0410hrs and the last at 2200hrs, both by Roger Crouch in the T-21. We achieved 294 launches.

Congratulations to Ken Hartley and Jed Edyvean on coming 3rd and 5th respectively in the Open Class Nationals.

C. & G.

BLACK MOUNTAINS (Talgarth)

June and July have been dry with consistent but light westerlies, giving excellent conditions for the holiday courses. Wave heights have been modest with the best for June being 10100ft and 7000ft for July.

Congratulations to Tim Hurn for his Silver C gained in the Swallow, also to CFI John Bally for a promising start with the British team at Mengen. (See European Championships' report in this issue.)

W.D.M.

BOOKER (Wycombe Air Park)

Not wishing to be too bashful (we feel we may have become unduly modest recently) it is time to report that May 16 provided a good start to the season with 13 500kms and one 600km being flown.

Since then Booker pilots have gone on to do tolerably well in the 15 Metre Nationals and are now looking forward to a season of record breaking flights in the new Janus CM (if the engine starts!).

The Booker Regionals went well with Peter Bayliss (the Met) and Brian Spreckley (the director) conspiring to litter the home counties with up to 55 gliders on seven contest days.

M.F.C.

BORDERS (Milfield)

Obituary – David Harvey

The death on June 4 of David Harvey resulting from a gliding accident was a very great shock to everyone. (See the last issue, p182.) He joined us last October and was one of that group behind the strength and smooth operation of every club. He was an enthusiast.

He had the willingness and technical ability to help anyone with electronic and instrument problems, in fact almost any problem, and willingly gave help with the more mundane, physical work.

David made rapid progress at Milfield and I'm certain would have gone a long way in both our club and our sport.

We extend our deepest sympathy to his widow Elaine and daughter Antonia in their tragic loss.

Alan Unwin

BRISTOL & GLOUCESTERSHIRE (Nympsfield)

The 15 Metre Nationals we hosted was a success (see report in this issue) and our club improvements helped make catering easier.

The season started well but never lived up to expectations, though pilots have notched up 500kms, many 300 and 400kms and a host of smaller tasks. A flock of new members, including Andy Davis (Discus) and his father Bill (Ventus), and syndicates have swelled our ranks and visitors have enjoyed ridge and thermal flying. The courses have gone well with a smart fleet. Claude Armes is the new administration manager and we wish him well.

Faces from the past came to our special party to celebrate 30 years of flying at Nympsfield.

N.W.

Club News contributors: Please make a note of the February–March deadline of December 2. The early date is because of Christmas and we regret late contributions can't be accepted. ED.

BUCKMINSTER (Saltby Airfield)

It has sometimes been difficult to raise a team for the Inter-Club League but this should improve next season. Russell Cheetham and Guy Campion have completed their Silver Cs, Doug Upson missing his by 2km. Within our two student groups, Matt Fellowes from Trent Polytechnic has soloed their K-7 and Helen Clay has soloed Nottingham University's Blanik, the first to do so.

The first club flying week was successful and well supported but more miles were covered on the treasure hunt than were flown cross-country! We are hoping for better weather for the next one.

R.N.C.

CHANNEL (Waldershare Park, Nr Dover)

We are very proud of our spanking new Grob 109B and our new Bergfalke which is giving a lot of fun.

Congratulations to Dave Jones on his Bronze C and to Karen Edwards, David Abson and Ken McCulloch on going solo. Jim and Karen Edwards are getting married on August 23 at 10.20am and then coming straight to the club for a day's gliding. Congratulations both of you.

L.S.

CHILTERNS (RAF Halton)

The Romorantin expedition was an enormous success with all pilots achieving 300kms and five completing 300km goal flights. The total of almost 200hrs and 4000km from 60 launches speaks for itself. The French made the expedition a hugely enjoyable experience and the organisation, accommodation, co-operation and just plain friendliness were first class. Our thanks to Jerry, Les and Terry who organised the expedition and to Mick Lee and Co from Cranwell who loaned us their Janus.

On the home front, Mick Willshore has Silver height, Ralph Seddon his Bronze C and Julianne Amos went solo. The longest day barbecue was enjoyed with excellent food – thanks Marion and Val.

T.L.S.

COVENTRY (Husbands Bosworth)

Congratulations to Frank Davis on completing his 500km on a so-so day; Helen Wright, Terry Hurley and Derek Westwood for their Silver distance and Dave Booth for his Gold height at Sutton Bank. Our holiday and evening courses have produced a crop of solo pilots too numerous to mention – the one who caused raised eyebrows by soloing after one day turned out to be a 757 pilot.

The Inter-Club League at Essex was notable mainly for the performance of our pundit. We welcome back Jack Naggington after a long absence and wish Di Spalding a speedy recovery after her recent accident.

A.W.S.N.

CRANWELL (RAFGSA)

We have had some reasonable soaring and congragulate Helen Quirke and Sue Hutchings on completing their Silver Cs, Graham Pitchfork for Silver height and 50km, Dave Montgomery on his 5hrs and Silver height and Liam McErlean on Silver height. Bronze legs were also gained by other members.

Our motor glider is on line again and being used on field landing training and cross-country navigation.

We welcome Derek Murray and P. Retzer and welcome back Neil Rushen who brings a K-2 with him which will be very useful.

S.J.H.

CRUSADERS (Cyprus)

Congratulations to Jane Sherriff and Philip Jones on their Bronze Cs and to Costas on his successful instructors' course at Bicester where he completed his Silver C.

We have obtained a Motor Falke which should be airworthy by the end of the year and are hoping to add a K-7 or similar glider to our club fleet.

We said a fond farewell to Steve (Bam Bam) Tipper who, on posting back to the UK, is to join Four Counties.

P.M.J.

DARTMOOR (Brentor)

We are enjoying a fairly successful season after surviving a serious crisis when Ivor Phillips, CFI, was ill, but thankfully he has now returned. Tim Parsons, from Devon & Somerset GC, kindly took over as CFI in his absence.

Unfortunately Stan Fouracre, our faithful Sunday man, is going to work abroad. His departure was marked with a barbecue.

Thanks to a group of instructors our flying is reaching a much higher standard and the launch rate has doubled with long soaring flights more frequent. Both runways are in use and the hangar plans are waiting final approval. The Royal School for the Deaf paid us their annual visit and our youngest pilot, Steve Bolt, soloed on his 16th birthday.

F.G.M.

DEESIDE (Aboyne Airfield)

Despite the unremarkable mid-summer weather the club statistics show that nearly all of July was soarable. Nearly a dozen Gold heights, several durations, Silver distances and goal Diamonds were claimed. Some of the durations were from flights taking off after 5pm and distances from take-off after 7pm! Other pilots went to 25000ft in excellent summer wave or ridge soared low over deer browsing in heather glowing purple and brown in evening sunlight.

The Inter-University task week teams reaped the rewards of the long journey north. (See BGA news.)

L.E.N.T.

EAST SUSSEX (Ringmer)

Ron Speer is our new CFI following the appointment of Fred Bishop to regional examiner by the BGA. Ron King takes over from Ron as ground engineer.

Our open day in June was a terrific success, organised by the social committee under the guidance of Christine Vanderberge and Joyce Head who ran the raffle and catering.

Graham Pratt has Gold distance and Mike Pierepoint completed his Silver C with a distance flight.

The clubhouse is now almost complete thanks to all the helpers. The evening flying courses have been well supported and we have had a successful membership drive. The owners of the T-21 have loaned it to the club and it is proving very popular.

Kent GC joined us to promote gliding at an Outdoor Pursuits weekend at Bewl Bridge reservoir, half way between the two clubs, which gave us the chance to talk to the general public.

J.S.

ESSEX (North Weald)

Ariane Deardon and Tim Hurst have claimed Silver distances. The Inter-Club League meeting gave one competition day won by Essex, putting us into the final at Parham.

Mike Jefferyes and John Fricker (Silène) are claiming the UK multi-seater 100km goal record with a flight from North Weald to Tibenham in excess of 100km/h.

Despite the mixed weather for our summer course, John Williamson got us airborne every day and on August 5 John led a gaggle to Hadleigh and back and only one national coach landed out! Our thanks to John for a successful course.

P.W.B.

ESSEX & SUFFOLK (Hadleigh)

Congratulations to Peter Hart, Mike Farr, John Bedford and John Amer (on going solo), to Peter Codd (Bronze C and 5hrs) and Steve Hornung (Silver distance).

During our May task week a cross-country course run by Steele Haughton was very successful despite poor soaring conditions. Our thanks to outgoing chief tug pilot Richard Harris for his fantastic work during the last 5yrs. Jonathan Abbess takes over with Steele Haughton as safety officer.

A social highlight was Pete Wilby's 50th birthday party complete with strippergram.

V.H.

HAMBLETONS (RAF Dishforth)

We have had a surprising amount of wave recently, some of it starting low enough to give spectacular trial instruction flights. The thermals have not been so good but Tim Willshire (Swallow) managed a creditable Silver distance.

Our longest serving Blanik, 598, celebrated its 21st birthday by sharing a small party with the Clevelands' Swallow. We have now established a Friday "Adults only" evening of spot landing competitions etc, only gliders of mature years being allowed to take part.

J.P.

HUMBER (RAF Scampton)

On April 26 Deanna Rooke gained a Bronze leg and Sue Gildea completed her Silver C with a 50km flight to Saltby. Other achievements include Elaine Petherick going solo.

T.J.

IMPERIAL COLLEGE (Lasham Airfield)

Many of our members went to Aosta in the Italian Alps during July to sample mountain flying and enjoyed some fine soaring. Martin Judkins gained Diamond height with 22000ft over Mont Blanc in our ASW-19 and Jo Rise got his Gold height with 16000ft.

Edmund Field, Tony Shaw, Mike Carling and Wendy Jolly have gone solo and Dave Greenhill and John Towill have completed their Silver Cs.



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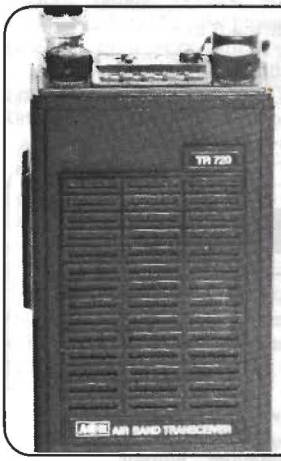
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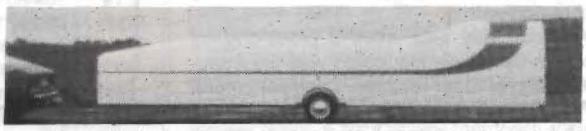
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John Towill is the new captain and Peter Plackowski, the vice-captain.

P.T.H.

INKPEN (Thruxton Airfield)

Thanks to a barn dance organised by Sheila and Ray Goodwin the tug engine fund is £200 better off.

It has been a quiet year, good weather and members rarely coinciding. Bill Murray has taken his Mosquito to the Regionals and seems to be our only competition minded member at the moment.

I.D.

KENT (Challock)

We hope to incorporate Glide Aid into our task week thereby raising money by sponsorship for kilometres flown.

We were well represented at Competition Enterprise and congratulations to Tony and Mike Moulang and their K-13 team for coming 1st in the Wooden Class.



Yuka Sato, who went solo on her 16th birthday, is photographed with her instructor, Peter Poole.

Congratulations to Richard Gardner and Yuka Sato on going solo, Yuka on her 16th birthday; to Jim Coughlan and Steve Perry on their Bronze Cs; to Jim Lambert and John Pain on their 5hrs; Steve Noad on Silver distance and Ian MacLeod on Silver distance and duration.

J.G.

LAKES (Walney Airfield)



Graham Sturgeon after his 16th birthday solo.



Many hands make light work rigging the Bocian at North Wales GC.

David Hannah and Graham Sturgeon have gone solo, Graham, who is doing a good job as one of Peter Lewis's helpers on the courses, just after his 16th birthday.

Flying has been restricted by the weather although Keith Butterfield found some nice wave soaring. Our best wishes to Chris Dobson as he recovers from illness.

M.S.

LONDON (Dunstable)

Bitter controversy ranges following an application to bring a DG-400 self-launching sailplane on site. The proponents claim it is progress; the antagonists say it is cheating. The battle goes on.

The Munster van Gelder launch apparatus is now hurling us vertically into the troposphere on a regular basis and, contrary to speculation, does not seem to make the blood drain from the feet. It has proved immensely successful on our trial instruction evenings and JJ is to be much applauded on his vision.

A.T.G.

MARCHINGTON (Marchington Airfield)

Our task week in June was marred by poor visibility. Tasks were set for three of the five days but only the O/R to HusBos was completed.

At our Inter-Club League weekend in July we had visitors from Camphill and Winthorpe with overall success going to the Marchington team.

Congratulations to Mike Skinner on completing his Silver C and to Chas Turner for his 5hrs.

P.A.W.

MIDLAND (Long Mynd)

Plans are being finalised for a new shower block. Our thanks to Phil King for task setting during an indifferent task week weather-wise.

Simon Adlard flew to Bidford to complete his Silver C and returned the next day, just to make sure.

We all wish Paul Garnham a speedy return to the flying field after his accident.

N.B.

NORFOLK (Tibenham Airfield)

Mike Bean has worked out a hangar packing plan, drawing it out on a big piece of hardboard for all to see and marking off the hangar floor. Time well spent; it makes life much easier.

Congratulations to Roger Abrahams, D. Wright, John Spinks, Mike Rushbrook, Owen Edwards and Jon Ashworth on going solo, Jon on his 16th birthday – a few weeks later he gained two Bronze legs.

Brendan Sargent recently did a Diamond goal O/R flight to Aylesbury/Thame airfield.

M.J.R.L.

NORTH WALES (Pen-y-Parc, Nr Holywell)

Despite the poor summer we have had several achievements – Dave Jones and Geoff Belshaw have their Bronze C and Don Hyslop, Mark Roberts and Geoff Glazebrook have soloed.

Our Christmas dinner-dance is on December 5 to which friends old and new are welcome.

D.J.

NORTHUMBRIA (Currock Hill)

Most of us took advantage of the BGA Falke during its stay with us. It was particularly useful in the field selection part of the Bronze C course run by our CFI. Steve Eyles was awarded a bottle of champagne for winning the best circuit and spot landing competition.

Our summer barn dance was excellent. Alan Cowell made two Bronze C flights at Wolds GC, Tracy Harris has soloed and Steve Eyles and Susan Hall have their Bronze Cs.

S.M.H.

OUSE (Rufforth Airfield)

Justin Wills's UK record flight across the Channel (see the last issue, p162) was the first time a record had been set from our site and we are pleased it was during our Silver Jubilee year.

Our pilots did well in the Northern Regionals again and we were represented at the International Vintage Rally and at our twin club, the Aero-Club de la Cote D'Or, at Dijon.

Geoff Cline has retired as tug master and aircraft engineer and Kate Tate as course secretary – our thanks to them for their hard work.

R.T.

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The Rt. Hon. Douglas Hurd receives grant cheques for the new hangar from Mike Halpin of the Sports Council in the centre and Brent Presdidge of the Cherwell District Council on the right.

OXFORD (Weston-on-the-Green)

We had a successful grand hangar opening, despite the adverse weather. The official ceremony was by our president, the Rt Hon Douglas Hurd, and followed by a barbecue and dance in the hangar. Our thanks to the organisers.

The popular Friday trial instruction evenings have brought new members. We have had a good number of first solos, several Bronze Cs and our two most recent Silver distance pilots are Barry Shepheard and Carole Broad.

C.S.O.

PEGASUS (RAF Gütersloh)

Our new K-13 makes a useful contribution to our training efforts and Alan Harris and Robin Willis-Fleming have bought a rather fine SF-27.

Congratulations to Tim Gatt, Dave Holt and Darren Wheeler on completing their Silver Cs; to Paul Gray and Emyr Owen on Silver heights and to Richard Clarkson and Paul Gunnell who have gone solo, the latter after two trips but being a Harrier pilot helps!

R.C.S.E.

PETERBOROUGH & SPALDING (Crowland Airfield)

Congratulations to Mick Wright on going solo. The Inter-Club League meeting was the third consecutive non-competitive Crowland weekend. The barbecue on the Saturday raised the spirits but if anyone finds the spare prop for the tug (for instance above a bar), we'd love to have it back.

P.N.W.

PHOENIX (RAF Brüggen)

The season is doing us proud with well over 8000km flown since April. Congratulations to Chris Heames (ASW-20) for his success in the Dutch Inter-Services and to "Woody" Woodcock (K-6CR), Kev Crawley (K-18) and Dave Pratt (Astir CS) in the Venlo Junior Comps.

Well done Martine Marinus (Bronze legs and Silver height), Mark Gradley (Silver distance), Tom Kelsall (Silver height), Paul Mason (Silver C), Gail Lindop (on going solo) and Lindi Marson (on passing her instructors' course).

P.M.

SCOTTISH GLIDING UNION (Portmoak)

Stan Milne is our new chairman and John Henry has become CFI. The hernia-provoking hangar doors have been replaced with smart roller shutters.

After a long spell of cold easterlies, we have had some good flying days. July 8 was one of the best with thermals giving access to wave up to 22000ft which allowed three 500km+ flights including only the second Diamond distance in Scotland by Brian Scougall.

Joe Giacopazzi, Ian Graham, Bob Mowat and John Whitfield have gone solo. Peter Richardson has his Bronze C and numerous Silver legs have been claimed with Paul Copland completing his Silver C within a year of his 16th birthday. Anna Bolstad completed her Silver C just in time as she has now finished her studies and returned home to Norway. Mike Richardson flew Silver distance with a ticking but non-rotating barograph – on April 1!

We are expecting a mammoth invasion in October and wish our visitors good weather and good flying.

M.J.R.

SHALBOURNE (Rivar Hill, Nr Hungerford)

Dawn to dusk flying was advertised for the longest day and drew a big crowd on June 21. We achieved 121 launches, the first by the chairman at 0500hrs, with our twin drum winch at peak efficiency.

We maintained our usual strong support of Competition Enterprise with five aircraft entered.

Our thanks to the small team of exhausted stalwarts who have run the evening flying programme, including Stan Oram and Alan Pettit who are to be congratulated on going solo.

R.S.

SOUTHDOWN (Parham Airfield)

We are busy preparing for the Inter-Club League finals we are hosting during the Bank Holiday weekend. Our thanks to Dave Connaway and crew for their untiring efforts at grass cutting.

Congratulations to Ian Ashdown for 3rd place in the Booker Regionals and Mark Darby for 3rd place in Competition Enterprise; also to Andy White and Peter Horn (going solo;) Dave Firman (Bronze C); Mike Creagh (Silver height) and to Richard Beecham, Nick Barrie, Stan Filmer, Bernie Litter, Paul Hampshire and Ian White (Silver distances), Paul and Ian completing their Silver Cs. Ian, at 16 years 256 days, could well be the youngest Silver C pilot in the country!

M.C.

STAFFORDSHIRE (Morridge)

The club has been saddened by the death of Doc Bradwell.

Two of our younger members, Paul McDonnell and Martin Whalley have gone solo. In addition to the three one week courses run this year, several instructors have run one-day mid-week courses for which we thank them. The new K-13 is earning its keep.

M.P.W.

Obituary – P. R. "Doc" Bradwell

Doc became involved with gliding in the 1950s as a member of Derby & Lancs and later the Midland GC. For some years he was an instructor with the ATC Squadron operating from Meir airfield and in 1962 became a founder member of the Staffordshire GC which, subsequently, flew from the same site.

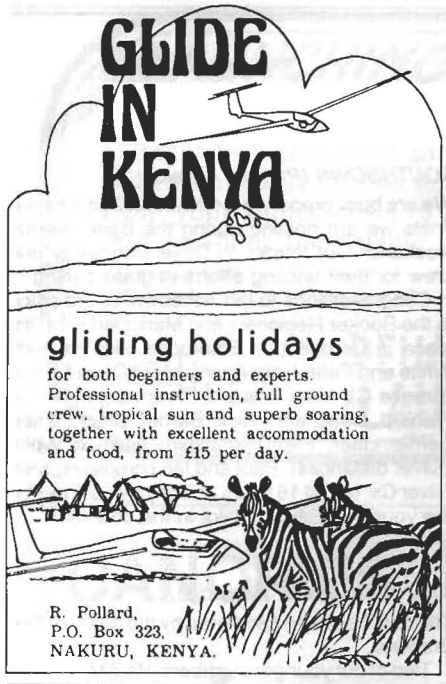
Doc's enthusiasm for the sport was solid and freely applied to all aspects of club operations as he served at various times as committee member, instructor, CFI, chairman and trustee. As CFI between 1964 and 1975, he helped the club survive the trauma of moving to Morridge. His financial support had also helped to make this move possible as it had helped us improve the fleet progressively over the years. In 1974 he was awarded a BGA diploma for services to gliding.

In recent years arthritis restricted Doc's gliding though he continued to keep in touch with the help of a safety pilot. His death on July 27 at the age of 68, after a long illness, is a sad loss which serves to remind us of the debt the movement

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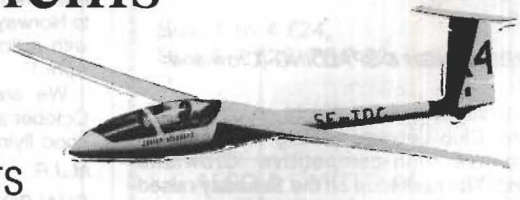
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STRATFORD-ON-AVON (Long Marston Airfield)

Our busy programme of trial instruction evenings is going well despite the fickle weather. The summer courses were well attended and produced a healthy crop of new members as well as some excellent soaring.

The Boys Brigade want to establish a gliding training scheme and we are finalising an experimental programme for them to fly with us this autumn.

Joe Kaval has acquired a Nimbus 2 and our congratulations to Ann Hopkins on going solo.

C.M.

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Reg Brown, Strubby GC's oldest flying member at 68 years-old, in his Oly 463.

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Our Bocian is back and giving service to the pleasing crop of *ab-initios*. Our new runway extension gives an extra 400/500ft on each launch and increases soaring opportunities. Many thanks to Geoff Traves for his hard work.

Congratulations to Phil Trevethick on gaining his Bronze C.

P.J.T.

SURREY & HANTS (Lasham Airfield)

The weather has been disappointing so far with a brief good spell in April and a few odd good days with the general utilisation of the club fleet well down.

On May 16 John Bell flew an excessive 577km for Diamond distance (with aspirations towards a 750km), while Chris Garton flew up to Middleborough but failed to complete the return, landing after 9hrs and 660km. Jill Walker gained her Diamond goal.

June's good day was the 18th with 500kms by Hugh Hilditch, Alan Purnell and Dave Nunn and Diamond goals for Graham Gilkes (4hrs 17min in a Std Cirrus), P. A. Green and ex CFI, Pete Disdale.

Martin Grant and Chris Starkey took the club DG-101 to Sisteron in the French Alps for two weeks in June and enjoyed over 60hrs of superb flying with just one day written off to thunderstorms.

John Bastin flew the Ventus creditably in his first Nationals and Ray Partridge enjoyed his first taste of competitive flying at Enterprise.

C.G.S.

ULSTER (Bellarena)

Congratulations to Victor Bothwell and John O'Brien on going solo. Our new field is even more sandy than the last one and however heavy the rain it drains very quickly – a big plus for a 12 month operation. Also the east end tow out has safer emergency field landing areas.

Loudon Blair, co-builder of the Monerai, went solo for the first time in the V tailed beauty on August 8.

B.B.

VECTIS (Isle of Wight Airport, Sandown)

Congratulations to Peter Tuppen on his Bronze C. Flying has been good and though being a coastal site may have drawbacks, cliff soaring makes up for them.

Our barbecue, organised by John and Jenny Pragnell, was a great success. As a public relations exercise we will be at the local Garlic Festival which has proved to be a great platform for making the public aware of our sport. We can still accept some new members, including *ab-initios*.

A.H.B.

WELLAND (Middleton)

Our recent flying week was a great success with good weather throughout. Congratulations to Barry Chadwick on the first 100km triangle from Middleton, a flight of 7hrs 22min to complete his Silver C; also to Alan Bushnell and Keith Scott on their Silver Cs; Wallace Wilson on a Bronze leg and Dick Backler, Heydon McEvaddy and Dave Strachan on two and Trish Walkling on going solo.

R.H.S. & K.S.

WREKIN (RAF Cosford)

Our longest day was a great success with over 200 launches and only two cable breaks. Al Marshall is claiming a marathon winch driving record having spent 18½hrs winching that day. The barbecue was very enjoyable with food by Geof and Helen.

When the Bicester Grob 109 came for the day many members took the opportunity to have field landing checks.

A big thank you to Ben of Four Counties for letting us fly at Syerston while our airfield was used for the World Aerobatic Comps. It was a very productive weekend.

Congratulations to Nigel, Barney, Marcus and Max on going solo; to John Arnold, Pete Evans and Jon Phillips on their Bronze Cs and to Mick Boydon on coming 8th in the NATO Championships at Buckeburg. He flew an L-Spatz against K-6s and completed two 300km triangles.

We are celebrating our 21st birthday early next year. All ex members are welcome and should write to the secretary, Wrekin Gliding Club, RAF Cosford, West Midlands, WV7 3EX for details.

J.A.

YORKSHIRE (Sutton Bank)

Good thermals have been rare in the north this year with only two contest days at the Northern Regionals. However, there was a successful wave task and 300kms were completed by several on the second day.

We had a salutary demonstration of the hazards of handling oxygen when a member suffered severe burns due to a flash explosion whilst re-filling bottles. It is thought that grease on his clothing caused the problem after a pipe had burst under pressure. Fortunately he is recovering quite well.

The Astir and Pegasus have been seriously damaged in accidents, though luckily no one was badly hurt.

P.L.

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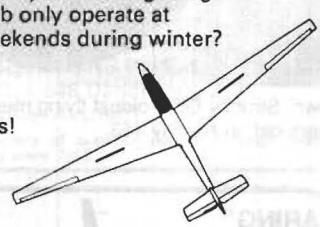
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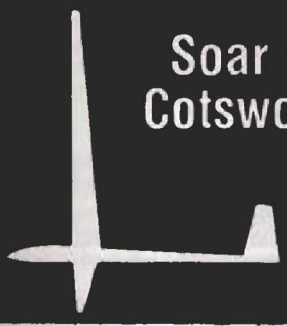
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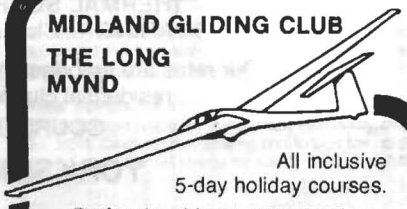
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OVERSEAS NEWS

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EXPERIMENT AT BAGNERES

A new type of competition was tried out from August 22-24 at Bagneres de Luchon in the French Pyrenees. The aim was to obtain maximum media coverage and to attract spectators. The competition took the form of a knock-out contest with pairs of pilots racing each other round a mini triangle of about 20km. The legs of the triangle were orientated so as to follow the main ridges in the area, all of which were easily accessible by vehicle or on foot. The organisers aimed for the competitors to be easily observable during most of the race.

French TV covered the event live, and the local radio station gave a running commentary. As well as leading French pilots, the event attracted many well-known foreign pilots including Mozer, Musters, Gantenbrink, Brigliadori, Reichmann and Øye.

EUROPEAN WOMEN'S CHAMPIONSHIPS

The 5th European Women's Championships will be held in 1987 in Bulgaria. The Soviet Union has applied to host the 1989 Championships.

GERMAN NATIONALS

The results of the German Open Class Nationals held in May at Aalen-Eichingen were: 1 Ernst Gernot Peter, 2995pts; 2 Bruno Gantenbrink, 2797pts; 3 Walter Neubert, 2774pts and 4 Klaus Holighaus, 2765pts. All except Neubert (ASW-22) flew Nimbus 3s.

TRANS-EUROPEAN RALLY

This year the 9th Rally, held from June 29-July 12, covered 2200km starting from Colmar in France, then to the Wasserkuppe, W. Germany, Grenoble, France, Huesca, Spain and ending in France at Angers. The remarkable performance of this great adventure was the five day win by Gerard Kurstjens (Nimbus 3). This beat last year's record time of eight days by a wide margin.

Almost equally remarkable was the 9th place gained by the Jacob's team who completed the course in a Twin Astir, a two-seater widely considered as far from ideal for cross-country flying.

Contrary to the forebodings of the Jeremiahs, the TP at the Wasserkuppe (5km from the East German border) was no problem – no one went to gaol and no glider was impounded for crossing the frontier by mistake.

The only British pilot, Julian West was unfortunately forced to withdraw after slightly damaging his Nimbus 3 in a vineyard near Montpelliere in southern France.

Provisional results (in brackets the days flown): 1. G. Kurstjens, Holland, Nimbus 3 (5); 2. J. Penaud, France, Ventus (9); 3. D. Flament, France, ASW-20F; 4. J. Kolpa, Holland, LS-3A (10); 5. R. Reubelt, W. Germany, DG-200 (10); 6. C. La Riviere, France, Nimbus 2 (10); 7. R. Hartog, W. Germany, ASW-20L (10); 8. A. Muller, W. Germany, LS-3A (11); 9. G. Jacob/Drast/Hofmann, W. Germany, Twin Astir (11); 10. J. Weiblen/Reich, W. Germany, Libelle (13); 11. G. Wisniewski, France, Libelle 304 (252km short after 13 days) and 12. G. Gianti, France, ASW-20F (300km short).

VIVE LE SPORT

A womens' committee has been formed within the French Gliding Federation with the avowed aim of increasing the proportion of women in the gliding community (less than 10% at present). The committee is campaigning for women to be better integrated in club activities and for due consideration to be given to their domestic responsibilities. A young mother of two, Micheline Jung, recently broke a French two-seater triangular distance record, and this is given as evidence of what women can achieve.

VINTAGE GLIDERS

The Association pour la Sauvegarde du Patrimoine Aeronautique en Charolais (The Charolais Association for the Preservation of the Aeronautical Heritage) hosted the 3rd French National Vintage Glider rally at Paray-le-Monial on May 3–4. The Association has restored to flying condition gliders of the following types -Castel C 25S, C 800, Fauvel AV-36 and Nord 2000.

(Translated by Max Bishop from Aviasport and Der Adler).



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(Continued from p213)

receeded in the distance and I got the hang of it a bit more.

I arrived back at Nympsfield with 3300ft on the clock and touched down at 1709, 5hrs 17min after taking off. Duration as well as distance (what no height?). I sat in the motionless glider for a few minutes, not knowing which emotion to feel first – delight at having done my set task or sorrow that the flight was over.

Ray Lemin helped me pull the glider over to the trailer where, slightly stiff and definitely weary, I stood chatting like a REAL pilot, discussing all the points of the flight I could remember.

The first bit of bad luck all day came when James returned from processing my photographs. They were a total failure, James tried for over an hour to make something of them but we discovered my camera had a faulty back plate allowing light to leak in.

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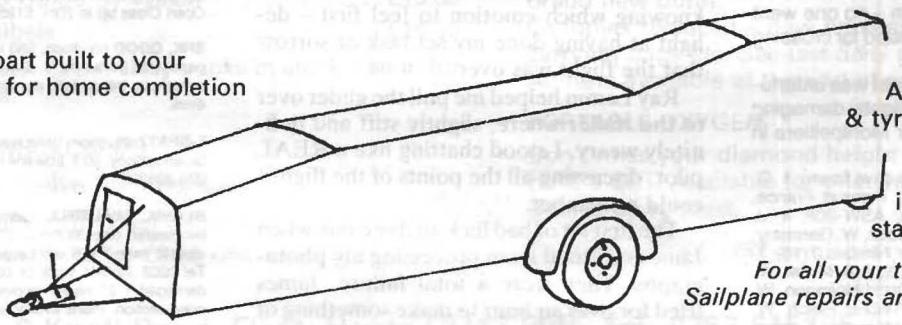
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Gliding

Weekend gliding prospects for Humberside: Situation. Old fronts will weaken in situ over Northern England as pressure builds and an anticyclone is established over the eastern North Sea.

General weather. Dry, with variable thinning of layers of cloud, but some mist or fog patches generally around dawn. Inland, mist and fog will lift and disperse by mid-morning but patches will tend to persist near the coast.

Winds. (surface and low level). Variable mainly south-westerly and remaining light.

Thermals. Very limited.

Leewaves. Slight wave only.

This information is for pre-planning. An up-to-date forecast should be obtained on the day of the flight.

There's been a warm response by glider pilots in Humberside to a new service from the *Hull Daily Mail,* believed to be unique in Britian.

The evening newspaper, which circulates widely in North Humberside and parts of the south of the county, introduced an advanced weather forecast for sailplane pilots for weekend activities during the soaring season.

It appears in the paper's highly-successful information desk column and is supplied by the Leeds Weather Centre.

The forecast appears on Fridays and gives general weather details for Saturday and Sunday with forecast wind speeds, thermal activity and the likelihood of wave etc.

Editor Michael Wood, who has flown at the Wolds GC at Pocklington, said he was pleased to respond to pilots' requests for the forecast which goes alongside those for weekend ramblers and sailors.

"The information desk is a service for all sections of our wide readership and there are a lot of glider pilots in our area who may benefit from the forecast," said Mr Wood.

Wolds GC CFI, Bob Fox, said it was the first time he'd seen such a forecast in the general Press. "I feel it indicates to the non-flying public that gliding is taken seriously by people other than those actively involved."

Derek Hilton, *Wold GC*

ADVERTISERS' INDEX

AMF Enterprises	236
Aero Marketing Associates	233
Aerospace Information Centre	IFC
Airmark Aviation	236
Anglia Sailplanes	242
Anglo-Polish Sailplanes	209
Austin Aviation	202
Black Mountains GC	243
Bristol & Glos GC	243
BGA	IBC
CAA	207
Cambridge Aero Instruments	204
Cambridge University GC	243
Campbell Distribution	231
Channel GC	242
Chiltern Sailplanes	205
Classifieds	245-247
Cornish Gliding & Flying Club	242
Cotswold GC	242
Cotswold Gliders	242
Coventry GC	242
Cradley Jewellers	245
Deeside GC	243
Electrim Sailplanes	204
Glider Instruments	216
Gliderwork	239
HT Communications	240
Herefordshire GC	244
Hobbies	244
JSW Soaring	241
Kent GC	243
Kookaburra Publications	240
Lasham Gliding Society	243
London GC	243
London Sailplanes	208
Lowe Electronics	236
Lowndes Lambert	240
Marchington GC	244
McLean Aviation	203
Midland GC	243
Mowbray Vale Insurance	212
Negus	207
Neogene	238
Nine Four Aviation	208
Njoro Country Club	240
Norfolk GC	244
Oxfordshire Sportflying Club	202
Perry Clamps	240
Peterborough Aircraft Co Ltd	242
Piggott Bros & Co	235
Pilot International	231
RD Aviation	248
Rematic	238
Sabre-AAV	236
Sailplane & Engineering Services	240
S & G	235
Schofield Aviation	246
Scottish Gliding Union	243
Segelflugschule Oerlinghausen	202
Skycraft Services	242
J L Smoker	233
Soaring Magazine	241
Soaring Oxford	230
Southdown Aero Services	206
Southern Sailplanes	BC
Specialist Systems	240
Speedsoaring	206
Speedwell Sailplanes	207
Supacat	238
M Urban Trading	238
Waikerie GC	231
Brian Weare	242
C. P. Witter	247
Yorkshire GC	244

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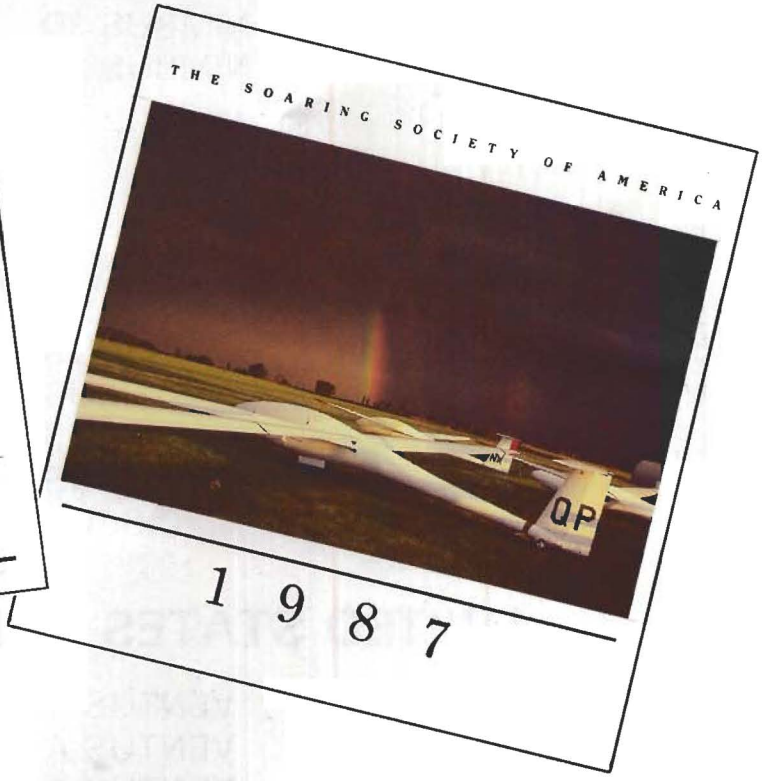
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