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SAILPLANE & GLIDING

Magazine of the
British Gliding Association

August-September 1993
Volume XLIV No. 4

EDITOR
Gillian Bryce-Smith
281 Queen Edith's Way
Cambridge, CB1 4NH
Tel 0223 247725
Fax 0223 413793

ADVERTISING
Debbie Carr
BGA Office

SUBSCRIPTIONS
Bev Russell
BGA Office

COMMITTEE
A. W. F. Edwards (Chairman), M. Bird
M. F. Cuming, B. Rolfe
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***S&G* Annual Subscription:** Send £19.00 (to include the *Yearbook*) or £15.50 for just the magazine to the BGA.

PUBLISHER
British Gliding Association
(Barry Rolfe, BGA Administrator)
Kimberley House
Vaughan Way, Leicester, LE1 4SE
Tel Leicester 0533 531051
Fax No 0533 515939



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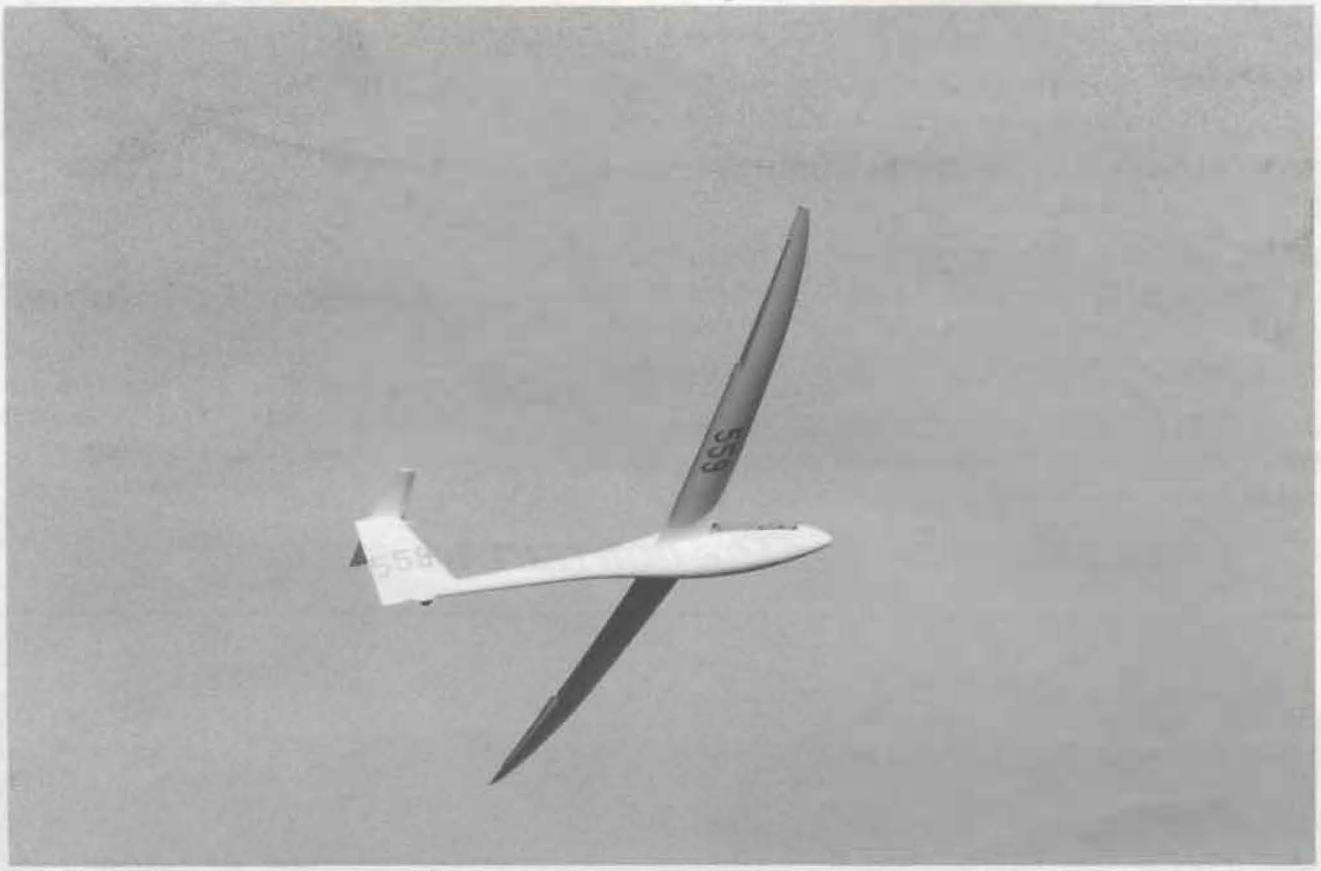
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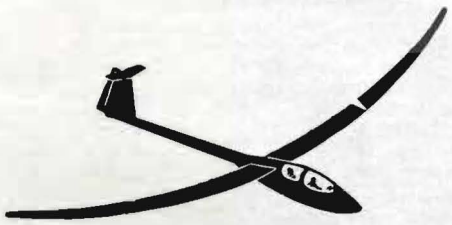
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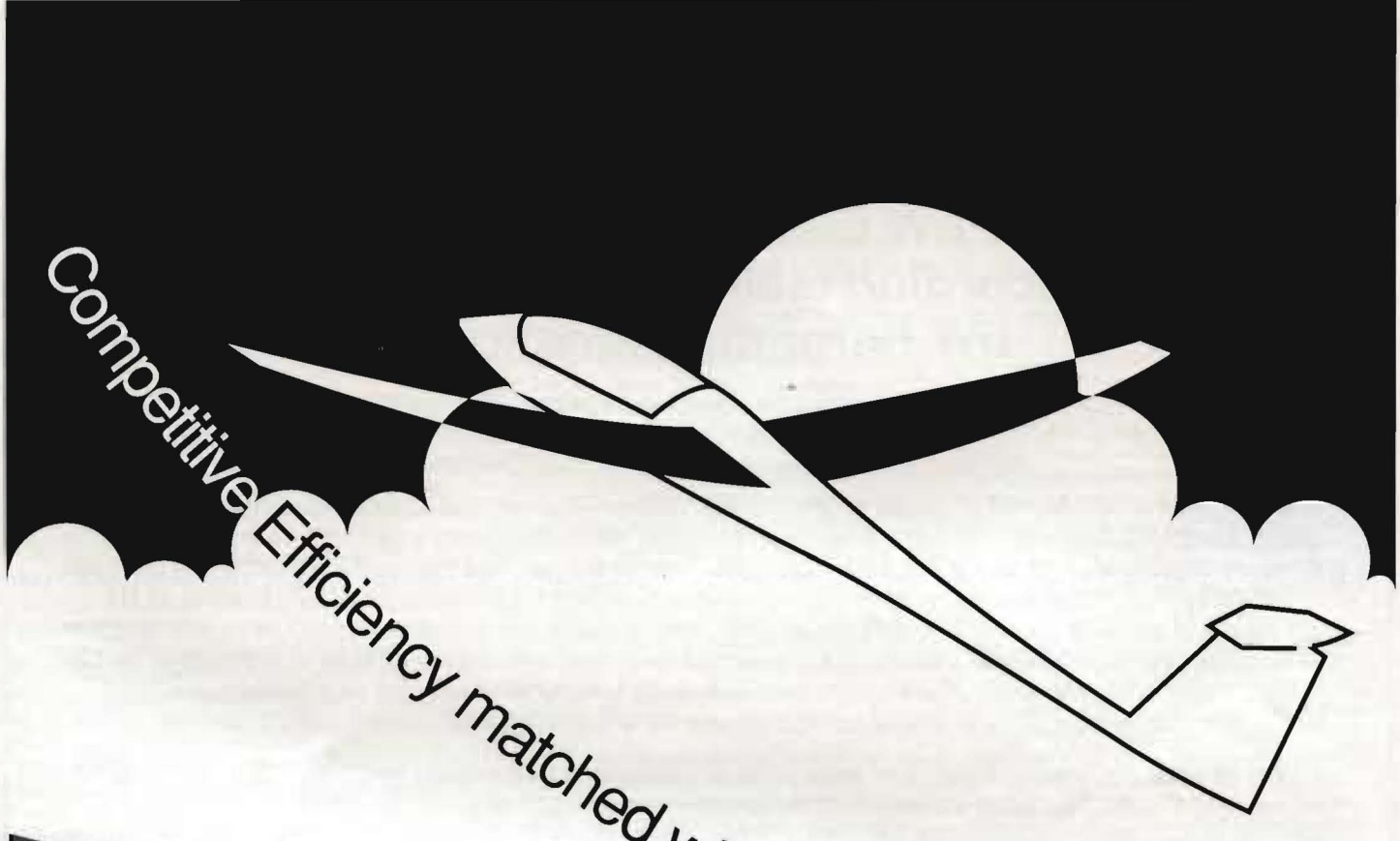
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YOUR LETTERS

THE LAUNCH MAY FAIL

Dear Editor,

Is there ever an occasion when it is not necessary to think at least momentarily about the possibility of a launch failure before launching? I think it unlikely.

If you disagree, how can you be sure that you *always* think about it when it *is* necessary? You either have a habit, or you don't. If you do, you do it every time; if you don't do it every time it isn't a habit and sod's law says that you won't have done it when you wish you had!

To me it is blindingly obvious that after CB SIFT CB and before "cable on please" we should always say formally and preferably out loud "and the launch may fail."(Fail, not break. There are more ways of failing than a break.)

May all our launches be good ones, but we should remember the launch may fail.

BILL DEAN, *Kings Langley, Herts*

Chris Rollings, senior national coach, replies: What Bill describes always has been normal practice, but given the continuing prevalence of launch failure accidents I am very much in sympathy with the idea of formalising the inclusion of launch failures in the pre take-off check. I will ensure that the matter is on the agenda for the next BGA Instructors' Committee meeting with a view to adopting it formally as a "BGA recommended practice". In the meantime I commend the habit to anyone who has not already adopted it.

COSMETIC SPONSORSHIP

Dear Editor,

Nice to see a cosmetics firm sponsoring the Open Class Nationals (see the last issue, p156); can they be persuaded to give a prize for the greatest gain of height, cleanliness being next to godliness?

DAVID SMITH, *London*

Merri Head replies: It seems to me that when a glider pilot reaches the altitude where he (or she) is hearing a choir of angels, hypoxia has set in. Oxygen, not soap, is the recommended remedy. Under the circumstances, however, Cosmetics To Go's sunblock would be quite useful. It's in the post, Dave!

BGA ACCIDENT SUMMARY

Dear Editor,

Like many readers I make a point of reading through the accident summary in every issue. Not, I should add, for any ghoulish or macabre reason, but because gliding safety was for many years central to my working life, and because I believe we can all learn something from the mishaps of others.

I am not a habitual *S&G* letter contributor, but felt that I couldn't let report No.147 (involving a K-13) in the June issue, p156, go by without comment. To remind readers (particularly instructors) I include the report below:

"During simulated cable training P1 released at 40-50ft and P2 responded by pushing the stick forward rapidly and fully opening the airbrakes. P1 closed the brakes but was unable to prevent a heavy landing. P2 injured his back despite the energy absorbing cushion. *The club has now banned simulated cable breaks below 50ft or 50kt*" (My italics).

I have great sympathy with both the student and instructor in this accident - every accident, especially when somebody gets injured, is one accident too many. It is, however, the club's response to this accident that drives me to write. Presumably they intend to ban real cable breaks below 50ft too?

I would be among the first to question "high risk" training exercises where accidents during training substantially outnumbered those in everyday gliding, but I fear that cable breaks in the early stages of a winch launch do not figure in this category. What subliminal message are we passing on to our students by implementing such a ban? - *"A cable break below 50ft is so dangerous that we are not going to teach and examine you on it."* That will surely boost a student's confidence! It's nonsense, and we all know it.

It is my experience that most students do not enjoy cable breaks but eventually, and after enough exposure to them at all heights and positions, become comfortable with them and able to respond rationally and appropriately to the situation. Pretending that cable breaks below 50ft don't happen is bordering on reckless: how much worse might this tragic accident have been had it not happened until the student was flying solo?

I was taught in my initial training, "Be surprised when you get to the top of the wire - not when it breaks", and even with the superior launching equipment being used nowadays can see no reason to change this evident truism.

PETE DISDALE, *ex DCFI, Lasham*

Bill Scull, BGA director of operations, replies: Amen to that!

SPANISH GLIDING SITE

Dear Editor,

I just want to confirm Derek Piggott's comments in the April issue, p69, about Monflorite, the old flying site that once functioned as a national gliding school, closed in 1990 and now reopened as a business.

I had the fortune to be one of the last to have basic training there. It's a very pleasnt site and there's lots of fun for any pilot.

By the way, it was where the record endurance record was achieved - 52hrs of slope flying.

MIGUEL BECERRIL, *Torrejon, Spain*

CLOUD FLYING

Dear Editor,

There is no doubt that everything in the article by John Dobson on cloud flying in the April issue, p81, is correct with the logical conclusion that no sensible weekend-only glider pilot is ever likely to acquire or sustain the skill required to allow him/her to cloud fly. However, there are one or two foolish virgins amongst us, tempted to continue circling into that nice isolated cu or forced to plough down into that wave slot that has just filled! Both situations need different forms of cloud flying, but in both cases the first priority is **not to lose control.**

When circling, the most likely fault is to start developing a high speed spiral dive, followed probably by a violent stall, after which . . . If, however, when the speed and turn start to increase, full top rudder is applied, the effect is to increase the drag, hence reducing the speed, and also to reduce the rate of turn. This gives time to work out what correction is required and to move the stick slightly to correct the glider's attitude, after which the top rudder can be reduced. It is possible, with only small and occasional movements of the stick, to control not only the airspeed, but also the rate of turn by using only the rudder. It is inefficient of course, but the pilot still has control. The left hand can be used as a "fixed point" for the stick and helps to ensure that the stick does not wander far from the central position. To extricate the glider from the small cu, the rate of turn can be steadily reduced, increasing the circle diameter until sunlight appears. A rapid straightening manoeuvre is doomed to failure!

When trying to descend on a compass course through cloud, it is possible to keep the turn needle central by initially using rudder only, then correcting any side-slip using aileron. Small adjustments to obtain a required compass course can also be achieved by using rudder only. It is important to be able to manage with only a T&S for the good reason that, provided the giro is rotating, even at very low speed due to cold or low battery charge, the instrument will continue to indicate if the glider is turning and the direction of the turn.

To the power-trained professional cloud flying pilot, all the above is total sacrilege, but in my capacity as a gliding-only ageing foolish virgin, who has dabbled in cloud perhaps once or twice a year since the fifties without so far losing control, I have to say that the method works, giving me the cloud flying time to begin to learn how to do it properly.

CHRIS HUGHES, *Nympsfield*

John Dobson replies: Chris Hughes' letter confirmed my thought that there are still some virgins, foolish or otherwise, out there! I admire his ethic but I wouldn't do what he does in his glider in anything more potent than a Oly 2 without at least a T&S.

I do agree with his first priority, though, not to lose control, as we all know it is ever so in any aircraft, but he then goes on to say how he controls the out of controlled situations he gets into with full applications of rudder. I would liken this to the aerotow "technique" of using as much rudder as required to position the glider behind the tug whilst using minimal aileron. It works after a fashion but it is crude, unnecessary and the tug pilot gets tired of pedalling. Similarly, I wouldn't think the glider takes kindly to large yaw angles at higher than normal cruising speeds. Hopefully his hand is close to the airbrake as well as his "fixed point".

His technique of using rudder to keep the turn needle central obviously works all right, but the rudder yaws the glider, which in turn moves the turn needle (remember it is a **yaw** and not a turn indicator) leaving the glider slipping. I would have thought that using a co-ordinated aileron input using the sense of the needle would have been simpler and more effective. ➡

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I go back to what was stated at the start of my first article – What you can do in blunt gliders and get away with is not safe in sleeker gliders – do some proper training.

Perhaps we can share a two-seater sometime in the future when we can frighten each other with our ideas on cloud flying. In VMC of course!

BRENNIG COMMENTS

Dear Editor,

I got my Gold height in a cu-nim in 1949 and have since taken every opportunity to cloud fly, so now out of a total of 4000hrs I expect about 500 were in cloud. I agree with John Dobson's conclusion that cloud flying without an artificial horizon is not on. But he then weakens his case by describing a series of lessons and exercises to teach cloud flying with a T&S.

The logistical problems which this involves in a civilian club are very considerable. Getting hold of a qualified instructor can be difficult and the launch to 6000ft or so, which will presumably be required, is expensive and may cause considerable frustration at the launch queue.

Why not just state that an A/H is mandatory and leave it at that? Many glider pilots are responsible, professional people who will read up the subject in advance and think carefully about the things that can go wrong. It is a great advantage to have an instrument rating in advance, but many of us who don't have one seem to cope pretty well, at least as far as competition results are concerned.

BRENNIG JAMES, *Marlow Common, Bucks*

TRAILER BEHAVIOUR

Dear Editor,

My letter about trailer behaviour (December issue, p309), written strictly in the spirit of honest curiosity, has brought rather mixed reactions ranging from the reasoned reply to thinly disguised abuse. Fortunately, Brennig James (April, p69) and John Mason (June, p131) were perceptive enough to see the point which was to start some sort of sensible discussion as befits grown-up glider pilots. Their letters unearthed some useful facts and opinions on a subject that is a mystery to most of us, probably including trailer designers and builders.

On the other hand, while I do appreciate Julian Day's concern that we should all be law abiding citizens and avoid challenging the way things are or the way he thinks things should be (June issue, p131), I can also remember trailer speed limits of 30, 40 and 50mph over the years. At the same time, I can also appreciate the feelings of the guy who was barbecued for first saying that the earth moved round the sun. That was in Wakefield, wasn't it?

PHIL LEVER, Corbridge, Northumberland

We welcome your letters but please keep them as concise as possible and include your full name and address. We reserve the right to edit and select. It saves time and bother if all contributions are sent to the editorial office at Cambridge and not to the BGA.

NOT THE FIRST FEMALE CFI

Dear Editor,

Cambridge University GC congratulates Julie Angell on becoming Booker's CFI, but the claim in the April issue's Club News that she is Britain's first woman professional CFI cannot be homologated.

On November 15, 1937, CUGC appointed Miss N. Heron-Maxwell in that capacity, at a salary of £3 per week.

ANTHONY EDWARDS, *president of CUGC*

ENGINE OUT LANDINGS?

Dear Editor,

As part owner of a Ventus turbo I read Bill Scull's article on self sustaining and self launching sailplanes in the April issue, p74, with interest, but some reservations in the context of the Ventus.

Our Ventus CT has made three field landings – two caused by failure of the engine to start (human error in both cases) and one by engine failure after starting (due to faulty fuel).

So this is clearly a situation one must be prepared for and Bill's advice is to "land with it out" in case we "try to retract it and fail." However, I suspect this advice relates to the DG-400 rather than the Ventus, on which engine retraction is extremely simple and can be completed in under 30sec by the operation of one switch (after switching off the ignition) *ie* by slowing to 45-50kt and retracting the engine until (in my case) the propeller boss viewed in the mirror just disappears from sight. This takes about 7sec. If at this point the propeller has not already stopped rotating (it usually has) it is necessary to pause for 2 or 3sec before completing retraction, which takes about another 15sec.

Therefore, as Bill's diagram of "clean" and "dirty" circuit patterns clearly shows, the benefits of retracting the engine are substantial and *on the Ventus* must surely outweigh the very small extra work load involved, *ie* with the engine retracted:

1. Glide angle is increased by a factor of about three; hence choice of field by a factor of about nine. This is important because it is difficult to pick a field with any certainty from 1200ft, but from that height a Ventus can travel about five miles with the engine retracted before final commitment to a field at 600ft (as in Bill's diagram) – or possibly soaring away. Similarly, sinking speed is reduced by a factor of around three, so the pilot has about three times as long to make decisions.
2. On final approach any risk of undershoot (through miscalculation of wind, sink, or height of obstructions) can be countered by closing the brakes. And if necessary, the glide can be stretched to avoid surface hazards seen on final approach, *eg* rocks, electric fences, ridge and furrow etc.
3. Even if the pilot has practised "engine-up" landings he will be much more familiar with his aircraft's handling characteristics with the engine retracted – an important advantage in the event of a difficult field landing.

Certainly I will take Bill's advice to practise "engine-up" landings against the remote possibility of the engine failing to retract after erecting satisfactorily. But I will also practise engine retraction until I can do it quickly and with minimum distraction from the task of preparing for a field landing.

One further thought, or rather query. If one is confronted with an "engine-up" landing and is in danger of undershooting, would operating the engine exhaust valve lifter reduce drag (by allowing the propeller to windmill relatively freely) or actually increase it, by increasing the area swept by the propeller blades? To save the theorists a field day the answer is probably to suck it and see.

ROBIN COLE, *Winchester*

PLANNING AND NOISE

Dear Editor,

As acoustic consultants with a particular interest in noisy sports, *eg* shooting, power boating etc, we have become aware that gliding is having problems with both planning and the noise nuisance law.

Having spoken to two clubs in different parts of the country, it would appear that they are both unaware of some new developments which could probably benefit their planning applications. Here we refer to:-

1. Reliance now being placed on codes of practice which have been issued by the governing bodies of the sport concerned.
2. Special noise guidance for small aerodromes in recent government publications.

Clubs unaware of these new developments are clearly at risk of being "picked off" by local planning authorities and forced (if finances permit) to enter an appeal. Even at appeal inspectors need reminding of the relevant planning policy including the items mentioned earlier.

Any clubs or individuals currently experiencing difficulty with regard to planning and noise are welcome to telephone me on 0695 25121.

HARRY KENYON, *Martec Environmental Engineering*

LAUNCHING SYSTEM FLAWED

Dear Editor,

The proposed new system of launching gliders, where the pilot is **assumed** to be ready for launch when the cable is connected, seems to be flawed. (See the last issue, p132.)

It is the **pilot's** legal responsibility to see that it is safe to launch. He should check that the cable man is clear before looking forward. You only need a taut winch cable and an over eager wing man to land you in trouble. If the wing man signals before the cable man is clear, and either he is hurt or the pilot is still looking sideways when the launch starts, it is still the pilot's responsibility.

We need a system where control is clearly-handed over **after** all the checks, with suitable pauses "built in." The pilot should **signal** that he is ready, rather than it be **assumed** that he is ready. He should be able to pause briefly without the hassle of pulling off if necessary.

The old system could be modified as follows. After the cable is connected, the pilot checks that the field is clear and then gives a "ready to launch" signal. This could be either the old one finger signal or a clenched fist. The **wing man** ➡

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acknowledges the signal and the pilot then moves his hand to near the release knob. The wing man could either salute or give a couple of thumps on the wingtip. He cannot give the "take up slack" signal **while** he is acknowledging the pilot's signal. The wing man then controls the launch and the pilot is ready to pull off at any time.

Is having an audio signal coupled to the light system such a good idea? To be reliable, it would have to be clearly audible over the roar of a tug taxying 25 yards away. Is this likely to reduce anyone's stress level - or to please the neighbours? The signal light only needs to be placed where the glider pilot can easily see it. For aerotows, the light should be placed at least far enough forward for the glider to be under aerodyamic control when the tug passes

Commenting on David Foster"s article , p155, some cars use sealed lead acid batteries and voltage limited chargers are available (Halfords 5amp £18). A fully discharged lead acid battery may freeze solid and be destroyed below -13°C. The capacity decreases rapidly below 0°C. Graphs relating to capacity to the discharge rate and the temperature are normally available. Try not to run a battery flat. For wave flying, provide thermal insulation and warm the battery before installation.
CHRIS CHAPMAN, *Upwaltham, Sussex*

Bill Scull replies: The new system (not "proposed") is now in widespread use. Surely there is no assumption, the pilot must only accept the cable if he is ready. Did he ever do otherwise? Also the person attaching the cable knows that he has to get clear and, similarly, the launch marshal will not signal if any of the safety considerations are not met.

The new arrangement works well in other countries and has been used in some clubs here for years. I doubt one could ever get standardisation, which is paramount, on the arrangements suggested here.

The conflict between the noise of the tug and the audible signal seems not to be a problem. If the winch/aerotow launch points are co-located then two types of launch won't take place at the same time. The audio signal only needs to be loud enough for the glider pilot to hear; at the time it matters on an aerotow the tug should be 180ft away which is the recommended rope length. It is unlikely to disturb the neighbours. A light needs to be watched which defeats the object of the exercise - for the pilot to concentrate solely on the launch and **releasing** if it goes wrong!

STOP THE LAUNCH

Dear Editor,

I like the new method of launch signalling but I suggest one change. When a stop signal is given **the wingtip holder should immediately put the tip on the ground.**

The primary purpose is to make quite sure the pilot knows that the launch has been stopped and that the cable should be released. The secondary purpose is that this is an additional signal to everyone that the launch has been stopped.

•The pilot will be looking ahead at the cable, tug, towcar or winch and so cannot be expected to see a signal.

•It is unsafe to rely on the pilot hearing a signal because:

•The DV panel may be shut and the cockpit well sealed.

•It may be windy and so difficult to hear.

•There may be a tug or tractor by the launch point with a noisy engine running.

•The pilot may be hard of hearing. (It happens.)

If there is ever a case for putting the wing down, then it should be done always.
BILL DEAN, *Kings Langley, Herts*

NOT SECRET SOCIETIES

Dear Editor,

Inappropriate and sinister politics seem to be having as disastrous an effect as the recession in an increasing number of gliding clubs. I was wryly amused to read Platypus's fictitious account of the antics of Alf Mason & Co in the *S&G Yearbook*, p16, but in real life it's very serious and results in huge losses of members disillusioned with the movement forever.

I assure you that I'm just looking for a square deal in gliding but this is impossible when the playing fields are not level. Elderly pilots should not extend their solo flying beyond a time when it is safe to do so by gaining control of club committees and removing those who may stop them continuing to fly when unsafe.

Gliding clubs are not supposed to be secret societies. The sooner chairmen allow clubs to run on more open, democratic lines the sooner they will see newer members sticking with the sport and a decrease in the drop out rate of longer term members. The phrase "We were elected by the members" meaning ". . . so mind your own business, we're going to do exactly what we like" justifies all evils. Once in power many adopt a "Banana Republic" type of regime. However, they need to beware. An increasing number of pilots know what they're up to and will not be blindfolded.
AL COWAN, *London*

RESPONSE TO PLATYPUS

Dear Editor,

Platypus (I would love to call him Plat but, alas, we haven't been properly introduced) has hit on an issue dear to my heart. (See the last issue, p134.)

Gliding in the UK is unlike any other sport in which I've participated. Its greatest asset is its sense of extended family, and this is in spite of the quite cut-throat competition. People really care about what happens to each other and a friendlier, more concerned group can't be imagined. This isn't to be found to anything like the same extent in the power world.

While it is impressive that people travel thousands of miles to attend a convention back home, the cost of travel Stateside is much less expensive than it is here. I've noticed that while distances are large over there, they seem larger over here - whether it's just driving to the shops or driving to Crick for the BGA AGM.

So I believe that a lack of attendance at the AGM is not down to apathy, or an unentertaining BGA. Perhaps it is due to a combination of glider pilots having what they want at their own clubs and the inconvenience of "getting there." Maybe we need an Oshkosh type gliding fly-in! Any volunteers, just give me a call - 710 will be there (or be squared)!!
MERRI HEAD, *Eastleach, Cirencester*

WHY BECOME A DOCTOR?

Dear Editor,

When first I met Brennig James at Dunstable almost half a century ago, he was studying medicine and I understand that he subsequently had a successful career in that profession. In the meanwhile he contributed many letters and articles to *S&G* which I found both novel and stimulating

His most recent effort in the last issue, p154, raises a subject that I thought was reserved for politicians because the solutions offered tackled the symptoms of the problem rather than the cause. It is my belief that Brennig could assist in identifying the cause if he could be persuaded to answer one very personal question:- Why, when he had to make in his youth the vital decision concerning his future, did he select medicine rather than engineering?
CHARLES ELLIS, *Ilford, Essex*

Brennig James replies: Thank you Charles for those kind words. I am sorry I didn't take up engineering as it is a much cleaner job. Medicine is not that much different - surgery involves plumbing people's guts and psychiatry their souls.

Farmers praised. After the recent correspondence about disputes with farmers we have had several phone calls and letters saying how helpful everyone has been when they have landed in fields this season. In his letter, Nigel Pamplin of Selby North Yorks summed up what a lot of you have found: "People were courteous, kind and even offered me the use of their telephones to contact crews on my two out landings. So go on you aspiring cross-country pilots, don't be dissuaded for fear of being landed with huge compensation claims."

REVIEW

The **BGA's Accidents to Gliders - 1992** makes depressing reading. Although the poor weather meant less flying last season there wasn't a commensurate reduction in accidents. Three people were killed, six seriously injured and 18 had minor injuries, which was a near average year.

Fatal accidents didn't seem to follow any pattern. In 1991 most of the five civilian and one of the two RAFGSAs were caused by spinning in. Last year there were no fatal spinning accidents. Does the publicity heighten awareness? Of the three 1992 fatalities two were as the result of mid air collisions and the other a winch launching accident.

Although one of the pilots in the collision baled out there wasn't sufficient height for the parachute to deploy. The critical height of about 1600ft is borne out by German data.

Copies of the report are available from the BGA at £3 including p&p.

Bill Scull, BGA director of operations, says that CFIs should let other club officials, instructors and safety officers read the report. Also if a club wants to review accidents over a longer period the BGA are able to provide a computer print-out of accidents from 1987.

WORLD CHAMPIONSHIPS' RESULTS

Our congratulations to Andy Davis, the new World Standard Class Champion, on his brilliant win at Borlänge, Sweden; to Brian Spreckley, our 1987 15 Metre World Champion, on his 3rd place and Alister Kay on his 6th in the Open Class and to Justin Wills on coming 6th in the 15 Metre Class. Angela Sheard's report on this exciting contest will be in the next issue.

FINAL RESULTS – Open Class

Pos	Pilot	Country	Glider	Day 1.13.6 347.8km	Day 2.14.6 304.1km	Day 3.16.6 366.7km	Day 4.17.6 316.6km	Day 5.18.6 454.2km	Day 6.19.6 376.1km	Day 7.22.6 353.9km	Day 8.23.6 364km	Day 9.24.6 368.8km	Day 10.25.6 402.1km	Day 11.26.6 415.1km	Total Points
1	Centka, J	P	ASW-22B	792	910*	999	774	971	688*	854	945	971	1000	993	9897
2	Ax, G.	S	ASW-22BL	926	971	978	755	847	749	868	876	915	707	933	9525
3	Spreckley, B	GB	ASH-25	765	949	808	751	981	756	869*	856	851	818	987	9391
4	Lherm, G	F	Nimbus 4	789	969	692	728	958	755	808	926	875	792*	1000	9292
5	Wujczak, S.	P	ASW-22B	710*	907	1000	777*	682*	656*	877	930*	1000	511	1000	9050
6	Kay, A	GB	ASH-25	746	914	931	746	965	605	879	788	854	873	939	9040
7	Back, H	D	Nimbus 4	797	650	563	802	893	777	864	961	894	786	991	8978
8	Andersen, J.	DK	Nimbus 4	825	973	672	698	1000	878	934	1000	922	504	467	8873
9	Schwenk, U.	D	ASW-22BL	795	627	608	805	814	907	878	933	915	527	975	8764
10	Holighaus, K.	D	Nimbus 4M	806	626	692	522	832	952	810	804	924	802	995	8765
11	Schroeder, M.	F	ASW-22BL	789	609	507	712	957	770	775	925	875	817	989	8725
12	Mozer, E.	USA	Nimbus 4	844	656	485	779	811	792	900	703	912	705	964	8641
13	Thomsen, E.	DK	Nimbus 3	804	902	692	674*	946	745	788	865	756	422	945	8539
14	Renner, I.	AUS	ASW-22BEL	830	859	555	869	895	699	830	794	931	633*	412	8507
15	Kurstjens, G.	NL	Nimbus 4	817	610	692	683	853	603	739	744	908	778	955	8382
16	Gimmey, R.	USA	Nimbus 4	796*	600	672	840	929	807	776	950	862	25	1000	8257
17	Andersson, G.	S	Nimbus 3	764	510*	531	804	857	774	688	908	699	670	864	8069
18	Lappalainen, K.	FIN	ASH-25	678	913	993	746	621	779	659	665	682	25	895	7656
19	Hegedüs, L.	HUN	Nimbus 4	688	817	485	820	874*	761	761*	760	697	0*	930	7593
20	Hauser, F.	CH	Nimbus 3	805	620	405	835	139	876	686	780	923	493	903	7465
21	Bourgard, P.	B	Nimbus 3	869	903	447	774	810*	589*	593	380	822*	391*	876	7454
22	Hämmerle, A.	A	ASW-22B	787	606*	577	607	707	783	586	767	755	139	925	7239
23	Giles, M.	AUS	Nimbus 3	845	928	485	766	940	537	867	629	870	0	276	7143
24	Monti, R.	I	ASH-25	764	604	485	434	839	692*	733	876	870	495	171	6963
25	Üblacker, H. P.	A	Nimbus 3	697	654	652*	416	537	743	515	226	570	25	258	5293
26	Blätter, F.	CH	Nimbus 3	670	583	528	244	704	726	769	380	70	0	0	4674
27	Gurály, B.	HUN	Nimbus 3	0*	0*	0	0	0	0	0	0	0	0	0	0

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15 Metre Class

Pos	Pilot	Country	Glider	Day 1.13.6 332.8km	Day 2.14.6 295.1km	Day 3.16.6 330.3km	Day 4.17.6 275.7km	Day 5.18.6 388.9km	Day 6.19.6 343.2km	Day 7.22.6 337.7km	Day 8.23.6 384.3km	Day 9.24.6 311km	Day 10.26.6 400.5km	Total Points
1=	Gerbaud,G.	F	LS-6B	877	954	399	753	933	650	838	922	953	941	8220
1=	Napoleon, E.	F	LS-6B	884	869	996	735*	919	638	838	922	478	941	8220
3	Janowitsch, W.	A	Ventus B	840	614	840*	817	969	591	772	931	957	885	8216
4	Skalskis, S.	LIT	LS-6B	882	836*	338	785	985	752	837	918	935	852	8120
5	Theisinger, M.	D	LS-6A	891	1000	731	864	293	646*	814	986	909	926	8062
6	Wills, J.	GB	LS-6	881	980	487	524	628	773*	962	836	978	1000	8049
7	Trzeciak, J.	P	SZD 56	915	855	639	795	567	657	949	801	896	950	8024
8	Obermeyer, H.	D	Ventus	903	630	653	880	928	805	781	981	914	482	7957
9	Driessen, P.	NZ	Ventus	893	579	712	800	928	815*	908	879	928	476	7918
10	Kuusisto, S.	FIN	Ventus C	861	948	924	900	293	793	894	887	905	482	7887
11	Ghiorzo, S.	I	LS-6	851	848	940	426	936	726	424	1000	734	987	7872
12	Hägnander, T.	S	LS-6C	945	845	464	426	925	669	844	889	893	930	7830
13	Termaat, R.	NL	DG-800S	874	623	659	525	891	724*	879	713	954	935	7777
14	Wells, M.	GB	LS-6C	861	983	452	770	271	676	779	999	904	996	7771
15	Jacobs, D.	USA	LS-6C	923	593	653	524	960	768*	834	975	894	461	7585
16	Pettersson, A.	S	LS-6	945	841	675	525	930	768*	982	940	324	612	7542
17	Matthews, P.	AUS	LS-6A	837	825*	500	525	963	711	770	984	903	482	7500
18	Hall, R.	USA	Ventus B	936	542	440	880	797	776	877	902	867	482	7499
19	Jansen, D.	AUS	LS-6B	968	623*	601	886	965	671	693	584	831	589	7411
20	Dedera, M.	CZ	Ventus	910	578	731	691*	302	728	966	888	669	902	7365
21	Bulukin, B.	N	LS-6	879	939	460	962	307	826	904*	808	902	261	7248
22	Galetto, G.	I	LS-6A	858	883	397	835	331	716	991	993	732	394	7130
23	Hansen, K.	DK	Ventus C	751	911*	440	674	963	625	779	882	596	479	7100
24	Kepka, F.	P	SZD 56	910	861	639	809	272	652	952	845	863	261	7072
25	Cerny, P.	SL	Centus C	291	593	1000	737*	302	729	710	882	893	915	7052
26	Sabeckis, V.	LIT	LAK-17	756	523	338	622	831	572	796	743	872	921	6974
27	Wienberg, I.	DK	Ventus C	791	558	397	837	886	631	827	818	289	842	6876
28	Edwards, B.	AUS	LS-6B	820	819	457	366	1000	683	977	932	287	476	6817
29	Goudriaan, O.	RUS	Ventus C	222	587	452	910	956	656	963	452	801	722	6721
30	Smit, M.	NL	LS-6	820	914	378	845	288	705	653	733	844	476	6656
31	Kristiansen, S.	N	LS-6	861	903	930	337	261	816	770	887	581	259	6605
32	Haggenmüller, R.	A	DG-800S	796	579*	464	697	293	691*	590	952	890	429	6381
33	van Bree, M.	NL	LS-6A	880	919	406	525	272	719	883	250	929	394	6177
34	Ashman, K.	RSA	Ventus BT	744	541	452	248*	858	668*	687	408	881	482	5969
35	Mäenpää, J.	FIN	LS-6B	714	828	402	426	802	654	209	466	881	479	5861
36	Zejdova, H.	CZ	Ventus B	496	523	415	778	288	655	664	408	778	700	5705
37	Danz, W.	CH	LS-6	882	859	474	742	585*	602	452	67	103	700	5466
38	Hächler, R.	CH	LS-6B	808	552	924	358	582	479*	441	9	829	387	5369
39	Tamanaka, H.	J	LS-6C	240	508	234*	358	732	540	450	408	552	487	4609
40	Sillajoe, M.	EST	Glasflügel 304	216	508*	218*	358	592	376	452	643	452	335	4150

Standard Class

Pos	Pilot	Country	Glider	Day 1.13.6 287.8km	Day 2.14.6 217.7km	Day 3.16.6 328.1km	Day 4.17.6 240.6km	Day 5.18.6 415.3km	Day 6.19.6 312.7km	Day 7.22.6 302.6km	Day 8.24.6 297.6km	Day 9.26.6 361.3km	Total Points
1	Davis, A.	GB	Discus B	716	650	1000	624	896	783	892	932	792	7285
2	Borgmann, E.	NL	Duscus BT	798	607	985	590	916	722	788	806	847	7059
3	Rubaj, T.	P	SZD 55-1	513	748	984	636	911*	632*	840	938	800	7002
4	Stepanek, J.	CZ	Discus B	684	654	969	569	822	696	769	926	724	6813
5	Sorri, J.	FIN	LS-7	736	734	976	659	773	693	626	774	831	6802
6	Lopiteaux, J.	F	Crystal	769	607	572	618	1000	657	787*	919	810	6739
7	Fischer, P.	D	Discus	681	607	564	614	872	700	877	801	978	6694
8	Ziegler, E.	D	Discus	701	748*	392	577	884	684	819	808	1000	6613
9	Selen, B.	NL	ASW-24	590	781	572	537	864	729	787	852	844	6556
10	Kosar, J.	SL	Discus	678	659	572	581	812	680	805	976	771	6534
11	Brigliadori, L.	I	Discus	823	664	559	529	861	695	668	961	768	6528
12	Hansson, U.	S	Crystal	728	607	586	624	936	651	796	793	776	6497
13	Flament, D.	F	Crystal	710	607	565	588	931	625	783	853	816	6478
14	Gäumann, M.	CH	Discus B	666	658	560	714	630	790	723	885	814	6440
15	Jaime, J.	B	Discus B	628*	604*	744	601	814	555	835	919	719	6419
16	Vermeer, S.	NL	Discus B	736	604*	572	643	904	720	794	599	835	5397
17	Krasnodebski, A.	P	SZD 55-1	501	664	800	635	922	635	788	933	514	5392
18	Pozniak, M.	P	SZD 55-1	210	749	800	634	944	635	854	806	742	6374
19	Ichikawa, M.	J	SZD 55-1	511	579	980	545	901	687	723	733	696	6355
20	Sorenson, K.	USA	Discus A	617	742	532	628	729	595	844	891	766	6344
21	Lainio, R.	S	Crystal	729	615	586	479	919	676	798	698	777	6277
22	Watt,D.	GB	ASW-24	569*	593	559	629	817	779	858	896	482	6182
23	Øye, S.	DK	Discus B	639	728	572	698	900	687	607	938	325	6094
24	Obrist, B.	CH	LS-7WL	560	767	557	632	790	717	751	936	366	6076
25	Guiyas, G.	H	Discus CS	583	607	449*	506	833	751	801	820	721	6071
26	Kassai, B.	H	Discus CS	631	733	409	534	776	666	804	792	714	6059
27	Ottosson, C.	S	LS-7WL	425	664	480	559	907	588	645	900	783	5951
28	Pajunen, V.	FIN	SZD-55	634	607	980	539	891	81	585	681	815	5913
29	Stögner, G.	A	Discus	563	617	414	582	928	511	550	912	740	5817
30	Hämmerle, H.	A	LS-7	634	591	449	579	872	693	356	894	744	5812
31	Silvanovitch, A.	RUS	Discus	594	593*	564	503	874	572	712	786	482	5680
32	Talmioja, A.	FIN	Discus A	729	593*	566	656	806	571	830	114	763	5628
33	Walters, R.	USA	Discus B	611	604	572	652	659	715	828	816	159	5616
34	Sorbye, E.	N	LS-7WL	400	664	557	496	782	674	570	662	761	5566
35	Oda, M.	J	Discus B	353	583	421*	589	678*	468	793	939	701	5525
36	Avanzini, L.	I	Discus	654	593	527	543	602	661	724	872	117	5493
37	Heiriss, D.	RUS	Discus	576	607	449	492	747	663	352	767	817	5470
38	Striedieck, K.	USA	ASW-24	206	624*	287	545*	912	647*	349	928	847	5345
39	Gore-Brown, M.	AUS	Discus A	483	617	515	497	750	556*	641	697	435	5191
40	Rollings, C.	GB	SZD-55	596	744	310	451	535	442	761	738	483	5060
41	Laird, M.	AUS	SZD-55	212	517*	566	560	920*	590	587	114	848	4914
42	Maciulis, V.	LIT	Discus	558	587	559	525	728	430	473	769	270	4899
43	Schuster, G.	A	ASW-24	125	617	259	565	765	641	324	807*	727	4830
44	Schmeltz, P.J.	DK	ASW-24	596	624*	333	491	795	558	434	854	117	4802
45	Jonusas, A.	LIT	LS-7	166	587	534	566	727	430	591	783	270	4654
46	Taylor, B.	AUS	ASW-24	561	659	92	554	892	552	749	114	299	4472
47	Aske, O.J.	N	LS-7WL	332	742	146	473	516	436	150	664	787	4246
48	Repicky, F.	ARG	Discus B	666	507*	289	504	427	462	236	816	151	4080
49	Frank, O.	DK	LS-7	485	588	530	0	49	389	321	294	508	3144

TAIL FEATHERS

There's no segelflugzeugbau like home

Home-building is like motherhood: no gentleman knocks it or mocks it. Not being a gentleman, however, I shall take a dig or two at this sacred institution, though with caution. In the USA home-building is a religion: in that expan-



Wear heavy disguise.

sive land a man feels a pang of shame if he cannot boast of having been born in a log cabin that he constructed with his own hands. When I next go to the USA I shall wear heavy disguise and deny I have even a nodding acquaintance with such a cur as Platypus.

Home-builders are more rare in this country than in the USA, so I am a bit safer. Most of us in this island have taken to heart Belloc's sad tale of Lord Bright, who tried to mend the electric light –

"It struck him dead, and serve him right.
It is the duty of the wealthy man
to give employment to the artisan"

We Brits are clearly much more sensitive to the need of the artisan to be kept in work. "If a job's worth doing, someone else had better do it" is my dad's guiding principle. If I am elevated to the peerage – and I know some very idle people who have achieved that eminence – I shall have that motto inscribed on the family shield in Latin, surmounted by heraldic Platypusses (Platypi? Platypodes? Platypussies?) some rampant, but most of them recumbent, or even dormant.

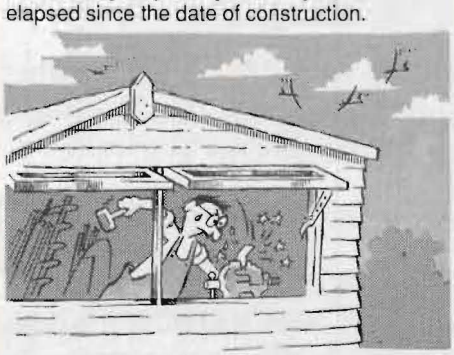
I only know of about three people in Britain who have made a contemporary glider with their own hands, though there are quite a few more, masochists one and all, that have put thousands of hours of painstaking, immaculate workmanship into building exact copies of gliders that were terrible fliers even when they were first designed 60, 80 and even 100 years ago. Such is their fidelity to the original,they still fly abominably, to the absolute delight of their creators.

Don't fall for the money-saving gambit

The most bone-headed argument given in favour of amateurs building their own gliders is that it offers the economic path to happy soaring. Baldercock and poppydash. As one grey-headed American said to me (in a low whisper for fear of being overheard by a lynch mob of crazed do-it-yourselfers) "It's cheaper to get a job in a gas station at a dollar an hour and buy your glider with the proceeds than to build your own, but they don't want to know that." Only if you value your time below that of convict labour can it be more profitable for the amateur to build a sailplane rather than earn an honest living and buy a good second-hand one.

Rip van Fettle

The problem about building one's own glider is that the job always takes far longer than anticipated, so the constructors never get into the air. While the cumulus blossom o'erhead 'midst the cerulean skies, these toilers shut themselves away in a shed, sawing and banging, drilling and polishing. Years go by, and they emerge, pale and blinking, into the unaccustomed sunlight. The splendid – or is it hideous ? – moment of truth has arrived. Their first flight in the new toy is a traumatic initiation not merely for the glider but for the pilot, since the truth is that by now he has practically forgotten how to aviate. It is said that some home-builders fly their creation just once and if they survive put the machine in its box, where it stays unflown forever. That story is manifestly a gross libel on a fine body of men. All the same, a comparison of the utilisation of those gliders specially designed for home construction with the the utilisation of Schleicher or Schempp gliders would make an interesting statistical study. Especially after 15 years or so have elapsed since the date of construction.



Shut themselves away in a shed.

For love, not for money

Did I not praise such devoted, hardworking people in an earlier Tail Feathers? Yes! Am I a turncoat, therefore? No! To build gliders for love makes all the sense in the world, as it does to do anything for love. But to pretend it is economic is goofy. That's all I'm trying to say.

One of the most unrealistic requirements of the World Class sailplane was that it should be capable of being supplied as a kit. If I were a car manufacturer who wished to bring cheap transport to the people, I would refuse to be compelled to design a vehicle that lent itself to home-buiilding. Ditto cheap computers or cheap wristwatches. I would design a machine that was safe, easy to maintain, had average performance, and that would *last*. That means factory construction. Look at the Libelles - over 25 years-old and giving great flying for little cost. If any amateur home-built glider can ever be proved to deliver as many air miles per pound over its lifetime as a Libelle, then I'll eat my hat,

I've just heard that the Polish PW-5 has provisionally been chosen for the World Class. It is designed for mass manufactured in plastic. It is hoped to make it possible for some PW-5s to be supplied in an unfinished form to allow an element of home construction. Commonsense seems to have won.

End-of-tour traileritis

After thousands of miles of towing across many countries on the wrong side of the road, what bliss it is to unhitch the trailer and dump that long, dead weight back at the club! How exhilarating to zoom off on the open highway, free, free, no longer wondering whether the swaying monster behind you has just wrecked a market stall, ripped out a petrol pump or run over a gendarme's foot.

Talking about the gendarmerie, my worst moment with a trailer abroad was within sight of the white cliffs, at the Calais hoverport. An impatient employee of the hovercraft company was signalling vigorously that I should turn right much more sharply than I wanted to, and would I hurry up, please monsieur? I obeyed. There was a series of rending metallic crashes of the kind that make one's heart sink. I looked in the wing mirror, aghast. The Cobra trailer wheels had demolished the aluminium folding doors of the customs shed, which were very tall, very new, very elaborate and certainly very expensive. I was immediately surrounded by a dozen *flics* and *douaniers* and hauled into a tiny office to be interviewed at great length. I forgot that there are occasions when it pays to to be unable to speak a foreign language at all. Masses of forms and insurance claim documents were filled in. Mothers and grandmothers were pledged, and I braced myself, on returning home, for an avalanche of litigation.

I never heard a word about it again. I just hope they lost the paperwork. But I've never ventured near a hovercraft with a trailer since then. I'd sooner go on a big ferry which is used to handling TIR articulated lorries.



Immediately surrounded.

No, I don't intend to use the Channel Tunnel if it ever gets finished. I'm bound to get the trailer wedged across the hole at the French end, and then I'll see a strangely familiar bunch of cops and customs men bearing down on me with the glint of revenge in their eyes...

The Rain in Spain Sprays Mainly on my Plane

The speed with which one's mood can go from ennui to panic and then to exhilaration is one of the special appeals of gliding. No, *it is what gliding is all about* if you have any soul.

Last May the European Soaring Club was ferrying our ASH25 behind a Robin tug from Monflorite to Soria in northern Spain, roughly 180km. (Soria is invitingly pronounced Soar 'ere. A misnomer, as the waterlogged week that followed was to show, but it certainly has potential.) The other pilots and gliders came by road, so we were privileged.Plat was in the front seat of the 25, Marion Barritt was P2. The journey would take about 75 minutes into a south-west wind, under a slate-grey sky, with rain threaten-



Strong suits.

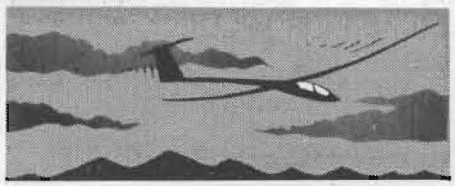
ing and no prospect of lift. The air got steadily rougher as we pushed across the high and increasingly unlandable ground, resembling the backside of the moon. I began vaguely to wonder whether it was rotor cloud kicking us around in the lee of a mountain that towered above us just south of our track. Wave isn't one of my strong suits (says he, implying that he has some strong suits but is too modest to mention them).

Then suddenly – without our having got out of position but with the cable alternately slackening and pulling taut – we heard a click and there were the rings on the end of the tow rope twinkling at us as they vanished into the distance. For the second time in two days an ASH-25 had shed its line during a long tow through inadvertent back releasing: the previous day Bruce Owen, on an aerotow retrieve, just scraped into Monflorite after losing the tug many miles out. As Lady Bracknell might have said "To lose one ASH-25 on tow is a misfortune; to lose *two*..."

My first action, once my voice had come back down a couple of octaves, was to ask for the GPS co-ordinates of the nearest usable airfield. The desolate Spanish moonscape looked horribly close. I could visualise Don Quixote and Sancho Panza plodding across it in search of windmills. Then a still small voice behind me (no, not my conscience) said "Have you noticed we are going up at 800ft a minute?" I hadn't noticed, since I had switched the audio off early in the flight, not wishing to have it mewing at me for 75 minutes, and I was preoccupied exclusively by navigational and getting-down-in-one-piece worries. We promptly lost the wave, found it again and, pushing towards the mountain, worked it up to 14 000ft. With no oxygen, we reluctantly levelled out and sped over the top of our mountain along the 60km to Soria with hardly any loss of height, discovering that the wave must have been triggered by other ranges to the south-west. We waited until the tug and the trailers with the rest of the expedition arrived. As we landed the heavens opened up and stayed open for days. It just poured.That entirely unplanned wave flight turned out to be our best effort of the entire holiday. The other members of the expedition were oddly unwilling to listen to the exciting details of our story. I can't think why.

The best things in life are unexpected

I hardly need to point the moral of this tale (apart from the practical one that if you have to use belly hooks on aerotow, they should have their back releases immobilised for long distance tows or launches in rough mountain air). It is that the best flying often comes when you have not planned it – out of the blue, or in our case out of the dirty grey.



OVERSEAS NEWS

THE ITALIANS ARE COMING!

For Italians, getting all the paperwork to permit you to fly a glider is much more difficult than getting the gasman to call, so some individuals have been looking at ways around the problem. In an article in Volo a Vela (Jan-Feb 1993) entitled "On the validity in Italy of flying licences issued in foreign countries" the author quotes Italian and EEC regulations at some length (they are even more contorted than English regs, so I won't bother to quote them) then comments:

"Congratulations to anyone who has managed to read all of that. The only logical interpretation ... is the following: the citizens of a member state of the EEC, and therefore Italian citizens as well, wherever they live, who are holders of a PPL issued or validated by any member state of the EEC, can fly in any member state of the EEC, and therefore also in Italy, a glider registered in Italy, without any need for validation or other bureaucratic procedures, and for as long as the licence is valid according to the regulations in force in the state that issued it.

"Since the mental and physical requirements for the issue and renewal of licences for gliding are more reasonable in many member states of the EEC than in Italy, at least as far as the bureaucratic aspects are concerned, and because in almost all of them the bureaucratic and fiscal system is less oppressive than in Italy, it may be worth asking for an EEC licence instead of an Italian one."

He goes on to say that they will give full information on how to go about getting such a licence as soon as they can and concludes: "English regulations seem to be particularly interesting at the moment".. Looks like a good time to start advertising courses in Italian mags. I wonder if they know about the weather ... Translated from *Volo a Vela* by Martin Boycott-Brown.

FRENCH DISTANCE PLANS

Gérard and Jean-Nöel Herbaud, who flew 1420km in an ASH-25 last April (see last August's *S&G*, p190), from Vinon to Fez, are planning a longer flight.

The brothers don't intend to stop there, and hope to leave for an even further destination, when they have the opportunity. Their plan, explained by Gérard at the General Assembly of the FFVV, is genuinely grandiose. It consists in flying from a site in the southern Alps (perhaps St Crepin) at midday, arriving at the Pyrenees in the evening and spending the night there in wave. The next morning they hope to cross Spain and, following the Atlas, fly down to a town in southern Morocco, such as Marrakesh or Ouarzazate. This should not be far off 2000km. - Translated from *Aviasport* by Martin Boycott-Brown.

NEWS FROM BENALLA

Charles Day has sent us a review of the last season at his Australian-gliding club

It has been an unusual season. December was the wettest month ever recorded but the RAF managed 22 000km in their three weeks plus a British two-seater record claim - 512km in an IS-28.

By contrast April was unusually warm. My own flying over Boxing Day to the New Year totalled 3500km in seven flights, one of 725 of a 770km triangle. Another memorable day was a glorious 630km O/R with John Williamson, who took a day off as our director of operations to fly the club's Nimbus 2c.

John's graded cross-country courses are proving to be the most effective means of boosting progress. Many overseas visitors find them an excellent introduction to the area , following them with their own independent flying.

Local business people are generously sponsoring a competition over four weekends in November and the State and under 25 Championships will be at Benalla from December 27 to January 8.

1995 WORLD CHAMPIONSHIPS

The New Zealand hosts of the 1995 World Championships say there is plenty of accommodation for competitors and a limited number of gliders for hire.

Book both through their office - 24th World Gliding Championships, PO Box 17-518, Christchurch, New Zealand.

Please send news and exchange copies of journals to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, England.

OVERSEAS HANDICAPPED NATIONALS

Leszno, Poland - May 16-27

Angela, who helped set up the Polish side of the competition, gives her impressions of the first Nationals when there was a 614km task. Ken Sparkes, the director, adds his comments in italics

I start by listing some comments given when I asked pilots to note their personal bests during the Nationals, as that is what they will remember long after actual finishing scores and positions are forgotten.

Mick Boyden (flying the GSA's Nimbus 3DT and the winner of the prize for the best RAFGSA entry): "Didn't get lost. Did 440km at 128km/h and 613 at 102km/h."
Ed Johnston (LS-6c): "I flew faster and further than ever before."
Richard Cole (Ventus and a Tornado pilot): "No GPS, no problem (this Comp was an official GPS trial but Dick was still navigating the old way) **and** a Polish Diamond."
Richard Browne (LS-6c), who gained a Diamond distance; "I had the highest ever thermal climb."
"Spud" Hallam and **Mick Lee** will remember their Diamond distances and **Mick Garwood,** crewing, on completing his Silver badge with a 50km flight.

Tony Moulang's crew member, **Julie Garside**, flew Gold distance and Diamond goal and came in beaming. This was Fantastic Friday and **Tony** got successfully round 612.999km or so but sadly landed on the other side of the little peritrack, therefore not on the airfield for a good finish.

When they were finishing fast and low, farmworkers hoeing or harvesting asparagus over there had to stay bent!

This competition has already gone into the record books as being the first ever competition held anywhere in the world to use GPS logger data as the primary source of evidence for having flown a given task.

The trial was a great technological success and will have a universal impact on how flight validation information is obtained in future competitions, both in this country and abroad.

Various other records were broken including the longest task distance ever set and completed in a BGA rated competition.

After a brief but enjoyable opening ceremony both Classes were launched into excellent conditions with an 8700ft initial cloudbase supported by 8 to 10kt thermals.

This was to be the first of Ken Barker's two day wins in the B Class flying a Discus. Ken flew the 447km task at 68.7km/h; other pilots were airborne for up to 7hrs. Al Clarke (Ventus C) won the day in Class A at 95.7km/h. (All speeds quoted are actual.)

Day 2 saw Chris Garton claim the first of his three day wins with a speed of 95.5km/h on the 388.1km quadrilateral, with Phil Jeffery (LS-7wl) winning the 228.8km quadrilateral task handsomely in Class B at 84.8km/h.

Day 3 brought back the 9000ft cloudbase scenario with Ken Barker securing his second day win in Class B at 109.8km/h and Chris Garton taking the honours in his Class with an impressive 121.3km/h.

Day 4 was unquestionably the best day of all and a 750km task was planned for both Classes but due to a local military difficulty this had to be abandoned. Ed Johnston won the A Class with an excellent speed of 119.5km/h over the 426.5km task whilst George Metcalfe returned at 112.4km/h to win the B Class's 367.4km. There were no outlandings.



Ken Sparkes photographed at the briefing by Sid Gilmore.

Encouraged by the forecast and the previous day's success it was decided on Day 5 that a record task should be set if conditions permitted. Ed Johnston won the day in the A Class at 93.2km/h while George Metcalfe achieved his second of three day wins in the B Class at 102.5km/h.

The Polish Open Class Nationals had all landed out whilst attempting a 400km task much to their disappointment after having been sent in the wrong direction.

So, such a Comp is not only about the big races, but the Day of Days, Friday, May 21, will long linger in the memory of those who were lucky enough to be in the air. Ken Sparkes

Chris Garton (LS-6c) won Class A with 5901pts

George Metcalfe (ASW-24) won Class B with 5861pts

even went about muttering those lines from Henry 5th before the battle of Agincourt about the chaps still abed in England cursing their absence from the fray and holding their manhood cheap whenever the anniversary comes round. Ken's joy was as great as the pilots when they skipped in describing zipping up to 3200m on 10m/sec climbs.

Day 6 saw the Polish Nationals sharing our task and this was an enjoyable experience. The whole competition flew the same task with just four outlandings.

The pre-Comp days, when quite a lot of people flew, were superb and the first five days (as Ken describes) gave a full house of five full contests. Fantastic Friday was followed by that old cliche "wet weekend" and then the clag forgot to go away and only one more day was flown in week 2

Maddeningly, grey gloomy weather is known in Polish as *Angielska Pogoda,* English weather, and no opportunity was lost to use this little joke!

All lined up on the grid we were on the Monday. Sun shining, the British Defence Attache drove all the way to be with us, met the pilots,listened to the rebrief and then - nothing happened. The weather never was quite flyable enough all over the route. So, Gr Cpt Hilton Moses, a career pilot who had never flown in a glider, sat before Sgt Boyden in the Nimbus and had a go at the big wings. Mrs Moses, wearing a very pretty dress, gamely climbed into the Wilga for a towing view of Leszno.

The rest of the week trudged on in a surly sort of way, almost erasing the memory of those dazzling first days, but not quite.

As to the Polish Open Class Nationals.. Blessed with strong conditions most of the time, our Polish friends are inclined to pass up the



The opening ceremony. Photo: Barbara West.



Angela Sheard presenting Mick Boyden with the trophy for the best RAFGSA entry which she gave in memory of James Lanfranchi, killed at the age of 22 years in a Canberra. "His dazzling enthusiasm for flying has lit my path ever since." Angela said. Photo: Sid Gilmore.

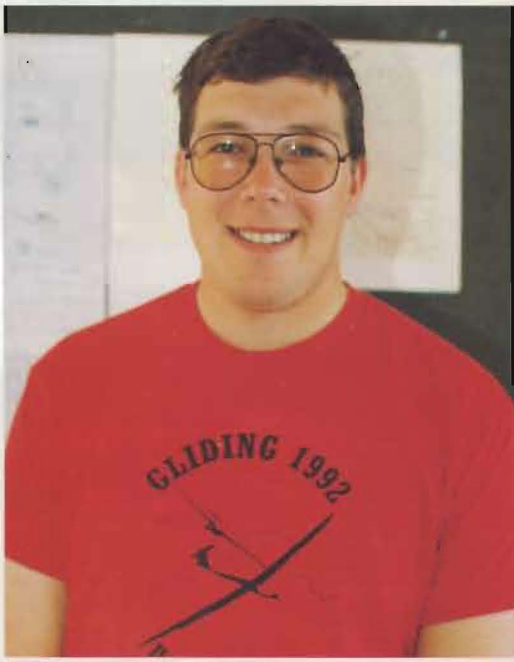


Above: A Jantar 2 over Leszno. Below: Grid rebrief. Photos by Barbara West.



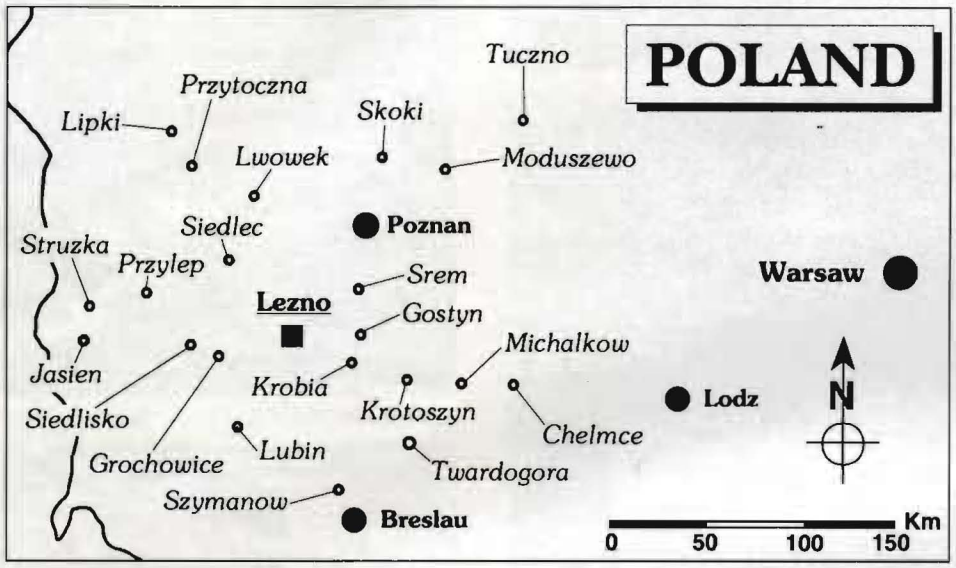


George Metcalfe, Class B Champion.



Above: Dave Kearns, the scorer and deputy director. Below: Ken Barker who was 3rd in Class B. Photos in this column by Sid Gilmore. ➡





Steve Longland's map showing the task area.

skinny thermals we know in the UK and set tasks which can be whizzed round once the thermals are popping. They were a little sceptical of Ken's task setting of the biggy, but delighted when it came off.

The competition produced two worthy winners with many other personal bests and an abundance of happy memories of Leszno.

Next year we may return at the host's invitation and hopefully the lessons learned this year will be put into practice to produce an even better competition.

The Met services provided were of the highest standard and our thanks go to the aptly named Kapt Majek and his team.

Thanks are also due to Roman Grys, George Godzd and others too numerous to mention who helped maked this competition a great success.

My final conclusion is that it isn't necessary to travel to either Australia or South Africa to find superb soaring conditions when these exist less than two days' drive away from England and at far less cost to the individual.

FINAL RESULTS

Overseas Handicapped Nationals

Class A

Pos	Pilot	Glider	Day 1.17.5 327.2km ■ Lipki, Grochowice, Krobia			Day 2.18.5 313.4km ■ Srem, Pobiel, Chelmce			Day 3.19.5 388.1km ■ Przytoczna, Lubin, Przylep			Day 4.20.5 426.5km ■ Michalkow, Szymanow, Jasien			Day 5.21.5 613.4km polygon Tuczno, Blaski, Skoki, Krotoszyn			Day 6.25.5 342.8km polygon Przytoczna, Przylep, Siedlec, Lubin			Total Pts
			Speed (Dist)	Pos	Pts	Speed (Dist)	Pos	Pts	Speed	Pos	Pts	Speed	Pos	Pts	Speed (Dist)	Pos	Pts	Speed (Dist)	Pos	Pts	
1	Garton, C.	LS-6c	81.9	=2	957	91.1	1	1000	113.2	1	1000	125.2	2	979	93.8	3	965	98.7	1	1000	5901
2	Johnston, E. W.	LS-6A	(249.6)	9	497	85.6	2	918	104.8	5	869*	127.0	1	1000	97.1	1	1000	88.6	3	859	5143
3	Gorringe, J.	ASH-25	57.8	6	732	83.2	3	881	105.4	2	896	113.4	4	839	91.7	4	942	86.2	4	825	5115
4	Boydon, M. V.	Nimbus 3DT	82.0	=2	957	77.0	8	787	98.6	8	807	113.1	5	836	90.0	5	924	83.8	6	792	5103
5	Edyvean, J.	Nimbus 3DT	64.5	5	794	78.1	6	803	104.9	3	890	105.5	8	746	93.9	2	966	83.5	7	787	4986
6	Foreman, M. C.	ASW-22	68.2	4	829	77.6	7	795	99.6	6	820	105.5	7	747	83.1	8	850	73.7	12	650	4691
7	Clarke, A. J.	Ventus C	86.6	1	1000	(136.5)	13	121	104.8	4	889	123.3	3	956	93.0	7	906*	85.6	5	816	4688
8	Pozerskis, A.	LAK-12	(234.0)	11	463	80.8	4	845	97.0	9	785	105.4	9	745	80.5	9	823	91.4	2	898	4559
9	Fox, R. L.	Ventus	(242.7)	10	482	72.2	9	713	99.5	7	818	105.7	6	748	(554.0)	11	415	80.6	9	747	3923
10	Cole, R. A.	Ventus	(166.2)	13	316	60.0	12	528	86.1	12	641	101.8	11	703	88.4	6	907	81.8	8	764	3859
11	Browne, R. A.	LS-6c	(275.1)	8	552	67.6	11	644	100.7	10	784*	104.3	10	732	(474.4)	12	353	79.6	11	732	3797
12	Lee, M. E.	Ventus CT	(216.0)	12	424	79.1	5	818	92.7	11	728	81.7	13	465	(479.4)	13	337*	80.4	10	743	3515
13	Corbett, G. C.	Ventus CT	57.1	7	725	69.4	10	671	73.0	13	467	95.1	12	624	(587.0)	10	440	(268.4)	13	256	3183

FINAL RESULTS

Overseas Handicapped Nationals

Class A

Pos	Pilot	Glider	Day 1.17.5 327.2km ■ Lipki, Grochowice, Krobia			Day 2.18.5 313.4km ■ Srem, Pobiel, Chelmce			Day 3.19.5 388.1km ■ Przytoczna, Lubin, Przylep			Day 4.20.5 426.5km ■ Michalkow, Szymanow, Jasien			Day 5.21.5 613.4km polygon Tuczno, Blaski, Skoki, Krotoszyn			Day 6.25.5 342.8km polygon Przytoczna, Przylep, Siedlec, Lubin			Total Pts
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2	Johnston, E. W.	LS-6A	(249.6)	9	497	85.6	2	918	104.8	5	869*	127.0	1	1000	97.1	1	1000	88.6	3	859	5143
3	Gorringe, J.	ASH-25	57.8	6	732	83.2	3	881	105.4	2	896	113.4	4	839	91.7	4	942	86.2	4	825	5115
4	Boydon, M. V.	Nimbus 3DT	82.0	=2	957	77.0	8	787	98.6	8	807	113.1	5	836	90.0	5	924	83.8	6	792	5103
5	Edyvean, J.	Nimbus 3DT	64.5	5	794	78.1	6	803	104.9	3	890	105.5	8	746	93.9	2	966	83.5	7	787	4986
6	Foreman, M. C.	ASW-22	68.2	4	829	77.6	7	795	99.6	6	820	105.5	7	747	83.1	8	850	73.7	12	650	4691
7	Clarke, A. J.	Ventus C	86.6	1	1000	(136.5)	13	121	104.8	4	889	123.3	3	956	93.0	7	906*	85.6	5	816	4688
8	Pozerskis, A.	LAK-12	(234.0)	11	463	80.8	4	845	97.0	9	785	105.4	9	745	80.5	9	823	91.4	2	898	4559
9	Fox, R. L.	Ventus	(242.7)	10	482	72.2	9	713	99.5	7	818	105.7	6	748	(554.0)	11	415	80.6	9	747	3923
10	Cole, R. A.	Ventus	(166.2)	13	316	60.0	12	528	86.1	12	641	101.8	11	703	88.4	6	907	81.8	8	764	3859
11	Browne, R. A.	LS-6c	(275.1)	8	552	67.6	11	644	100.7	10	784*	104.3	10	732	(474.4)	12	353	79.6	11	732	3797
12	Lee, M. E.	Ventus CT	(216.0)	12	424	79.1	5	818	92.7	11	728	81.7	13	465	(479.4)	13	337*	80.4	10	743	3515
13	Corbett, G. C.	Ventus CT	57.1	7	725	69.4	10	671	73.0	13	467	95.1	12	624	(587.0)	10	440	(268.4)	13	256	3183

*=penalty.

Varsity Gliding

The annual Oxbridge gliding competition was held at Bicester from May 8-9 with Oxford and Cambridge battling it out against each other and the weather.

Oxford's Gareth Williams started well but Murray Holland (the Oxford captain) and Harjinder Obhi (Cambridge) were the only two to fly for over 40min on the Saturday afternoon and claim height points.

(The scoring system is complicated with 1pt for every minute up to 50min. After that 6pts are deducted for each minute! Also, 2pts are awarded for every 100ft climbed in thermals but individual climbs of less than 500ft aren't counted. Each pilot enters the best flight of the day, giving ten flights for each team.)

After the first day Oxford were leading by 160pts to 145.

The rain set in on the Sunday but eventually they were able to fly, albeit in high winds and the constant threat of rain. The longest flight was only 16min in what appeared to be some inexplicable wave.

Oxford increased their lead to win with 213pts, 19 more than Cambridge. The total flying amount to 11hrs in 64 flights (6hrs in 20 flights counting towards points).

The excellent facilities at Bicester meant that flying continued apace despite normal club operations.

STUART CRAWSHAW

SOME THOUGHTS ON MY 500KM

"It's only ten times Silver distance and takes a little longer" is Peter's assessment of the big one

To be honest I'm somewhat disappointed. I had anticipated being rewarded with a personal diamond studded key to the executive toilet block, but I guess I need far more brownie points to win one of those. Nevertheless, my sincere thanks for the highest achiever cup, although I'm not sure I deserve that recognition.

You see, there was no magic or clever cunning involved. I just did what we all do - fumbled in a thermal, straightened up, cruised for a while as fast as seemed prudent and when the ground appeared too close for comfort, I did it again, and again, and again, all day long.

With hindsight I can let you into a secret. Given the right conditions with an element of luck, a 500km is perfectly straightforward. After all it's only ten times a Silver distance and takes a little longer!

My principal reaction when the Ventus (No. 488) rolled to a stop was to wonder why it had taken me 42 years of practice and 16 attempts to achieve. Gross incompetence, I guess. My other reactions ranged from extreme elation to feeling totally knackered.

Then I felt cheated and wondered why I had subjected myself to such physical and mental pain. I really was expecting the immediate presentation of one of those elusive keys, but the committee hadn't assembled to await my return and I crept away to shed my tears. I finally regained my composure when I realised "they" would need to approve the TP photographs before agreeing to that expenditure.

I then spent many hours worrying about the photos as I'd rather foolishly only taken one at each TP. But they were fine. The barograph chart nearly wasn't. The waxed paper roll was within a couple of inches of its end; so much for pre-flight planning. But I hadn't anticipated a 27in trace.

I flew from Edge Hill to Cambridge, then north to Gainsborough, back to Cambridge and finally home for a total of 507km in 7hrs 33min. Put into perspective, that's only 67km/h on a day when Justin Wills did 520km at 96km/h. But then I'm not a boy racer or a competition pilot. I just did it my way; slowly and carefully - the sex therapists would applaud that approach, if not the boy racers!.

As I've said, the flight was like any other, just a series of ups and downs. There was a very scratchy patch between Gainsborough and Newark on the way back . Then I was joined by a huge gaggle of gliders in the Newark area, not realising they were the boy racers from Nymspfield hell bent on catching Justin. Just as suddenly I was alone, doing my own thing in better conditions.

I nearly fell out of the sky at Cambridge but resisted the temptation to cruise home under power and managed to scrape away. The last 70km from Bedford were difficult due to the increasing high cloud and I had to deviate from track and change down a couple of gears to stay high.

After 7hrs 30min's concentration I could have done without the drama of a max L/D final glide straight on to the end of the runway. But I had no choice. The air was quiescent. Paul assured me the airfield was clear of cows and courting couples and then dashed to the end of the runway and confirmed he could see me low on the horizon when I still couldn't see the airfield. Without his words of encouragement I may well have chickened out and popped the Ventus into a paddock.

By then there was no question of starting the engine. I appeared to be down amongst the tree tops but his confident voice assured me I would make it. So against my better judgment I pressed on. I was somewhat out of ground control approach practice - my last was in an Attacker over 30 years ago, but his judgment was excellent and I had a good 33ft of excess height!

You see my clever little final glide computer is programmed for an arrival height of 1000ft. That's just an old aviator's safety factor! But it indicated I was between 800-900ft below that glide path for the last 20 or so kilometres. What I didn't know until I landed was that the pressure had dropped over 3mb during the day and the altimeter was in truth reading a good 100ft more than my actual height. That I guess explained why the ground appeared uncomfortably close and why Edge Hill remained hidden in the hedgerows.

Like all of life's great adventures, one must be ready to seize the oppportunity when the conditions appear suitable. That's all I did on July 28 - one of the few 500km days last year. It wasn't a classic day by any means and I spent most of the time cruising between 2000-3000ft. But the day was unusual because the wind was virtually zero throughout the flight and that was a great help.

By the way, I've already planned a 750km for this year and a 1000km for 1994. Now I've got my hands on that cup I intend to keep it.



Peter, who was a Fleet Air Arm pilot, is a member of Shenington GC. He started gliding in 1950, has 1430hrs gliding, two Diamonds, 660hrs power and says he took an early retirement in 1987 because work clashed with gliding.

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AVIATION EXHIBITION

The Guild of Aviation Artists have just finished their Aviation Paintings of the Year Exhibition at the Carisbrooke Gallery, London where these paintings and wood sculpture were on show



A.↑ B.↓



A. The Longest Day Begins - Pegasus Bridge by Geoffrey E. Lea; B. Coming in to Land by Leslie Shelton; C. An ASH-25 made from alternative veneers of mahogany and sycamore by Peter A. Ward; D. Line up at Parham by Leslie Shelton and E. K-2 in Parham Hangar by John Wynne Hopkins.

C.↓





D.↑ E.↓



PARACHUTE RECOVERY SYSTEMS FOR GLIDERS

The Aachen Symposium

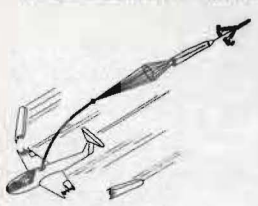
The work done at Aachen on the difficulties of canopy jettison, and reported in *Technical Soaring* [Vol XVII, No. 2]; revealed that more needed to be done for the safety of glider pilots. The University Department [*Fachhochschule Aachen]*, in conjunction with the German Ministry of Trade [*Bundesministeriums für Verkehr]* invited interested parties to a Symposium this March to review the way forward. I was asked because of a paper I published in the October 1989 issue of *S&G*, p230; and I worked for some years on the development of military escape systems at Boscombe Down. It was an international meeting, but in German. To compile this report in English, I am indebted to Philippe Stabenau and Jochen Ewald who allowed me to see typescripts written for *Aerokurier* and *Fliergermagazin*; and to my wife who translated from the original..

In the opening speeches, the Minister referred to the importance of gliding, not only as a sport, but as an economic and educational activity; this political support, however, stopped short of offering hard cash! Professor Roeger then analysed the situations where a recovery system could be useful, after collisions, or structural failure from overload, or in spinning accidents. The existing personal parachute provides a survival rate of only about 50%. The parachute is reliable but escape from the cockpit is unlikely below 500m. In nearly all accidents of this type, the cockpit is undamaged until impact, the usual damage being to rear fuselage, wing[s] or tail unit.

He presented three possibilities for discussion. First the sailplane is lowered on a parachute attached to the cockpit area; this is already in use for ultralights. The aircraft could be stabilised by a parachute which then pulls the pilot out of the cockpit and then serves as a man parachute while the aircraft falls away. Such a system is under trial, but there have been difficulties with the canopy separation and a clean release and extraction. Lastly the conventional escape of the pilot after the aircraft has been stabilised by a drogue; the problem here is that the pilot would deploy his parachute under the rapidly sinking wreckage! It is considered that a fully automatic system offers the best possibilities for success, and one should expect recovery from as low as 100-200m. Whole aircraft recovery is the most practicable.

Helmut Fendt from the national Aviation Authority [*Luftfahrt-Bundesamt*] examined the problem of certifying such a system. Separate clearances would be required for each aircraft type. The LBA is interested in improving survival, but a real improvement must be attained. A rescue parachute provides an almost 100% guarantee, and the fact that a few cases will be outside limits should not count as system unreliability. Any new system must have the same functional reliability as a personal parachute, and this includes the landing. Injuries associated with ordinary parachute landings should not occur with a recovery system. There are no existing JAR regulations to cover licensing or manufacture of these systems.

Matthias Borgmeier of the German Aero Club presented the accidents in gliders for 1992; a total of 176 accidents with 16 fatalities. There were six collisions with three dead, and for these a recovery system would have been relevant. Most accidents occur on launching or landing.

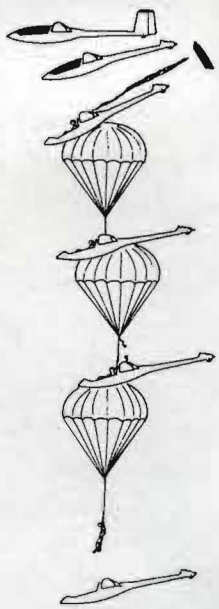




Further presentations covered the military development of ejection seats, and the use of rockets for extraction. Although these are not directly applicable, the philosophy and tested components are relevant. I presented physiological data to show that suspending the glider from the nose would allow higher energy absorbtion on impact, and more favourable pilot restraint, hence higher descent velocities and a smaller parachute. Later during the discussion, a short video clip showed the aerodynamic instability inherent in a backward descent. A presentation on parachute design explained that cost, rather than technical feasibility, was the limiting factor. Kostelezky GmbH would be prepared to develop a recovery parachute when the requirements are defined.

William Eilers, also of the German Aero Club, reported his experience with licensing parachute recovery for ultralights. To date ten types have been approved, seven made in Germany and three from BRS in the USA. Ultralights, in contrast to sailplanes, have robust impact characteristics and are well suited to this system. With 1000 installed, a number have been operated and there are some records of outcomes. The encapsulated design eliminates most servicing problems. Inadvertent deployment on the ground has occurred without damage. There have been only a few positive saves, and better reporting would be helpful for development. The BRS system was presented in detail and up to date 66 successes have been reported. The company has a version for aircraft up to 130kt and 800kg weight under FAA certification. This weighs only 18kg. A most impressive video showed a number of trials and escapes, including a spectacular escape following an inverted spin and structural failure, when the parachute deployed through a hole in the wing!

Martin Sperber *[TUV Rheinland Luftfahrttechnik]* addressed the problem of ground impact. Improvements in cockpit restraint and seat design are the same as for any other ground impact. One experimental sailplane, the Nurflueger of Akaflieg Braunschweig, is fitted with a recovery parachute. He had examined 1469 accidents from 1983 to 1989 with 92 deaths and 223 severely injured. Two hundred and one were accidents with ground impact falling into one of four patterns. Pancaking from about 3m with vertical velocity of 16m/s. Impact at 26m/s with a dive of 10°. Wing striking the ground with a speed of 21m/s and the nose 30° down, and lastly a crash from a spin with a speed of 28m/s and nose 45° down. [1m/s is almost exactly 2kt.] There has been a major increase of serious spinal injuries + 65% in the last three years. This is thought to arise from modern cockpit design, although higher speeds must be a factor. Injuries could be minimised by design, although injured legs remain likely. Incorporating energy damping materials between the seat and outer skin, alignment of seat anchorages and the redesign of the seat back would all improve crashworthiness. If the personal parachute became redundant, the space could be used to improve comfort and safety.

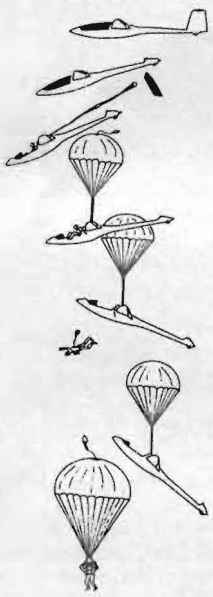


Peter Kousal, a Czech, examined the energy absorbing elements of cockpit structures and showed that the impact depth for different sailplanes varied between 70 and 120cms. Energy absorbtion is important and he had calculated that 6m/s could be tolerated by most sailplanes. In the last presentation, Gerhard Stich put forward his specification for the modification of his ASW-20 with a recovery parachute. The weight increase should be less than 10kg and the cost should not be more than three times the cost of his personal parachute.

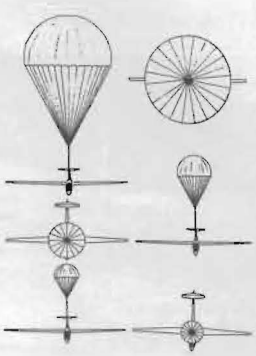
The paperwork should not be excessive. With these conditions, he could see commercial sales. Gerhard Waibel [the W in ASW] explained the incorporation of passive safety in the ASW-24

design. Photographs of a landing accident were shown in which the pilot of a totally destroyed aircraft survived almost unharmed. A stronger cockpit both allows for landing accidents and a higher parachute descent. He considered a weight increase of 5-10kg and a cost of 2-3% to be acceptable. Minimum escape altitude should be 100m and a servicing interval of five years. Inadvertent initiation cannot be excluded, and pyrotechnic components could injure bystanders. The prerequisite for private development is tolerable licensing requirements.

The ensuing discussion lasted well into the evening, and was extended to a restaurant after the formal meeting closed. The symposium settled on an aircraft recovery system with pyrotechnic triggering as the most realistic solution. The open question is whether pilots are prepared to pay, but there could be a reduction of insurance premiums. Costs would also be offset by the removal of the personal parachute. The manufacturers are only prepared to invest if customers show interest. Initially a buyer could ask for provision to be allowed for in a new sailplane, so when a system is approved it can be retrofitted. Owners of older aircraft could inquire, and in the opinion of the representatives of the manufacturers present, modification was a possibility. The price was likely to be in the region DM10000 – 15000.



The gain would not only be potentially life saving, but cockpit comfort would be improved. Improvement in seat design and strength would increase cross-country comfort and reduce injury in other accidents. Training schools would gain time, because parachute donning and briefing is not required. Fewer mistakes could be made in real emergencies. Ground impact damage to the glider would be reduced, reducing insurance costs.



All participants at the Aachen Symposium were in agreement: "This change is long overdue. The necessary contacts between manufacturers, authorities and pilots have been made. It is hoped that the first sailplane with a licensed recovery system will soon appear."

JOHN KENNY

COASTING

By coincidence John wrote this before the Kite featured strongly in the April issue and on the cover

The Mynd was grassy and as the Kite had a skid and no wheel they called her Gracias. Fred Breeze, Dave Treadwell, Peter Lanyon and I managed to raise the asking price, about £100 and bought her.

The casein glue was rather smelly and Fred, a senior inspector and a real craftsman, did wonders with rebuilding her. The rest of us did our little bit. Peter, a St Ives painter, took the fuselage back to his studio to strip off the paint and declared it was emulsion.

At Perranporth we flew from tarmac, so we just called her the Kite and installed all modern cons; canopy, spring trimmer, belly hook and spoilers.

In 1963 I was determined to fly my Silver distance and gained much field landing experience – none of it over 50km away, and by August 1964 was getting desperate.

Another field landing seemed imminent

I declared Plymouth Airport and climbed well over St Agnes Beacon, looking down on an airliner going from St Mawgan to the Scillies – a DH Rapide. This first thermal took me south of Truro and then it seemed as if another field landing was imminent. A considerate farmer was combining a runway into wind for me. I waited for him to finish his row, but as he turned a cloud of dust and chaff rose up and we were on our way again.

The north-west wind was stronger than I expected and soon we were over the south Cornish coast, faced with a long crosswind slog round St Austell Bay. Each thermal drifted us out over the sea and I noticed a large yacht, also headed east.

After each climb, I would fly back to the land and the great white heaps of china clay spoil, known as the Cornish Alps, and pick up the next thermal. With a brisk inter-thermal speed of 35mph, I was gaining about two miles with each climb. The pools among the "Alps" were a bright turquoise but where the streams ran into the bay they made long white snakes of sediment.

It took about 2hrs and 12 thermals to reach Gribbin Head and the yacht and I arrived there neck and neck. So we went on till we both passed Looe, the Kite tacking across wind and the boat healed over to a beam wind.

Here I stole a march on him. The clouds were forming into a line along the coast (sea breeze front) and I tried some latter day dolphin flying(!) – 40mph in the sink and pull up to 26 in the lift.

The new Saltash road bridge and Brunnel's older structure came into sight. At least navigation was no problem as the road bridge pointed straight towards Roborough Airfield. To get there meant leaving the sea breeze front. To estimate a glide angle of 18:1 by eye is not too difficult and there were two large aircraft-carriers parked in the Tamar in case I was wrong. I wondered what kind of noise a Kite skid makes on an armoured flight deck.

Anyway, we arrived at Roborough, joined a couple of silver and yellow Tiger Moths in the circuit and landed near the tower. Walking to the tower to get the landing certificate signed was like walking on air; me a real pilot, having flown 88km in 4½hrs and landed at a real aerodrome. You probably would not be too welcome in a glider at Plymouth now, but in 1964 it was no problem, and they let me phone Peter for a retrieve for free.

I never stopped my euphoric chatter in the car on the way back; they were ideal partners - patient.

Gracias was 27 years-old at the time but came to a sticky end against a wall at Lands End about 18 months later. I've made innumerable bold declarations since, travelled hopefully and never arrived. I still fly along the coasts, now off the Isle of Wight, and curse the encroachments of sea air, still in a 27 year-old glider but now with more than twice the Kite's glide ratio. Needless to say it cost more than £100.

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WINTER SOARING.... NEVER BORING

Guy set off this February with an Interrail ticket to explore European gliding sites, find some winter thermals and fly in a month as much as his student's budget would allow.

After the first of many nights of cold platforms and trains, I caught the first morning bus to Gap Tallard airfield in the French Alps. The only building open, the bar, was full of parachutists. The first glider pilots turned up nearer midday as did Phillipe Tarade, my instructor for the next two days.

The night's hard frost was cracked by crisp, unbroken sunshine. Just after 2pm we were towed down the valley in the club's Marianne until we had sufficient height to double back along the far side of the house ridge. Releasing off tow at 900m, I tucked into the ridge just below the top. "If you fly near the mountain, must keeping hundred (km/h)!" I was instructed as I pulled up slightly in the first thermal.



Thomas Janicek and the ground engineer showing Guy the AN2 at 1am in a snowstorm.

The south-east face was burning in the powerful afternoon sunshine but the cores were very tight and broken and largely unusable. As we neared the top of the mountain which marked the end of the rising ridge to the east, a huge vertical scar in the mountainside was entraining thundering streams of air up past the vertical lip of the little bowl. A couple of tight beats gave us enough height to begin to circle and a very rough core took us to 150m above the ridge and in sight of the heavy inversion. Not much was going to get past this on that day.

Conditions were slightly better the next day. We climbed to 1800m this time and slowly crossed the main valley to the west, working our way up to the Petit Ceuse mountain, a cliff edge which dominates much of the view along the Gap Tallard road. A couple of eagles watched us clear the top and push into a bowl behind. Once in the bowl, the lift was disappointing. "Take anything, we must climb here" Philippe commanded. He then explained that the only other way out of that bowl was to fly around the mountains blocking a very marginal direct glide back to the field. Nothing like a little stress to help hone a very rusty thermalling technique.

We slowly lost height on the glide home, darting in and out of the rocky outcrops and trees of the lower slopes, relieved to return safely.

As solo flight on my budget was precluded by a heavy minimum ten day insurance levy required of all pilots flying gliders solo in France, I elected to high-tail it to Italy while the Alps were still under high pressure.

My backpacker's guidebook commended the view from the train along the Milano-Aosta pass but a thickening veil of high cloud and industrial haze detracted from the view from the scene ilano-Aosta pass and forewarned of the unsettled weather to come. A rather attractive local girl taught me a few useful Italian words on the journey to Aosta and then gave me a lift from the station to the aero club.

The next day didn't look promising. This was confirmed by the very efficient but rather abrupt club secretary who informed me that the club did not get a forecast, but she too had looked out of the window. After much persuasion, she assured me that an instructor would arrive at 2pm and I could discuss the possibilities of a flight then.



Tug Willson and his Stemme S10.

Bernard arrived early and we watched their Twin Astir launch into the gloom as we pushed out the club K-21. It soon became obvious that the dozen Italian words I had learnt on the train gave me the edge in Anglo-Italian communications with Bernard, a situation which didn't look any more promising when we settled on my

Guy after his flight in a Marianne at Gap Tallard



A Puchacz with skis at Nowy Targ



CSE French as our common language.

We bumped along in the valley rotor on tow, and cleared the very heavy inversion by 500m above the airfield. The wind was only about 20kt from the north-west at altitude, but the turbulence was incredible. We maintained our release height for just over an hour, finding small cores for, if lucky, one turn or just a quick pull up. The vario screamed off the clock for a few seconds, the averager sometimes wound up to 10kts and then we would be plummeting earthwards again with a similar abruptness.

Eagles would occasionally check us out and one pair was particularly vigorous in the defence of their territory. We were dive bombed half a dozen times, the dominant bird going straight for the canopy, talons outstretched and at the last second it would turn and flash past the fuselage or roll over the wing. After five minutes our aggressor stopped the attack and gave us a demonstration of formation flying the Red Arrows would have been proud of. To sit at the dizzy altitude of 8000ft with this massive bird inches off the wingtip was spectacular.

Bernard suggested that I tried a little closer to the airfield as I had wandered to the head of the valley north of Aosta town, so we left our feathered escort. There were some very wet looking clouds with bases as low as 2500m on the southern slopes behind Aosta and around some of the north peaks now behind us. Wave was in the back of my mind the whole time and occasionally the big ragged cu developed very smoothly curved tops but these were always short-live

I spotted the Twin Astir again and slipped in underneath. The climb was better than most and after three similar turbulent encounters the lift began to feel more like a thermal. At 3000m amsl Bernard began to start talking about *L'onda*, which turned out to be Italian for wave rather than London. A very large cloud bank hung to our left and as soon as we set off towards it we hit a very smooth 6kt. *Termo-onda!*

The cloud patterns were now clear, but there wasn't an evident pattern of lenticulars. The K-21 didn't have oxygen, and before I could work out our height in feet and add the airfield's altitude we had passed 17 000ft. Bernard said he had once been to 6000m without oxygen but later had headaches. I have never felt so vulnerable in a glider - the scale of the scenery, the cold, the uneasy sense of some uncontrollable power we had toyed with in the wave system and the totally inhospitable terrain that lay beneath us.

I began to monitor my fingernails for signs of cyanosis as we descended to a more sensible 14 000ft. A very snowy Mont Blanc lay to the north-east, all but shrouded in cloud. Other famous mountains should have been visible but the cloud was beginning to fill along many of the valleys.

Being careful to keep out of the freezing cloud we set out for home in the setting sun. Bernard had a go at flying the Black mogul run down to the Pila skiing village and we landed just before dusk.

I spent the next day in sunny Venice and then night trained it into the Czech Republic. Although Prague was clear, Vrchlabi some 80 miles north was totally snow bound. I walked the two miles from the station in a blizzard, arriving at the airfield shortly before midnight and found the accommodation block which I had been told about, to discover one lighted window. Here I found one of the residents, Thomas Janicek, the pilot of the only thing on the airfield likely to be flying inside a month, an Antonov AN2 with skis.

Thomas was an amazing character. It was after midnight and here I was, fresh coffee in my hand, watching as he organised a tour of his flying beast, not for tomorrow morning but now! Ten minutes later Thomas, his flight engineer and I braved the snow in a rather ancient Skoda. The car didn't get much further than the gate (hardly surprisingly) and we waded through the drifts to behold a rather white AN2. The AN2 can hardly be described as a flying machine, rather a machine that flies! A 1000hp supercharged radial. "Very good spatial flying, 'aerotowning' and jumpers" Janicek eagerly informed me. Personally at that stage I was more interested in a second cup of coffee.

Prospects of flying were thwarted by more snow

Prospects of flying some Blanik aerobatics with a completely mad local at nearby Mnichovo Hradiste were thwarted by a further 10cm of snow the next night so I headed straight for Poprad Tatry in the Slovak High Tatra mountains.

Like all the Czech and Slovak clubs the Poprad Aeroclub's fleet was limited to a collection of Blaniks and the Czech built single-seater made from a mix of metal, GRP and wood, the VSO10.

Nobody had flown from the club for quite a while judging by the massive hangar doors which had frozen solid. An hour later we prized out an L-13 SE Vivant, a motor Blanik. Powered flight in the Tatras was forbidden as a National Park now encircles the mountains so we flew along the southern boundary at cloudbase.

The following day I joined a sightseeing flight in another AN2, accompanied by 12 east German schoolchildren. Having introduced myself to the pilot, who was also a glider instructor, I was invited to pole the beast. Electric trims marked in Russian were on all the flying control surfaces and it was generally easier to fly with these trims than the very sluggish primary controls. After we landed I couldn't but help notice the number of sickbags the younger passengers were clutching. I never did have the courage to ask if they had been necessary.

Poland had been billed as a gliding arena providing extremely cheap, exciting flying. I had not, however, taken into account two years' of capitalism as my information was alas that old. To make matters worse it was doing its best to snow every day. It snowed as I arrived and snowed and snowed, in fact I have never seen so much snow! I looked in at Leszno (Poland's Lasham), Zar in the Beskid mountains where they are putting together a two-seater prototype of the aerobatic Swift and the aeroclub at Zielona Gora. The only clubs to stay open for winter flying were two wave sites, Jelenia Gora to the south-west and Nowy Targ on the south-eastern border, my next stop.

Nowy Targ greeted me with clear skies as a small high pressure was slipping across Europe. At last the snow had stopped but the visibility below the 1200m inversion was very poor. The grass airfield was covered in up to half a metre of snow but to my surprise the club was active and there were Yak tugs, Puchacz, Juniors and Pirats in the hangar, all fitted with skis.

I met Tadeusz Swist, the chief pilot and decided to take the Polish basic aerobatic course. The high tows above the inversion gave spectacular views south to the High Tatras and below, horses and carts left a criss-cross of tracks in the deep snow to and from the small strip farms and villages.

The manoeuvres taught included things I had not tried before - circular loops, stall turns rather than chandelles, half flicks and accurate spin recovering on a nominated heading. It was rather mind blowing to be flying a glider solo (with skis) after only one check flight in a country not long ago closed behind the Iron curtain.

I was getting fed up with the snow and as more was forecast I reckoned that Spain would be my best escape. After two days on the trains I telephoned Tug Wilson from Barcelona.

The sea breeze came in while we were rigging Tug's Stemme S10 and the windsock swung through 180° as we watched. Quasada's hard strip near Alicante was pretty rough but we were airborne quickly with the 10kt headwind. Tug switched the engine off as we entered the sea breeze convergence zone which had now moved a few kilometres inland of Rojaes and we quickly gained enough height to make it to the first of the huge rock formations near Orihuela, about 30km inland. It was just past 11am and conditions were already good.

It was difficult to judge the span as I tried to get in close to the rock wall. The glider handled so much like the 15m machines I am used to flying, I had to have a good look out along the swept leading edge to remind myself of the 23m span. We were quickly thermalling and after a couple of very fast climbs it was time to head back as another pilot had booked the glider for the day. The S-Nav and GPS in the cockpit made light work of the navigation and we were back on the ground all too quickly.

And so ended my month, after 12 000km of European train track under me and a clutch of very varied flying experiences. The gliding was generally fairly expensive compared to the UK on an hourly basis, but excellent value when considering the uniquely varied opportunities possible in Europe. There are definitely places that I will return to spend a little more time one day.

Please send all contributions to the editorial office at Cambridge and not to the BGA.

LIFT AND LAPSE RATES

This started as an exercise to see if one could calculate the lift in thermals using a simple computer programme given different lapse rates from upper air soundings. For reasons to be described later one cannot really predict thermal strength from the basic data given in an upper air sounding but the exercise did show up some interesting

To begin with here are some definitions to refresh the memory.

Lapse rate

This just means the rate at which temperature changes with height. There are three types:
(a) The Environmental Lapse Rate (ELR) describes how the actual air temperature changes with height; it is measured by sending up a radiosonde which signals back the pressure, temperature and humidity as it ascends. Aircraft are also used to get the same data. They cost much more to operate but have the advantage of being able to make several soundings along the route. They can also release "dropsondes" to make extra soundings while the aircraft stays at high level.
(b) The Dry Adiabatic Lapse Rate (DALR) is the rate at which temperature decreases when dry air is lifted, as for example in a blue thermal. It has a constant value of 9.85°C/km, or (almost exactly) 3°C/1000ft.

The word "adiabatic" means that the process is not influenced by outside heat.
(c) The Saturated Adiabatic Lapse Rate (SALR) is the rate at which air cools after it has become saturated. The amount of water vapour the air can hold depends on the temperature. As the temperature falls the excess moisture condenses out as droplets of cloud (or fog near the surface). Condensation releases latent heat which warms the air. This reduces the cooling rate as the air rises. So the SALR diverges from the DALR. The difference provides extra energy to a thermal once cloud has formed.

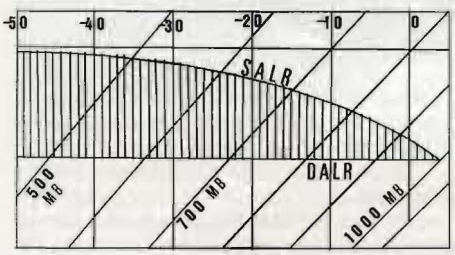


Fig 1. Aerological diagram showing the difference between Dry and Saturated Adiabatic Lapse Rates.

Fig 1 shows part of an an aerological diagram illustrating the divergence of the two lapse rates. The DALR is a straight line on this diagram but the SALR curves. As the air becomes colder there is less water vapour to condense out and so less heat is released. Eventually at temperatures around –50°C the SALR and DALR become almost the same.

Rise of a thermal

Fig 2 shows how the rate of ascent of a blue thermal can vary with height and also how the initial temperature excess is lost. The vertical axis shows height in metres, the horizontal axis shows the rate of ascent in metres per second.

The curved line marked "lift" shows how the rate of ascent changed with height. The right hand line marked "Temp Difference" shows how

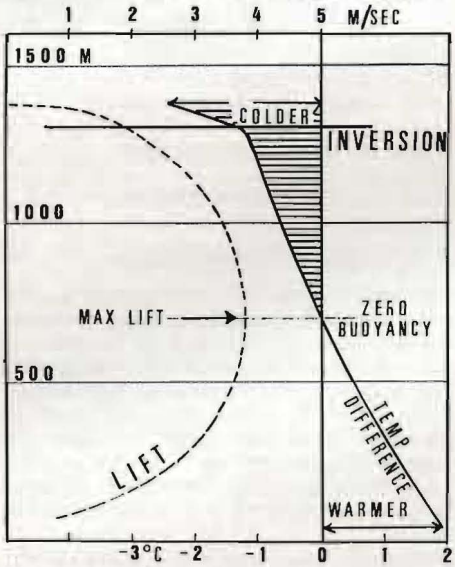


Fig 2. Lift in a thermal related to excess temperature. Excess or deficit of temperature is shown by the right hand curve; the shaded section indicates air which is colder than the environment. The left hand curve shows the lift.

this particular thermal cooled. The temperature scale is shown at the foot of the diagram. The thermal started up with an excess of 2°C. As it rose the cooling closely followed the DALR at 9.85°C/km. However the rising bubble also drew in some of the surrounding air. This mixing process is called "entrainment"; it acts to reduce the temperature contrast between the thermal and its environment. In this example the environment was given a lapse rate of 9°C/km, slightly less than the cooling rate of the thermal. Ascent and entrainment combine to reduce the thermal's temperature excess to zero at (in this case) about 700m.

While the thermal is warmer than its surroundings it is buoyant and accelerates upwards. It reaches its max lift at the zero buoyancy level. Above that the thermal gradually becomes cooler than its environment. The upward acceleration then becomes negative. Momentum keeps the thermal rising for a time but the lift eventually becomes zero.

At about 1300m this thermal encountered an inversion. The environment became very much warmer than the thermal which rapidly came to a halt. It had just enough momentum to take it a little way into the inversion layer. How far it penetrates depends on the strength of the inversion and the speed of the thermal when it hits it. A rapidly rising thermal may make a deep penetration into a weak inversion but if the thermal has lost most of its lift lower down, the inversion quickly brings it to a halt.

Three minute thermals

Photo A (see p209 for all the photos) shows a transient puff of cloud which formed when a particularly vigorous thermal rose through the inversion until it reached the condensation level higher up. The puff evaporated within 30sec and the thermal only lasted about 3min at any one level.

Ten minute thermals

Photo B shows longer lasting puffs formed just after midday when the condensation level was the same height as the inversion. These thermals seem to last about 10min but the puffs of cloud seldom survive longer than 3min. It is usually worth heading for such clouds because although the original puff often vanishes before you reach it, there is nearly always a new thermal rising nearby.

A succession of thermals from high ground

Photo C shows a succession of flat cu travelling away from the camera. They were set off from the area of high ground north-east of Cheltenham. The condensation level was about 400ft below the inversion and clouds were long lasting. The thermals feeding them probably did not last as long as the clouds.

Studies of real thermals

Fig 3 shows a convective layer observed using a combination of aircraft and Lidar. (Lidar is a system like radar only using light instead of radio waves.) On the right of the diagram is a

temperature sounding with cloudbase and inversion marked. The vertically shaded section above the cloudbase is the extra energy released by condensation. The horizontally shaded area above the inversion marked "Cold Overshoot" represents the rapid loss of temperature in the thermal after it has penetrated the inversion. This is where the upward momentum is lost.

On the left side is a cross-section showing the top of the convective layer revealed by the Lidar scan. It has humps where the rising air goes well above the inversion and a trough (marked "Deep Sink") where air from higher up comes far down into the convective layer. The diagram shows that it is normal for strong thermals to penetrate the inversion and also for strong sink to come down almost to ground level. Weak inversions allow considerable penetration, strong inversions stop ascent very quickly.

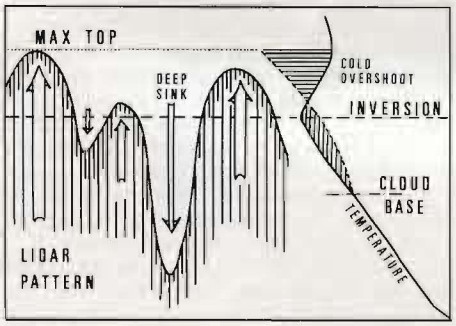


Fig 3. Lidar looks at a convective layer. On the left a side view of shallow convection seen by Lidar. On the right is a temperature trace showing cloud overshooting the inversion. Levels of cloudbase, inversion and maximum cloud top are shown as horizontal lines.

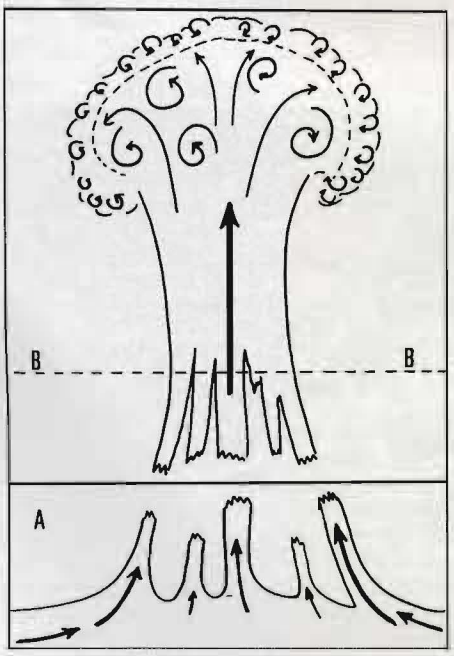


Fig 4A

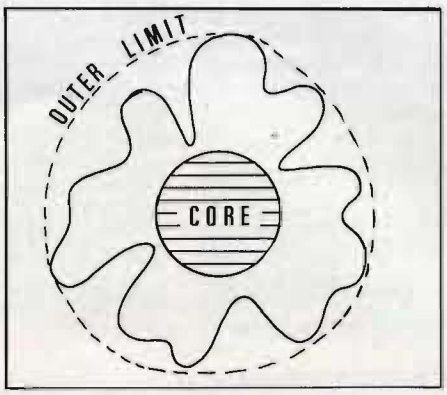


Fig 4B

Ilustration of a thermal formed from the merging of narrow plumes at low level and producing a mushroom like head at the top. Fig 4B shows a cross-section taken at level BB showing side lobes round the core of the thermal as seen by Lidar.

Factors which affect the rise of thermals

Fig 4 shows a simplified idea of a thermal. Thermals which rise from fairly level ground probably start as a series of "plumes", columns of rising air which have not developed a bubble like circulation. The lower part of Fig.4A illustrates these plumes which merge higher up to produce the mushroom like shape containing some sort of vortex ring circulation inside it. Fig 4B shows a cross-section through the combining plumes at a level marked B...B on 4A.

This cross-section was derived from a Lidar scan. Lidar can identify a thermal by the extra moisture and also by dust and other particles carried aloft by the thermal. The Lidar reveals a central core where the main lift is found, and a series of side lobes probably produced by merging plumes from lower down. The lobes seem rather like the roots of a big tree starting from widely separated positions but merging into a single column forming the tree trunk.

The head of the thermal usually develops a sort of vortex ring structure. This is where outside air is drawn into the circulation of the thermal in the process known as entrainment.

Entrainment

The entrainment of outside air into a thermal has a big effect on how the thermal cools down and hence how long it lasts. Quite how entrainment works is still rather uncertain. There have been several ingenious attempts to see what happens in real clouds. One method, illustrated in Fig 5, was to fly over a growing cloud top and release a chemical tracer. The aircraft then turned round and flew back into the cloud to see where the chemical had got to. 5A shows where the tracer was released, 5B shows how it was pulled into the cloud if there was no wind shear. 5C shows that when there was a wind shear over the cloud top the tracer only entered in an eddy on the down shear side. It seemed that most of the entrainment occurred at and just below the thermal bubble forming the head of the cloud.

Ozone as a tracer

Another method used the concentration of ozone to detect entrainment. Ozone is formed in the stratosphere but it is often sucked down to lower levels through folds in the tropopause where strong jet streams exist. The concentration of ozone normally decreases downwards and it is destroyed at the surface. When the thermal starts off it should have little or no ozone in it. If the thermal remained undiluted up to the top there would be a sharp drop in ozone when flying into the cloud. Where entrainment occurs one finds ozone has been drawn into the cloud. This method seemed to show that a big cloud pulled in air from the side as well as near the top.

Affects of entrainment

Whatever the exact details of the process the main affects are:
(a) To dilute the thermal which expands by incorporating some of the environmental air.
(b) To reduce the initial difference in temperature.
(c) To slow down the rate of ascent.
The rate of ascent is reduced partly because the temperature contrast is reduced with time but also because the entrained air has to be accelerated upward. This takes more energy from the thermal.

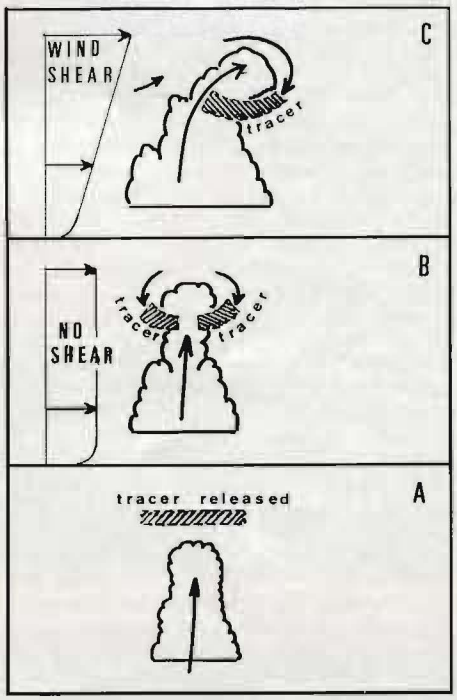


Fig 5. Cloud top entrainment observed using a chemical tracer. A tracer released above cloud top. B tracer pulled into cloud belowt he summit. C tracer pulled into downshear side of cloud.

The influence of moisture

One of the best indications of moisture content is the dew point. This is the temperature at which droplets of moisture (dew) start to form on a surface which is cooled. Fog or cloud form ➡

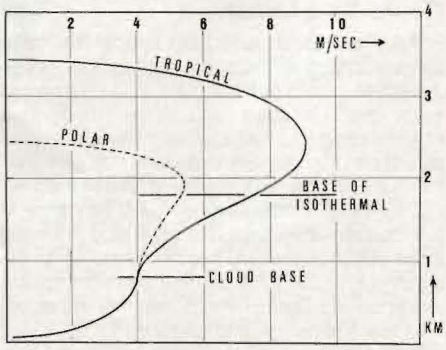


Fig 6. The difference between cumulus rising in warm moist tropical air and cold polar air.

when the air is cooled below its dew point.

Dew points are regularly reported in VOLMET broadcasts. They precede the pressure. Thus:

"... Temperature 18, Dew Point 8..."

shows a 10° separation between temperature and dew point. The separation can be used to work out the "Lifted Condensation Level" (LCL). As a rough guide multiply the separation by 400 to get the height in feet. Ten degrees gives an LCL of 4000ft and one generally finds this coincides with the base of cumulus during the morning and for much of the afternoon. A constant check on cloudbase and surface temperatures often shows there is a time-lag between the rise of temperature and rise of cloudbase.

Once cloud forms the rising thermal no longer cools at a constant DALR. Instead the temperature falls at the Saturated Adiabatic Lapse Rate (SALR). This makes the calculations longer because the SALR is not constant. It may vary from about 4°/km at low levels in warm tropical air to some 8°/km in polar air. As the thermal rises and the air cools the SALR changes and eventually (at very low temperatures) approaches the DALR.

Fig 6 illustrates the effect of the difference in SALR. With the same dry lapse rates and condensation level the tropical cumulus gains more energy from release of latent heat than a polar cumulus. Consequently the thermal rises further and faster in a tropical cumulus than in a polar cumulus.

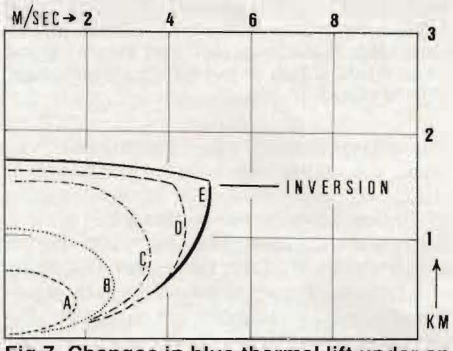


Fig 7. Changes in blue thermal lift under an inversion. A is an early morning thermal, E shows mid afternoon lift.

Fig 7 shows a series of curves to illustrate how the lift may vary on a blue thermal day. A is the first bit of lift, E is the well developed thermal.

A represents lift when there is little temperature excess. There is not a large reservoir of heat so the thermal bubble is small and is quickly eroded, losing all lift long before reaching the inversion.

B is a bigger bubble with warmer air; C has just enough energy to reach the inversion and D and E both reach the inversion with a good deal of momentum but are quickly stopped by the very much warmer air above the inversion. Notice that the level of maximum lift alters through the day. Thermals A to C have their best lift about half way up to the top. In contrast D and E give the best lift much nearer the top.

Dew point changes

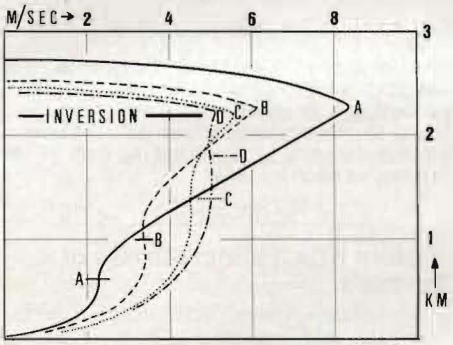


Fig 8. Changes in rates of lift when the dew point is raised. The little horizontal bars show different cloudbases.

Fig 8 shows how the depth of cumulus is reduced as the air dries out. Short horizontal bars show different levels of cloudbase. The inversion is marked by the horizontal line at 2200m (just above 7200ft).

Curve A shows a low cloudbase of 600m, (just under 2000ft). The lift increases rapidly once cloud has formed and reaches a little over 8m/sec near the cloud top. In this example it was assumed that such damp air would produce excessive amounts of cloud and so reduce the surface heating. Thus lift is rather weak below cloudbase.

Curve B has a cloudbase of 1000m. The drier air has less depth of cloud and less acceleration in cloud, but since the total cloud is less the surface heating is stronger and gives better lift below cloud.

Curves C and D show the effect of progressive drying out with the cloudbase rising to 1400 and 1800m respectively. As cloud amounts decrease so surface heating is greater and the dry part of the thermals are much stronger. There is no significant change in lift in these shallow clouds. They are only worth entering if there is a wide gap to be crossed.

Problems with real thermals

It would be nice if one could pick a temperature sounding and calculate the lift directly. Unfortunately there are too many variables in real thermals. The lift also depends on:

(a) The size of the thermal. Little ones are quickly eroded by mixing with the environment and fizzle out before getting up much speed. Large ones contain a greater volume of warm air which takes longer to be diluted by mixing.

(b) The underlying surface does not heat up evenly. Damp valleys produce only weak thermals, if any. Dry hills often set off strong lift.

(c) Wind shear may produce distortions leading to asymmetric lift distributions.

(d) A gust front or convergence line gives an incalculable boost to thermals.

(e) A group of clouds may combine to protect the inner cells from erosion so allowing a central tower to rise much faster and higher.

Some cloud variations

Fig 9 shows three basic types of cloud whose form depends on the degree of penetration of an inversion. A shows a strong inversion with the condensation starting just above the inversion level. This has been termed a "suppressed" cumulus because the upward motion is stopped and changed to horizontal motion so that the cloud spreads out as a flat plate. Lift generally decreases rapidly as you get near cloudbase. This kind of cloud has been seen to persist for 30min during the afternoon; presumably it is fed by a series of thermals coming up the same path, or one very close to it.

B shows an active cloud which has reached a weak inversion with enough speed to penetrate and form a moderate sized cumulus.

C is a passive cloud left drifting when the thermal feeding the active cloud (B) has expired. Passive clouds are a nuisance. They tend to have sink underneath as well as on both sides and they also cut off some useful sunshine. Little dissipating puffs are not much trouble unless they combine to form a stratocu layer.

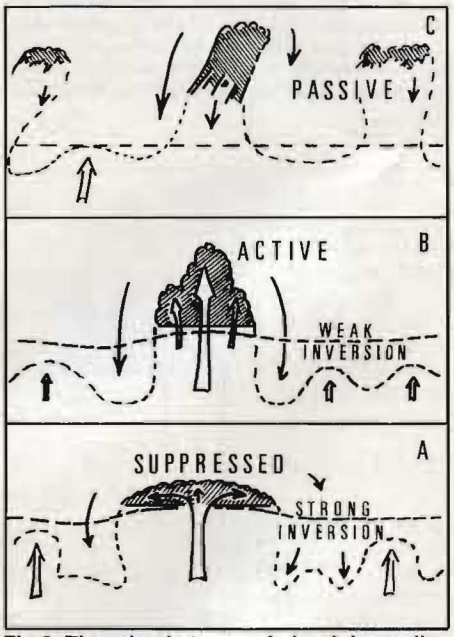


Fig 9. Three basic types of cloud depending on the degree of penetration through an inversion.

More varieties

Photo D shows a bank of large cu. There was no discernible inversion and the clouds were limited chiefly by the progressive drying out of the the air aloft as the wind changed from a sea track



A.↑



B.↑



C.↑ D.↓

up the Bristol Channel to a land track across the Welsh mountains.

Photo E shows a collapsing pillar of cu. Tall narrow cu often shoot up like rockets and come down like the sticks. This is partly due to very dry air aloft producing rapid evaporation of narrow towers. Cloud tops seldom reach their full potential when it is very dry aloft.

Photo F shows an isolated cu-nim surrounded by much smaller cumuli. It illustrates the great variability of cloud sizes on a day of deep instability. Looking at an upper air sounding one might expect every cloud to grow into a cu-nim but in fact lots never made it to the big league.

You can explain lots of phenomena with a computer programme but nature often comes up with a different answer.

Captions. A. 3min thermal, 30sec cloud. Mid afternoon in May with the condensation level above the inversion. B. 10min thermal, 3min clouds. Early afternoon in May with the condensation level at the inversion. C. A series of flat cu at mid afternoon with the condensation level about 400ft below the inversion. D. Large cu at mid afternoon with no inversion but a slowly drying airmass. E. The collapse of a cu pillar. Midday with no inversion but air very dry aloft. Cu towers shot up fast and rapidly decayed. F.Cu-nim surrounded by small cu. Deep instability but only a few clouds grew into cu-nims.



F.↓



E.↓



S&G CLASSIC

CHOSEN BY PLATYPUS

THOSE PENNINE WAVES

Those whom the gods love die young

To choose one of Mick Kaye's flights for this Classics series is a small act of homage to a young, brilliant and unfulfilled talent. Perhaps genius is a better word than talent. He was 30 years-old when he died in 1967, seven long months after a crash on the steep and rocky Camphill ridge. Some of his legendary flights were achieved when he was only 20. When we read this account of his cross-country to Northumberland in 1957 we should remember that the measured glide angle of an Olympia 2 was 23, though advertised at 25, and its penetration through sink or headwind derisory.

Later he flew an Eagle in contests and on record attempts. On its vast front instrument panel sat a solitary Cosim (the green-and-red-pellet variometer of 1930s origin that you will see in some vintage machines) and a T&S, as well as the usual ASI and altimeter. It was certainly the most basic panel I have ever seen used by a contender for the National Championships. No electric vario, no horizon. In the 1960s the best two-seaters were not comparable with single-seaters the way they are now.

I remember the disappointment in his face on the famous "D-day" at Aston Down in the 1962 Nationals when a headwind sprang up on the final leg and dozens of pilots fell short within sight of the finish line. The Eagle stopped with its nose a few yards from the airfield boundary hedge. He looked very tired, though that might have just been the realisation that he could not become Champion in such a glider.

Later he went on to break more records in the Eagle, but he quit the contest scene. He was not the "seven triangles through Husbands Bosworth" sort of pilot, anyway. He was in the spirit of Philip Wills, a true romantic and explorer.

This article was taken from the February 1958 issue of *S&G*, p4. There has been a lot of interest in this series and many readers have asked whether it is still possible to buy copies of these old issues. While the BGA can't promise you complete sets going back to the early days, they do have a good selection of back copies and it's worth contacting the BGA office.

Of opportunity, has it not been said:

They do me wrong who say I come no more
When once I knock and fail to find you in.
Each night I burn the records of the day,
At sunrise every soul is born again.

It has been long evident that the Pennine lee waves ought to carry a sailplane from Camphill into Scotland – on the right day. During the weekend October 26-27, opportunity knocked and was heard because a club meeting on the 26th had decided that the best way to increase flying hours is to get up earlier. In the result there was flying before breakfast on the 27th, and a cracking wave with other conditions as below:-

Wind WSW 15-20kt at ground level
Wind WSW 30-40kt at 15 000ft
Base of roll cloud: 3300ft
Top of roll cloud: 4500-5000ft
Base of lenticular: 12000ft
Top of lenticular, estimated: 20000ft
(Heights asl)

Olympia "Blue John" and the writer were winch launched by 10.20hrs and, casting off at 500ft, ran into 7ft/sec lift. A quick dive to drive the barograph stylus as low as possible, one slow beat along the edge, which put 3500ft on the clock, and it was time to go. The wave was consolidating towards the north, so at 10.35hrs we ("Blue John" and I) turned north and flew towards the Ladybower dams. Still climbing, but after 4400ft not much joy over the north end of the dams, so on again towards Stocksbridge, where a clearcut roll cloud was going great guns. When we reached this cloud at 10.50hrs, the lift was 15ft/sec up, and there was no need to do much but maintain position in the lift by judicious beating up and down.

Very clearly our Walter Kidde lightweight oxygen set was going to be needed so, with a fervent "God bless Kidde", I put the mask on at 11000ft and was personally much improved thereby, although the rate of climb promptly fell off to 3ft/sec and by 13600 ft was negligible.

The next wave lay in the direction of Dewsbury and a long glide towards it seemed attractive after forty odd minutes spent on the last climb. The attraction proved to be illusory, for the sink on the way to Dewsbury was phenomenal, but when we got there the wave cloud was there too. The ground was disgustingly close and the altimeter had lost 10000ft, but we were climbing again at 10ft/sec, which held to 5400ft, when the wave lift broke up and the cloud closed in, giving 8/8 cover below and leaving one solitary Olympia above.

The next wave downwind was more generous hearted and remained "open to visitors". Arriving at 2300ft and 12.30hrs, we started to go up – feeling like Sputnik II – and a steady 12ft/sec eased the mental situation except for the fact that we hadn't had a "fix" since Dewsbury. However, an average 10ft/sec climb did wonders to the altimeter, and having identified Leeds under the port wing I settled back to await further developments.

We hadn't long to wait. At 11000ft and 12.53hrs the ground disappeared and we were in the murk. Now what? Must be the lower side of a lenticular, since there's no other cloud to fly into, so "on mask" and forward we go to the leading edge of the cloud, achieving nothing but red ball. So? Seems better where we were, and back we go under the middle and green re-appears. T&S on, course 330° magnetic, and inside we go at 3ft/sec climb.

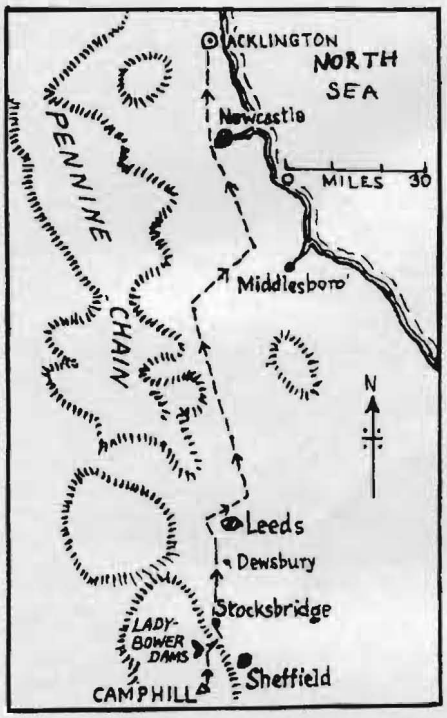
A long 5min later the cloud thinned and we emerged halfway up the side of long, grey lenticular. From then on events began to merit that overworked term "fabulous". Plodding along at 45mph, on course 330°, and using whatever lift came along, every so often we had to retire inside the lenticular to beef the altimeter above 13000ft, for only inside the cloud itself did the lift reach 3ft/sec.

Near Pateley Bridge some three-tier lenticulars were forming in the length of the cloud, and from 13400 to 16300ft we went in again. There wasn't much oxygen left now, and with skimping it my blind flying didn't improve. Only another 500ft for that Diamond, but those last few stairs to stardom just weren't to be found.

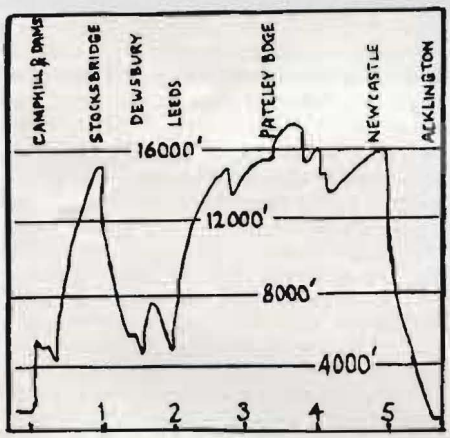
From Leeds to Pateley Bridge the lenticular had been unbroken, but now there was a short gap to be crossed. The cloud cover was 8/8 again down below, and it would have been interesting to see where we were in relation to the ground.

By 15.10hrs Newcastle was in sight and hope rose high again when some 3ft/sec lift took us to 14200ft almost directly over the Newcastle GC site at Usworth. But the afternoon light was fading and my declared goal at Portmoak lay 80 miles further ahead. Most of Northumberland lay under thick cloud although lenticulars were to be seen in the direction of the Cheviots too far away to reach. So on we went until Acklington RAF station ought to have been somewhere below, then "out dive-brakes" and into the cloud tops at 5000ft. It wasn't very funny, because previous and frequent visits to the interiors of lenticulars had put a lot of ice on the flying surfaces, which all flaked off with awe inspiring noises as the ice parted, and terrifying cracks as bits of ice hit the tail. It was also raining cats and dogs.

With considerable interest the writer watched



D.M. KAYE 27. 10. 57.
ROUTE & BAROGRAPH TRACE



the altimeter wind down, meanwhile calculating that the ground below (if it wasn't sea) ought to be quite a bit lower than the hill top at Camphill, and there should be a bit of clear air between the bottom of the cloud and the ground (or sea). At 900ft there was a gleam below and Acklington appeared half a mile away. One quick circuit and we landed at 16.03hrs, 145 miles from take-off, 90 of them spent above 12000ft.

RAF hospitality to an aviator in distress was most gratefully received, including a rapid and novel de-rig which took place whilst I reported to control, and which featured the removal of both wings from the fuselage as a unit.

My thanks are also due to the Walter Kidde Co Ltd for designing such a compact and convenient means of providing on demand the oxygen, without which the flight would have been almost impossible.

CAMBRIDGE RULES THE WAVES

Anthony recalls the first wave flight in the UK and two notable pioneering wave flights from the Long Mynd, all by pilots from the flat side of the country

One of the delightful paradoxes of the development of British gliding is that many of the pioneering flights amongst the hills and mountains were made by those denizens of the Fens, the pilots of the Cambridge University Gliding Club. Even before the Second World War they were trailering their frail machines to Dorset and Wiltshire and Shropshire in search of hill soaring, and their post-war exploits, especially in North Wales, are legendary. (There are unconfirmed rumours of continuing activity in the Lake District.)

They did not confine their activities to hill lift, however, and in this article I want to recall the first ever wave flight in Great Britain, and two other notable pioneering wave flights, all three by Cambridge pilots flying from the Long Mynd.

The first of these flights took place over 55 years ago, and I was reminded of it the other day when I had lunch with the pilot, John Simpson, and was ashamed at how little I knew. Fortunately he wrote an account in *The Sailplane* for November 1937, and a copy exists in the CUGC Notable Flights Book.

John was bungy launched in the Club's Kirby Kite at 10.20am on September 8, 1937. The WNW wind was 12kt, veering and strengthening with height. Cumulus clouds with bases at 3500ft asl stretched as far as the eye could see in all directions. Above 4500ft or so the sky was cloudless. During a climb of 1hr John rose to 8500ft: "I was still flying along what I could still see of the hill, just as if slope soaring." At its strongest the lift was 5ft/sec and "absolutely smooth."

Airborne at the same time was Capt R. S. Rattray in his Cambridge glider, in which he reached 7900ft. John concluded his account "During the previous afternoon we had been observing with interest numbers of lenticular clouds in the neighbourhood of the Mynd. There was a very fine one away to the NE, which was in three parts, presumably the three successive crests of some enormous waves of air. Perhaps the conditions which caused these clouds to form were still holding when Capt Rattray and I were launched, and in some way we were able to get up to the area of lift which had been forming the cloud on the previous day".

After the war the Cambridge Club held regular camps at the Mynd in March, June and September (to coincide with the beginning or end of term), and it was at these that the other two pioneering flights took place. On March 16, 1949, David Carrow flew the Club's Olympia 104 miles to Newbury in a succession of waves to record the first wave cross-country in Great Britain. The NNW wind was about 35kt at the Mynd, and the cloud 5/8ths stratocumulus with bases between 4000 and 5000ft. From a bungy launch at 1.15pm David climbed in wave to 10400ft, and he then used three more waves which took him all the way to Newbury racecourse. The flight won him the Kemsley Winter Prize, as well as Silver height and distance to complete his Silver badge. It is described in *The Sailplane* for May 1949 – and also made *The Sunday Times* and the CUGC Notable Flights Book.

Then four years later, on March 18, 1953, Sigfrid Neumann took the plunge in a 25kt easterly and showed that the east wind Mynd wave, clearly identified by its long cloud parallel to the hill and about a mile out, could be caught from a winch launch. Sigfrid had a 1000ft launch in the Club's Prefect at 11.04am and lost only 400ft before contacting the wave. He reached 6600ft during a flight of 3½hrs. George Whitfield then took up the Prefect and the height he achieved completed his Silver badge. Sigfrid's account can be found in *Gliding* for Autumn 1953.

GLIDER/AIRCRAFT INSURANCE DUE?

Contact:
Tony Fidler

Glider pilot for 27 years

32 years insurance experience

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27 High Street, Long Sutton
Spalding, Lincs PE12 9DB
Tel: 0406 362462 (office)
or 363574 (home)

JOHN DELAFIELD

DUO DISCUS

An Evaluation

Schempp Hirth's Duo Discus is the latest in a long line of highly successful gliders from designers Klaus Holighaus, Helmut Treibe and their team, and from my one hour flight test, which included plenty of soaring, I can say unequivocally that it is destined to set new standards of popularity in its Class

As is evidenced from the three-view drawings and photographs that accompany this article the Duo Discus will be a distinctive shape in the sky. There can be no doubt that substantial numbers will be sold as the glider offers the technical sophistication that customers now expect, coupled with delightful handling and impressive performance. Not only will the Duo Discus be a worthy addition to a club fleet as a basic through to advanced trainer, but it should prove particularly attractive to those syndicates looking for good all round performance coupled with ease of use and with a price tag that is somewhat less than one might expect for such a quality product.

A view of the glider taken by a Schempp Hirth photographer.

Let us now look at its specification before moving on to report on the all-important flight handling qualities.

In appearance the Duo Discus, which supplements the latest model Janus CE and Nimbus 3D, bears a great resemblance, as suggested by its name, to the geometry of the single-seater Discus. But with the higher aspect ratio of the swept-forward wing and the swept-back leading edge of the outer portion, the result is an elegant and impressive planform that is perhaps even more striking than that of the single-seater. Certainly there will be absolutely no difficulty in identifying it from a distance.

The four-piece wing is of GFRP foam sandwich construction with the spar caps made from carbon fibre rovings. Rather than divide each





Michel Battarel of *Aviasport* took this shot of the Duo Discus.

wing more or less equally, Schempp Hirth sensibly opted to make the inner sections of similar length to the fuselage, thus taking advantage of a trailer length dictated by the 8.62m fuselage. The tips are modest in size, light and easily fitted. The ailerons on the tips deflect upwards only. With tips installed the flying span is 20 metres, with tips off, for hangarage for example, the span is 16.25 metres (53.3ft). All controls connect automatically during assembly including the water dump valves. One person could probably manage to rig the glider singlehanded with the aid of a one man rigging aid although the manufacturer anticipates a normal crew of three.

The fuselage is a GFRP shell with the strong and proven Schempp Hirth steel tube centre-section frame which carries the wings, the retractable main gear, with its 380x150 wheel, and acts as an anchor for the centre-section control actuators. The tailplane is the same shape and profile as on the Nimbus 4 and has the automatic elevator connection that is standard on all Schempp Hirth gliders. The cockpit is offered with a one-piece side opening canopy for optimum visibility although a two-piece canopy has been trialled and may be available on request.

The cockpit has been developed from the Janus and Nimbus 3D with a number of improvements to enhance usable space and com-



fort. Its structural design and seat configuration is designed to meet the latest requirements for pilot protection in an accident. The seat design is intended to reduce the risk of the occupants "submarining" under the harnesses in the event of rapid deceleration. The rudder pedals in both cockpits are adjustable and the seat back in the front is both adjustable and removable for extra large pilots.

The control column is conventional but I felt it was a little too long for optimum comfort; the manufacturer has said that it will be shortened by 15mm on production machines to satisfy this criticism. The other controls are conveniently placed with the trimmer being on the left and with a notched rather than friction retaining system. The wheelbrake is actuated by the extreme aft movement of the airbrakes but an additional low-power wheelbrake is fitted to the control column for use in situations such as overrunning the cable. The undercarriage lever is on the right and retracts the main wheel only; the nose wheel, which is of generous proportions, is not retractable. Schempp Hirth produced an experimental retractable nose wheel on an early version of the two-seater Nimbus 3D but its complexity outweighed any benefits and they decided against any further experiments with the Duo Discus.

The tailwheel is fixed. The cockpit canopy is jettisoned by use of the normal cockpit opening lever, with the restraining cable and hinges being designed to shear under the airloads. Ventilation is by way of an adjustable nose inlet as well as the conventional scoops in the canopy direct vision slides.

From the front cockpit the visibility is very good all round although the nose appears to be slightly higher than on other modern basic training gliders I have flown. This feature may work to the benefit of those student pilots who have difficulty in judging an accurate nose attitude as the relative angles between the cockpit and the horizon are less than in some other training gliders. On the other hand it may exacerbate problems of retaining a view of the tug aircraft on aerotow if the glider is permitted to get too high. After consideration of these and other views the manufacturer has now decided to lower the instrument panel by 15mm to increase forward visibility. From the rear cockpit the visibility all round is about the same as other two-seaters and in my view the lack of a canopy arch on the demonstrator with a single-piece canopy that I flew is a positive feature as its assists forward visibility, although some pilots may prefer the two-canopy arrangement.

Below: The Duo Discus cockpit. Photo supplied by Schempp Hirth.

Now to the in-flight handling

The aerotow was behind a Robin and flown from the Hahnweide Airfield under thermal conditions with a moderate easterly wind. The glider sat on its main wheel and tailwheel whilst static but the tail quickly rose into the normal flying attitude once speed was gained. Unlike the Janus and the Nimbus 3D, there was no obvious tendency for the nose to pitch down on to the nose wheel, due, I was told, to the swept tips giving the glider a more aft C of G than on these earlier types. The nose hook was utilised for the tow and the glider followed the Robin with only the minimum of effort from me.

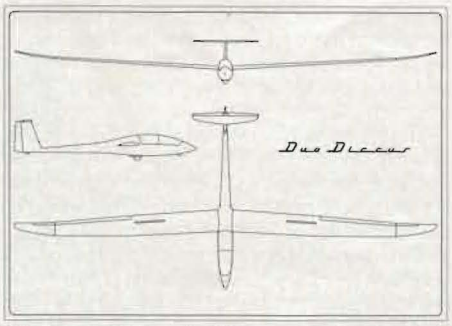
The ailerons became effective early in the take-off run and lift-off was clean. The aerotow was straightforward and I found no characteristics that could present a problem. Retraction of the mainwheel can be done during the tow, although one must change hands on the control column to do so; the operating loads on the wheel are the lightest I have come across in a two-seater and should present no difficulty to any pilot, even for those of limited physical strength. Although the prototype Duo Discus I flew did not have a rear cockpit undercarriage lever, I have been assured by the manufacturer that all production versions will be equipped with one.

The first impressions of the Duo Discus after release are of a glider that responds to the pilot's command with alacrity. The rate of roll is impres- ➡



sive at around 4sec for a 45 to 45° reversal and the ailerons are light. In a turn the glider gives the impression of "sitting on rails" and was quite comfortable at a speed of about 45kt, although I felt that a few knots less would likewise have presented no handling problems. The rudder does require some effort if turns are to be kept free of slip or skid although the glider has good directional stability. In a turn it is worth noting that a small amount of slip, with the yaw string pointing away from the turn very slightly, is beneficial to the climbing performance; this is a characteristic common to a number of Schempp Hirth gliders. I did not assess the glider's spiral stability.

In straight flight the Duo Discus is longitudinally statically stable but dynamically unstable, in common with many other gliders. However, the rate at which the instability shows is so slow that few pilots would be even aware of it. The subjective impression is of pleasant easy handling. The clean aerofoil and fuselage gives the glider rapid acceleration up to cruising speeds in the order of 80 to 90kt; trimming for



the speed changes is straightforward once one has mastered the technique for engaging the trimmer in its notches.

The stall is innocuous and is characterised by marked airframe buffet. The ailerons remain effective right into the stall and there is no tendency for a wing-drop. The nose can be held up and apart from the high nose attitude, low speed and buffet the stall is evidenced by a sink rate of some 400ft/min. In the stall the speed stabilises at around 38kt. Recovery is immediate on releasing the back pressure on the stick. Spinning was not attempted as the glider had not, at the time of my flight, completed this element of its flight tests. I have since learnt that all flight testing was satisfactorily completed by mid-May.

The Duo Discus can be made to side-slip easily and recovery to balanced flight is prompt. With feet off the rudder pedals the rudder will centralise itself, a feature that is all too uncommon on many gliders.

The sinking speed of the glider appeared to be at least as good as the manufacturer's brochure claim of 1.2kt, and the glide angle felt at least as good as the single-seater Discus. These assessments are entirely subjective.

Prior to the approach and landing I tried the airbrakes and for these Schempp Hirth are to be congratulated. Not only are they smooth and powerful but the operating forces both to extend and retract are near zero, with a slight bias to close themselves. So many gliders suffer from airbrakes that suck out far too aggressively, especially some basic trainers, and it was a pleasure to find a machine where these characteristics have been eliminated. Likewise the force required to lower the undercarriage was minimal.

Approach control was straightforward and was flown at 55kt, giving plenty of control without excessive energy to dissipate. As far as I could assess there was no tendency for the glider to have insufficient manoeuvre capability for a flare from a high sink situation, but one would need to conduct further flight evaluations to be sure. Touch down on the main wheel in a tail down attitude was easily accomplished and the wheelbrake was powerful. Modest rather than hard braking was sufficient to pitch the Duo Discus on to its nose wheel, with the glider pitching back on to its tail wheel once braking had ceased. As mentioned earlier the Duo Discus displays this characteristic to much less extent than the Janus or Nimbus 3D.

All round I found the Duo Discus an impressive glider with good performance and well harmonised controls and I believe that it will be assured of success in both the club and syndicate market. It fills a niche below the flapped Janus, which is to remain in production, and will appeal to those who desire easy and docile handling with good performance, but without the complication of flaps, and who place importance on easy rigging and de-rigging. It is not available with an engine, however, and for those customers who wish to have this facility Schempp Hirth point out that they can offer either the turbo or self launch Janus, both of which have now had a face-lift with a new tail unit and revamped cockpit. But for simplicity and delightful handling the Duo Discus has set a new standard.

Technical details

Span (m)	20
Wing area (m²)	16.4
Aspect ratio	24.4
Fuselage length (m)	8.62
Cockpit width (m)	0.71
Cockpit height (m)	1.00
Empty weight (kg)	400
Max flying weight (kg)	700
Max waterballast (kg)	200
Range of loadings (kg/m²)	29.3 – 42.7
Max speed (kt)	135
Wing profile	HQ-31-A/XX

Manufacturer: Schempp-Hirth Flugzeugbau, Krebenstrasse 25, D 7312 Kirchheim/Teck.

UK Agent: Southern Sailplanes, Membury Airfield, Lambourn, Berks. Tel 0488 71774. **Price: 115 000DMM**

(These views are those of the author alone and do not form the basis of an offer or contract.)

FRENCH ACCIDENTS

Of 94 accidents recorded in official statistics in France last year, 23 were the result of field landings, and 13 of these were mainly due to human factors. The proportion remains about the same every year. In an attempt to improve matters the FFVV has published a book, ***Ecole de vol sur la Campagne***, which deals extensively with the problem of field landings.

- Translated from *Aviasport* by Martin Boycott-Brown.

RICHARD HARVEY

BUILDING A WOODSTOCK

Richard may have spent many leisure hours over four years at his workbench but he has emerged with an impressive new glider costing about £7000

It all began in August 1985 when my wife's birthday present of a glider flight hooked me forever. On January 14, 1988, after 66 training flights, I soloed and ten flights later moved on to the Swallow. But standing for hours in the queue for club machines my thoughts turned to a glider of my own. As something of an individualist the syndicate system did not appeal and suitable second-hand gliders proved elusive, so I thought "Why not build one?"

After a few weeks' searching for suitable designs I found Woodstock in **Jane's All The World's Aircraft** and wrote to Jim Maupin in the USA for further information. A few weeks later a pack arrived which included a photograph of our own Derek Piggott flying a Woodstock in the States. My search was getting warmer and I was not discouraged by Derek's well-meant advice to buy an old wooden glider and spend my time flying it rather than building one. Of course, I didn't listen but, he advised, if build I must it might as well be a Woodstock. So I ordered the plans – all fifteen sheets of them – and asked the BGA if anybody else in the UK was building one, but I was on my own!

After much thought about my self-imposed task, I decided to go ahead under the scrutiny of Stu Hoy of Anglia Sailplanes, a BGA approved inspector.

By now I was committed (perhaps I should have been!)

The next task was to find the right building materials. I had no aviation background and, consequently, no suitable contacts, so back to the *S&G* advertisements and the telephone – my bill soon began to resemble the National debt. I talked to many people about building materials – plywood, bearings, bolts etc. All were anxious to talk, even those from whom I was not buying, and their advice was invaluable. My wife Rosemary and I decided to collect as many of the materials as we could and, in consequence, met many interesting and helpful people.

Construction proper began in January 1988

with the wing spars which my log shows were approved by Stu that May. The wings took a year to build and then the fuselage was started. This was built upside down and in August 1989 was turned the right way up for the top decking to be fitted. By this time it possible to sit in the glider and I felt it necessary to do so at least once a day. In fact a considerable amount of time was spent sitting in the embryo cockpit contemplating the future. Prospective builders be warned, such reflection can add considerably to the total building time.

As an ex boat builder with an aversion to glass-fibre I did not enjoy making the nose cone. Lying on the floor up to the armpits in resin was a low point in the enterprise.

In the summer of 1991 we moved the fuselage to the front garden to fit the wings. Now a glider in the front garden is not a common sight and is inclined to attract passers-by who want to talk – and talk – and talk. This and the wind and rain slowed the job considerably. Indeed the more the glider appeared to be nearing completion the longer it seemed to take. The basic structure was complete by November 1991 when Stu and I covered the machine with Ceconite. Little did I realise that I was still a year from completion.

The newly covered Woodstock now required a trailer, so Rosemary and I popped over to Schofield's to look at second-hand ones after which we decided that we did not like wooden trailers anyway so, you've guessed it, we bought a Schofield kit and made our own. Our son Mark and I towed it home on December 1 and as there was no room for it in the garage we had to build it outside. As usually happens when you have to work outside, the weather decided to be foggy and frosty. Handling cold aluminium sheets was an unpleasant task for my neighbour Ron and me but we completed the job in two weeks. Matching the trailer to its glider proved a laborious and time consuming task.

Mark's boss allowed the use of his spray shop for a weekend, which was long enough to complete the painting. The glider was finished – well almost!

There remained the problems of getting the glider airborne. Stu Hoy weighed it and, of course, it was overweight at 296lb, despite its being considerably lighter than most single-seaters. But the BGA was kind enough to grant us a permit to fly and, on December 12, 1992, the intrepid Jeremy Moore did so.

If you should consider spending four years of your own and your family's life on building a glider then I hope you get the tolerance and support I received from Rosemary. She is the wind beneath my wings.



Richard, left, with Jeremy Moore before the test flight of the Woodstock.



The Woodstock in Richard's front garden.

A test flight by Jeremy Moore

My first impression was that it seemed so small it must be radio controlled. But looking inside you realise how much care and attention Richard has put into the building and it looks just like a beautiful piece of furniture.

But despite its small size, the cockpit seems roomy and very comfortable. Sitting slightly nervously as I started to roll along the ground on the first test flight I suddenly found my fingers were rather wet. This, we found out later, was because the wheelbox had no top cover and this has since been rectified.

Initially the handling was quite reasonable but the rate of roll was not great for a glider with such short wings. We decided to try taping the ailerons which transformed the handling into one of the crispest, most pleasant gliders I've ever flown.

On one particular flight the thermal conditions were very weak and broken. On joining just above a K-6 in a half knot thermal flying at 35kt, I climbed away in the Woodstock as though the other glider was standing still. I was very surprised that such a light glider should have such good penetration into wind. It seemed quite capable of staying with such gliders as K-6CRs.

The general handling was superb with very docile handling characteristics, especially at low speed. The very simple spoiler arrangement is remarkably effective.

The all round visibility is excellent. In fact, every time I turned my head sideways I almost jumped outside my skin at first because I caught the glimpse of what I thought was an aeroplane very close behind. It turned out to be the corner of the tailplane.

Generally the glider feels very safe for inexperienced pilots and a lot more fun for the experienced. I believe all credit must be given to Richard for his dedication and unsurpassable workmanship.



FS-33 Aguila showing its Fowler flaps.



The Swift S1 aerobatic glider.

AERO 1993

Julian West reports on the exhibition which ran from April 28 to May 2

The biennial exhibition at Friedrichshafen on Lake Constance has always had the most comprehensive display of gliders and equipment all in one place, and AERO 1993 was no exception. The main themes were the new models in the 18m Glider/Motor Glider Class, and motorised versions of the 20m Two-seater Class. Both aerobatics and the World Class Championships have stimulated new innovations as well as a reworking of older models.

18 Metre Class

Most manufacturers now have models in the FAI unrecognised 18m Class which includes both gliders and motor gliders. Here it is clearly customer demand that is leading the way forward.

The new Universal LS-6c-18 from Rolladen-Schneider has its wings set at a larger angle of incidence to enable locked zero-flap take-off in the Standard Class as well. A motor glider version based on a modified LS-4 fuselage with LS-6c-18 wings is also under development. This has a water-cooled motor from Walter Binder that remains in the fuselage, while pivoting through 90° so that the drive belt remains taut.



Twin 3 self launch variable pitch propeller.



DG-800 encapsulated motor with new propeller.

The DG-800 18 Metre Class motor glider. All photos by Julian.



The Miniair prototype with designer Günter Rochelt.





LS33 Solo Blanik.



The TOP motorised Kiwi.

The only new 18m with one-piece wings in the show was the ASH-26E from Schleicher. The designer, Martin Heide, confirmed that the British water-cooled Norton Wankel version, which remains fixed in the fuselage while the drive belt unfolds, was now definitive for production.

The new DG-800 motor glider from Glaser-Dirks is based on the popular DG-400, but with a completely new set of wings and a tail both optimised for 18m span. For better low speed characteristics the wing section is slightly thicker than that for the DG-600. The Rotax motor is the same as on the DG-400, but has a new propeller and is encapsulated to make it quieter. A pure glider version, the DG-800s, which combines the DG-800 fuselage is also under development.

Standard Class

The only new developments here were the provision of vertical winglets for both the LS-7 from Rolladen-Schneider and the ASW-24 from Schleicher. The TOP motorised Kiwi was also on display.

World Class

Unfortunately, the official IGC World Class glider, the 13.5m Polish PW-5, was not present. However, the highly innovative 12m Miniair from Günter Rochelt was, and this has now been fitted with vertical winglets. These should be particularly effective on such a light, short span glider. Among its many interesting features are a glider rescue parachute, a laterally spaced double wheel undercarriage for stability on the ground, and combined outlet vents and recessed handles for lifting the tail.

The Miniair prototype, which is not yet finished, is expected to have its maiden flight early next year. The only other World Class entrant displayed was the all metal 14.12m L33 Solo Blanik from LET.

Aerobatic gliders

The 12.68m Polish (+10/–7.5*g*) Swift S1 from Swift Ltd, which won the 1991 World Aerobatic Championships, is manufactured in glass-fibre, but with fabric covered elevator and rudder surfaces. It features a conventional tail and a large vertical recess above a small basic instrument panel for pilot's notes on aerobatic figure sequences.

Also on show was the all metal 12.57m Czech (+8/–6*g*) L-213A, another solo Blanik but from Inteco, which has its tailplane mounted half way up the fin.

Two-seaters

Unfortunately, the new 20m Duo Discus from Schempp-Hirth, was not there. Those that were on display included Glaser Dirk's 22m DG-500M motor glider, Grob's Twin 3SL motor glider with its variable pitch propeller, and the L22 Super Blanik from LET.

Akaflieg experimentals

The 15m FS-32 Aguila from Stuttgart Akaflieg with its modified Ventus fuselage has Fowler flaps along its wing trailing edges. A special mechanism pulls down the top rear surface of the wings to close the gap when the flaps are extended. To maintain trim the angle of the tail plane incidence is also adjusted as the flaps are extended. Although Fowler flaps increase drag and sink rate, the resulting lower circling speed and turning radius should more than compensate for this.

The new D-41, a 20m two-seater from Darmstadt Akaflieg, uses LS-6 wings as outer panels, an ASH-25 tail and an ASW-22 undercarriage. The side-by-side-seater fuselage is entirely new, though the cockpit is remarkably similar to that of the Stemme S10.

Equipment

For the pilot who finds it little chilly when flying there was a leather covered, electrically heated seating cushion from Interieur. There was also an air turbine from ILEC that could be used as a cooling fan when on the ground and as a battery charger when in the air, but if one needed to ask its price then one just couldn't afford it.

Maiden Flight of ASH-26

On June 6 the ASH-26 took off for its 45min-maiden flight from Poppenhausen Airfield. Various pilots from Schleicher then flew it for several hours and were enthusiastic about the distinctive, docile and agreeable flight characteristics, even in fairly difficult conditions.

This is due to the large horizontal and vertical tail units giving stability and to the docile stall characteristics of the wing aerofoil together with low aileron control forces.

There were no problems with the take-off and landing. The flap landing setting is comparable to the ASW-20 and permits steep and well contrlled final approaches. The sprung landing gear with the large wheel has good shock absorption and an excellent hydraulic disc brake.

It has been shown that the correct selection was made for the aerofoil to enable the unique extended laminar flow on the underside to become a reality.

SOMETHING SPECIAL JENNY STEWART



Jenny, who flies from the Vectis GC, Isle of Wight, started gliding in 1984, has a Silver badge, Gold height and 220hrs from 450 launches. She was an engineer but is training to be a teacher.

I still feel guilty flying mid-week, I feel decadent spending my dole money on launch fees – but the forecast on this particular day was for 15kt, SE on the cliff and my glider was already rigged in the hangar.

The tug pilot would be arriving at 12.30 and I polished the canopy of my K-6E in pleasant anticipation. A domestic crisis caused Dave to phone, he would be delayed till 3.30 – glum polishing as the wind swung through south to south west; the sea breeze had taken hold.

I took the launch more out of courtesy to Dave (who used to weather fly through hurricanes in the US so aerotowing must be very peaceful) than any hope of soaring.

"Drop me at Whitwell village, the Downs might just be working." At 2500ft above Stenbury Down, five miles upwind, I released into silken air. I hardly dared breath as I gently slid the glider one way then the other along the face of the down. The ephemeral "Wittle Wave" was back. For 25min the altimeter remained at my release height. PV had not lost or gained an inch. I even tapped the altimeter despite it always picking up each nuance of cliff or wave in the past. It was like flying in golden syrup on a late golden afternoon.

Then slowly I lost height as I tried to explore the wider extent of the lift. Retreating to Wroxall, I hill soared and bowl scraped for another 20min or so till I had to return to land.

Not grand soaring but a delight in an "unsoarable" south-westerly, so common on the Isle of Wight.

BGA & GENERAL NEWS

NATIONAL LADDER

The Ladder started with some excellent flights and scores and for once a UK Bank Holiday gave us some decent weather, reports Ed Johnstone, the National Ladder steward.

Amongst those able to make good use of the weather the following week were Andy Wright (Yorkshire) with a 525km and Diamond distance; Phil Jeffery (Cambridge University) who went round 402km at 91.4km/h in his LS-7, and John Bridge, from the same club, just one minute slower but in a LS-6c. Other flights included Mike Brook's 376km in his SHK in Yorkshire wave.

Open Ladder

Leading pilot	*Club*	*Flts*	*Pts*
1.P.Jeffery	Cambridge Univ	4	6951
2.J. Bridge	Cambridge Univ	4	4413
3.M.F.Brook	Yorkshire	4	4168
4.R. Palmer	Bidford	4	3652

Weekend Ladder

Leading pilot	*Club*	*Flts*	*Pts*
1.P. Jeffery	Cambridge Univ	4	4735
2. R. Palmer	Bidford	4	3612
3. J.D.J.Glossop	Cambridge Univ	2	3399
4. A. Grimley	Bidford	4	3205

BAROGRAPH MISSING

A 10km Winter barogarph, serial No. 56198, was accidentally taken from Portmoak at Easter. Please contact Neil Goudie (Edingburgh GC), tel 0592 84200.

BGA 1000 CLUB LOTTERY

The results of the **May** draw are: First prize – Dr G.H.N.Chamberlain (£121) with the runners up – D.G.French, P. Butcher, F. Thomas, E.R.Duffin and C.B.Golding – each winning £24.20.

June: First prize – A.E.Gibbs (£121) with the runners up - D.G.Jones, Miss Zoe Davies, P.E.Hudson, D.B.Almey and K.J.Bassett - each winning £24.20.

STRUCTURE OF THE BGA

The membership structure of the BGA is now made up of 88 full members with affiliated clubs as follows: Army Gliding Association - two clubs; RAF Gliding and Soaring Association - 12 clubs and the Royal Naval Gliding and Soaring Association - three clubs.

Operations. During the year ending 1992 (1991 figures in brackets), member clubs (civilian and combined services) flew 153 420 (149 313) hours and 1 092 420 (1 572 409) kilometres cross-country from 433 577 (451 606) launches from club sites. Club owned gliders total 541 (536) and privately owned gliders 1614 (1488).

A certificates were applied for by 285 (504) holders of the ATC proficiency certificate.

BGA CALIBRATION CENTRES

The following should be added to the list of BGA approved ba0rograph calibration centres, given in the 1993 *Yearbook*, p60;-W. Richards (EW Avionics), Seymour Barn, Widmere Lane, Marlow, Bucks SL7 1DF; M. Blair (Mainlake Instruments), Building 97, Bournemouth Airport, Christchurch, Dorset BH23 6DZ; J.R.A.Nelson, 30 Abbey Road, Syresham, Brackley, Northants NN13 5HW; C.D.Street (Cair Aviation), 7 Sharpthorne Close, Ifield, Crawley, West Sussex RH11 0LU; F.J.Tucker, Green Sands, Fox Court, Storrington, Pulborough, West Sussex RH20 4JL and P.Woodcock, 61 Matlock Road, Sheffield S6 5RQ

BGA AGM

Next year the BGA AGM and dinner-dance will again be held at the Forte Post House, Crick, Northants. The dates for your diary is Saturday, February 26. Full details and prices will be available later.

OBITUARY

Anne Ince

It is with very great sadness that we record the death on April 29 of Anne Ince the *Daily Telegraph* gliding correspondent. Throughout the 40 years of her marriage to David, she had been the ideal supportive "gliding wife" - first learning to fly herself, acting as David's crew chief in all his competition flying, serving as chairman of the BGA Publicity Committee and then ensuring that at least one of our National daily newspapers reported our activities fully and accurately.

In a very full and active life she was also a highly respected figure in the dressage world serving as a judge at many national and international events, trained horses, ran a farm and her own PR company with great success and brought two super daughters into the world.

It was she who persuaded her employers at Hulton Press to promote gliding by buying and naming the Slingsby two-seater after their *Eagle* children's magazine which resulted in many youngsters taking to our sport.

Our thoughts are with her family; we will never forget her friendship and contribution to gliding.
WALLY KAHN

ADVERTISERS PLEASE NOTE



Debbie, your contact for display and classified advertisements.

August-September deadlines
Display advertisements August 24
Classified advertisements September 3

Editorial copy is needed long before this. Our main deadline is July 30 with club news and letters accepted up to August 10.
Gillian Bryce-Smith, ***editor***

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	*Name*	*Club*	*1993*
394	Cole, R. T.	Lasham	4.5

DIAMOND DISTANCE

No.	Name	Club	1993
1/584	Craig, G. W.	Oxford	4.5
1/585	Hastings, M. J	Oxford	4.5
1/586	Cole, R. T.	Lasham	4.5
1/587	Mattin, A. D.	Lasham	6.5

DIAMOND GOAL

No.	*Name*	*Club*	*1993*
2/2090	Harris, C.I.	Midland	25.3
2/2091	Connolly, W. L.	Kent (in France)	26.5.92
2/2092	Paddison, R. H.	London	3.5.92
2/2093	Mossman, A.	Cairngorm	17.6.92
2/2094	Turner, P.	Mendip	3.5
2/2095	Stratton, N.	SGU	4.5
2/2096	Whitten, M.	Midland	4.5
2/2097	Holland, P.	Yorkshire	4.5
2/2098	Rayment, J.	Aquila	4.5
2/2099	Roddie, D.	Wolds	4.5
2/2100	Sear, D. W.	London	4.5
2/2101	Ward, D. M.	Cotswold	2.5

DIAMOND HEIGHT

No.	*Name*	*Club*	*1993*
3/1125	Burns, K. J.	Borders	16.4
3/1126	Evans, M. F.	Lasham (in Spain)	26.3
3/1127	Fairness, K	Borders	16.4
3/1128	Marriott, R	Cambridge Univ	6.4
3/1129	Cornes, B.	P'smouth Naval (in USA)	20.4

GOLD BADGE

No.	*Name*	*Club*	*1993*
1664	Grinter, A. F.	Wolds	19.3
1665	Connolly, W. L.	Kent	26.5.92
1666	Paddison, R. H.	London	3.5.92
1667	Mossman, A.	Cairngorm	17.6.92
1668	Turner, P.	Mendip	3.5
1669	Holland, P.	Yorkshire	4.5
1670	Roddie, D.	Wolds	4.5
1671	Sear, D. W.	London	4.5
1672	Ward, O. M.	Cotswold	2.5

GOLD DISTANCE

Name	*Club*	*1993*
Harris, C.I.	Midland	25.3
Connolly, W. L.	Kent (in France)	26.5.92
Paddison, R. H.	London	3.5.92
Mossman, A.	Cairngorm	17.6.92
Turner, P.	Mendip	3.5
Stratton, N.	SGU	4.5
Whitten, M.	Midland	4.5
Holland, P.	Yorkshire	4.5
Rayment, J.	Aquila	4.5
Roddie, D.	Wolds	4.5
Sear, D. W.	London	4.5
Ward, O. M.	Cotswold	2.5

GOLD HEIGHT

Name	*Club*	*1993*
Grinter, A. F.	Wolds	19.3
Cronin, R. T.	Glyndwr	17.3
Connolly, W. L.	Kent	7.10.90
Laker, B. J.	East Sussex	30.3
Griffiths, G. S.	Vectis	30.10.92
Roddie, D.	Wolds	19.3
Burns, K. J.	Borders	16.4
Balcombe, K. W.	Kent	27.4
Manchett, P.	Glyndwr	20.4

Mace, R. S.	Surrey Hills	17.4
Cornes, B.	P'smouth Naval (in USA)	20.4

SILVER BADGE

No.	*Name*	*Club*	*1993*
9073	Roberts, Caroline	Derby &Lancs	20.3
9074	Grimsdell, Alison	Oxford Univ	25.3
9075	Lascelles-Hadwin, A. L. F.	Phoenix	27.3
9076	Nethercott, Julie	Two Rivers	27.3
9077	Carrigan, J.	Phoenix	27.3
9078	Priestley, C.	Phoenix	28.3
9079	Kearns, D. E.	P'smouth Naval	23.3
9080	Fox, C.	Glyndwr	4.4.92
9081	Kramer, F. K. H.	Pegasus	28.3
9082	Goudie, N. F.	SGU	2.4
9083	Popika, J. P.	Buckminster	10.4
9084	Bell, R.	Kent	8.4
9085	Chape, J. P.	Vectis	28.4
9086	Smith, D. A.	Yorkshire	17.4
9087	Hatton, R. E. T.	Stratford	26.5.92
9088	Parsons, M. D.	Vectis	12.4
9089	Shergold, J.	East Sussex	1.5.92
9090	Lee, P. W.	Bristol & Glos	20.2
9091	Pickering, J. P.	Northumbria	3.5
9092	Morrison , G.	Fulmar	2.5
9093	Fitzgerald, B.	Fulmar	26.4
9094	Masterton, I. A.	SGU	3.5
9095	Edlin, D. B.	Wyvern	3.5
9096	Dean, J. O.	Glyndwr	2.5
9097	Armitage, H. D.	South Wales	2.5
9098	Keylock, I. J. S.	Phoenix	1.5
9099	Hindley, Siobhan	Wrekin	3.5
9100	Ashman, R.	Bicester	6.5
9101	Hughes, A. R. J.	Booker	5.5
9102	Delaney, M. P.	Lasham	6.5
9103	Palmer, Wendy	Booker	6.5
9104	Cole, J. W.	Vale of Neath	8.5
9105	Uden, P. J.	Dukeries	3.5
9106	Hawley, R. J.	Dartmoor	8.5
9107	Jones, D. J.	Cambridge Univ	5.5
9108	Stratton, N.	SGU	4.5
9109	Stark, A. G.	Deeside	3.5
9110	Forsyth, C.	Fulmar	2.5
9111	Silverstone, E'beth	Glyndwr	15.5
9112	Robertson, A. C.	Cairngorm	2.5
9113	Head, T.	Coventry	15.5
9114	Fiorentini, C. A.	Surrey Hills	2.5
9115	Moyes, T.	Wrekin	3.5
9116	Howell, L. D. T.	Stratford	3.5
9117	Basey, G. J.	Wolds	22.5
9118	Arnold, Alison	Wrekin	19.5
9119	Doyle, E. A.	Bidford	4.5
9120	Richardson, P. F.	Ulster	3.5
9121	Boath, P. A.	Deeside	22.5

BGA ACCIDENT SUMMARY

Compiled by DAVID WRIGHT

Ref No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew	Age	Injury	Hrs
168	Swallow	-	M	14.8.92 2030	Brentnor		49	N	25

After fully checking the canopy latch the winch launch was started. Just at lift off the tail skid hit a rock, severely jolting the glider. After initial "buzzing" the pilot found the canopy was moving and had to hold it with his left hand. He decided he could not land safely without using airbrakes so increased speed and it separated cleanly.

169	Astir CS77	3811	M	15.7.92 1545	Saltby		47	N	120

After a local soaring flight the pilot landed the glider normally. However, during the ground run the pilot's left foot slipped off the rudder pedal and the glider slewed to the right and the wing dropped on to a post beside the runway. Inexperience on type was thought to be a factor.

170	K-13	2256	M	28.2.92 1300	Saltby		59	N	5

The K-13 was waiting in line at the launch point with the canopy being held open by the student. As he changed hands ready to close it a gust of wind caught it and blew it shut causing two splits.

171	Skylark 2B	845	M	3.9.92 1530	Rufforth		63	N	11

On his first flight on type the pilot let the glider drift too far downwind. A partially cut wheat field was selected and a normal circuit made. At the last minute the pilot realised that he was landing in an uncut area but did not have time to alter his landing spot. A fully flared landing minimised the damage as the glider landed in wheat.

172	Puchacz	–	N	–.9.92 1400	**Incident Report**		58	N	640
						P2	0	N	0

After the airbrakes were deployed at about 300ft a cracking sound was heard and the glider yawed to the left. P1 thought the rudder cable had broken but managed to land the glider safely. After landing the left airbrake was seen to be fully open while the right airbrake was closed.

173	Astir CS77	2318	M	16.9.92 1630	Long Mynd		37	N	72

Following a normal touch down the casting holding the main wheel failed and the wheel came off. The glider came to rest on the undercarriage doors and the remnants of the casting. It was thought that there may have been existing cracks in the casting.

174	LAK 12	3881	M	25.7.92 1500	Kirton in Lindsey		44	N	185

On his fourth flight in the flapped glider the pilot chose to land in a congested area that meant that long grass was close to the right wingtip. Moving his hand from the airbrakes to the flap lever, the brakes snapped shut and, in trying to hold them open, he allowed the wing to catch in the grass. The glider groundlooped damaging the tailplane.

175	Libelle	–	N	–.06.92 1200	**Incident Report**		35	N	320

After normal pre-flight checks the pilot took a winch launch. He released, turned right, then found he could not return the stick to the central position. After repeated attempts he was able to move it left then it freed completely. A safe landing was made then the glider was inspected. Pieces of loose flock and resin were found in the glider.

176	K-8	1502	S	24.7.92 –	Camphill		32	N	5

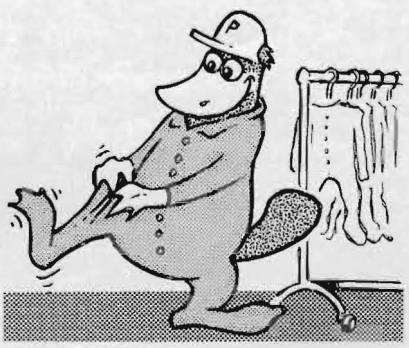
The early solo pilot made a normal approach until some turbulence was felt on finals. The nose was lowered and the airbrakes closed. The glider hit the ground at high speed and bounced several times before turning and crashing into another glider.

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We can't guarantee to suit every pilot but our T-shirts fit most! For August and September our SPECIAL OFFER is a pack of 2 great shirts for only **£11.30** inc. postage and packing.

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Name	*Club*	*1993*
Glazebrook, C. R.	Glyndwr	4.4
Mountain, A. R.	Cosford	4.4
Hartland, G. S.	Midland	4.5

Part 1

Name	*Club*	*1993*
Vincent, K. G.	Kent	25.8.92
Hutchinson, B.	Aquila	2.5
Stark, Margaret	York	4.5
Snoddy, T. E.	Ulster	4.5
Prime, A. E.	Norfolk	4.5
Veitch, Angela	Highland	5.5
Whitehead, Pauline	Clevelands	3.5

OLDTIMERS AT HAHNWEIDE

The 7th Oldtimer's festival is being held at Hahnweide Airfield, 20 miles south-east of Stuttgart from September 3-5 when many vintage sailplanes and motor gliders will be featured.

Yearbook corrections: We regret the London GC fax No. was given instead of the telephone No. which is 0582 663419. In the list of all three Diamonds on p57, 254 should have been K. Lloyd with P.A.Hearn as No. 255.

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ROAD (AND AIRFIELD) TEST OF CITROËN'S XANTIA

An assessment by Chris Rollings, senior national coach

Most members of the gliding movement know, or at least assume, that the BGA national coaches do a good many hours and a good many miles gliding every year. In my case about 500hrs and about 10 000miles makes a good year. What is perhaps less appreciated is that we spend about twice as many hours and cover three times as many miles in our cars every year, more often than not towing a large trailer.

As you can image, therefore, I was very interested to learn that Citroën were replacing the BX range the national coaches have been using for the last eight years with a new model. A few telephone calls to Citroën and an exchange of letters established that Citroën saw the gliding tow car market as a small, but worthwhile, part of its total market and also a good way to publicise the Xantia's qualities as a tow car to other users. So the Citroën-BGA sponsorship was born, One of the results of this was an early opportunity to try out Xantia for a couple of days. Here's what I found:

My first impression on approaching Xantia (a two litre VSX model) was that it looked just a little larger than the BX (in fact it is almost 4.5 metres in length). Once inside, the impression of greater size was much stronger. Leg room in particular seemed much greater (I am 6ft 3in so this matters to me). I could write at great length about seating comfort and ergonomics, but suffice to say that everything came nicely to hand and was user friendly. I particularly like the stereo controls built into the steering wheel and the multi-way adjustment available to the seating position.

Xantia has a developed (and in the case of the VSX models computer controlled) version of the self-levelling suspension system that made the BX such an excellent tow car. It came as no great surprise, therefore, that Xantia shared (and indeed slightly surpassed) the BX's excellent stability when towing. What did come as a surprise was just how comfortable the ride was, particularly when the computer control was switched to comfort mode.

I allowed a few heavy lorries on the M40 overtake me at fairly high speed and found the combination's resistance to being "wagged" by passing juggernauts was even better than the BX and much better than most medium cars.

Off the road it is still possible to raise the bodywork to give more ground clearance by extending the suspension - and, of course, this capability makes easy wortk of hitching up the heaviest trailer.

Most striking of all was how quiet the car was. If the BX had a serious failing, in my view it was high noise levels when cruising at moderate to high speed, but Xantia has solved this problem completely. The noise levels are down to those I normally associate with my better off friends' (BMWs and Jaguars) luxury cars.

As you can see, my initial impressions were of luxury rather than performance. But no, the performance wasn't lacking. It was there but unobtrusive. Citroën's figures give the 2.0 engine a maximum torque of 132(lb-ft) at a remarkably low 2750rpm. In practice this means that even with a trailer on the back, changing down to speed up is something you choose to do if you are in a real hurry - not something you have to do every time. It makes for very relaxing driving.

Freed of the trailer I found the car a delight to drive with the steering and brakes very light to use, but precise and not suffering from any lack of feel. I'm no rally driver so I didn't try pushing it near to the limit on the winding roads around Nympsfield, but I did drive moderately hard with a comfortable feeling of having lots in hand.

Moving on to the back, the luggage space looked deep and quite generous. The figures give it one of the larger capacities in its class and I think I'd endorse that, but ask me when I'm about to set off for three weeks at Aboyne.

In summary, amazingly quiet, very comfortable both in seating and ride and I like the handling and performance. As a tow car it is better that the BX and as a car it is very much better.

Briefer still - I liked it. I"m glad I'm getting one.

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CITROËN

For more details on Xantia from Citroën call Freephone 0800 262262

Ref No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew	Age	Injury	Hrs
1	IS-28 M2A	M/G G-BMMX	M	10.10.92	Kirton/Lindsey		59	N	120 +150pwr
				1538		P2	0	N	–

At 1000ft in the climb the motor glider's engine began to run unevenly so the pilot returned to the airfield. He flew a glider circuit to allow for complete failure and approached at 65kt. The roundout was incomplete and the aircraft bounced 3ft into the air and the undercarriage then collapsed. The stiff u/c mechanism may not have been locked.

2	Dart 17R	1330	M	10.10.92	Easterton		53	N	988
				1430					

The pilot lowered the wheel on his downwind leg then visually checked it locked down on finals. After a normal touch down the landing gear lever shot rapidly backwards, breaking the downlock stop in the process. The glider settled on to its belly causing minor damage. The cause of the retraction, breaking the stop, is being investigated.

3	K-7	2306	M	24.10.92	Portmoak		37	N	1200
				1720		P2	0	N	18

During a recovery from a ballooned, full airbrake landing the student reduced airbrake as instructed. He then lowered the nose and, flying at 45kt, failed to round out in time to prevent a heavy landing.

4	Discus	–	M	23.10.92	Aboyne		48	N	250
				1323					

On his first flight in the BGA's Discus the pilot called "downwind" then was distracted by a landing tug. A radio call reminded him that the wheel was up. He had forgotten to lower it. He twice attempted to lock it down but failed and it retracted upon landing. Two other pilots had previously had problems raising the wheel.

5	Pegase 101	–	M	18.10.92	Sutton Bank		37	N	101
				1700					

While soaring in marginal lift a rain shower passed over the airfield and the pilot decided to land through the end of the shower. He had flown in showers like this before but was suprised when, upon turning on to finals, he was blinded by a combination of rain and the low sun. In manoeuvring to see through the canopy side he made a heavy landing.

6	K-8B	1563	M	11.10.92	Easterton		65	N	1000
				1721					

The very experienced, but out of practice, pilot decided to do a practice sideslip approach. However, he started rather low and had no margin for error. He exited the sideslip flying too slowly and undershot the runway into crop, groundlooping the glider.

7	Lo 100	3378	S	21.11.92	Nr Aboyne		32	N	1800
				1435					

The glider was rigged but no independent positive control checks were made as it was not to be flown. However, later in the day the pilot decided to fly and on the aerotow found there was no elevator control. After considerable difficulty the canopy jettisoned and the pilot struggled out to make a safe parachute descent.

8	T-21	1482	M	8.11.92	Strubby		54	N	149
				1527			P2 69	N	21

After a normal circuit P2, in the left hand seat of the side-by-side glider, confused the stick and airbrake controls which were in the opposite hands to his past experience. P1 was not prepared for this problem as he had personally adapted easily to left handed flying. The result was a very heavy landing as the stick was pushed forward.

9	Skylark 2	793	M	31.10.92	Whickham		49	N	8
				1605					

While wave soaring the glider was allowed to drift downwind from the airfield. He chose a field and made a normal circuit and approach. Just before roundout he saw that there were large stones on the surface and extended the float to miss these. At touchdown the wheel dug into the soft soil and a wing was damaged as it dropped rapidly.

10	K-8	–	W/O	26.11.92	Burn		0	N	-
				1520					

After warnings of an approaching squall from pilots who had just landed, the instructor delayed action until the squall hit the airfield. At this stage two members were detailed to walk the K-8 back to the hangar. It was struck by a gust which broke the tow rope, lifted one person 2ft off the ground, then turned the glider on to its back.

11	K-8	3860	W/O	5.12.92	Tibenham		53	N	61
				1550					

The pilot was making a hangar flight and it was suggested that he landed on runway 26 after taking off on r/w21. In the circuit he held back rather longer than necessary to allow a motor glider to clear. Already low, he did not land on a nearer grass area as it was muddy, but extended the glide to the runway and hit a wingtip in the final turn.

12	YS-53	–	W/O	–.11.92	**Incident Report**		0	N	–
				0700					

The weather forecast indicated a calm night so the glider was parked outside with eight tyres on the wing and others chocking it. During the night exceptionally strong winds hit the site and the glider was blown into the next field. A Pawnee tug was lifted off its wheels and a trailer was swung around. Rotor off nearby hills may have amplified winds.

13	K-8 & K-7	2718	M	21.12.92	Kenley		61	N	24
				1406					

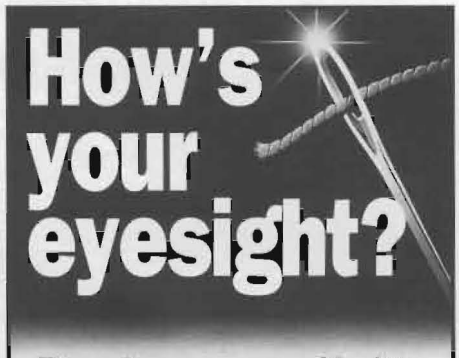
The K-8 pilot was doing a practice sideslip approach. It appears that he came out of the sideslip too fast and pointing towards another glider. The pilot failed to turn his glider away or use the airbrakes to slow down and the K-8 hit the parked K-7 which had two people aboard waiting to fly.

14	Puchacz	3625	M	27.12.92	Currock Hill		39	N	112
				1535		P2	0	N	0

On final approach in a 90° crosswind, the pilot found the narrow landing strip blocked by another glider. After landing to one side of the landing area, just before the glider stopped, the downwind wing dropped over the sloping edge of the landing area catching the open airbrake on the ground.

15	Falke	M/G G-BPIR	M	22.12.92	Husbands Bosworth		58	N	125
				1200					

The motor glider was being taxyed from the runway on to the peri-track when the pilot allowed it to collide with a tree, damaging the leading edge of the starboard wing.



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Ref No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew Age	Injury	Hrs
16	Cirrus 75	–	W/O	–.1.93	**Incident Report**	0	–	–

This glider was one of at least four either destroyed or badly damaged by fire while in their trailers. Although in a metal trailer which did not burn it suffered write-off damage due to the extreme heat. The other gliders were a PIK 20d, Skylark 4 and a Nimbus 2. The police are investigating.

17	Not applicable	–	3P	–.1.93 1620	**Incident Report**	0	–	–

A glider was launched by autotow in a light south-easterly wind. After release the cable was seen to drift to the east over a playing field. With the towcar stationary, the cable and drogue 'chute caught the top of a rugby goal post which it twisted. The wind had veered from SE to SW during the launch causing a potentially dangerous incident.

18	Olympia 460	1370	M	7.2.93 1130	Carlton Bank	33	N	92

At about 150-200ft on a winch launch the speed started to decay, the cable developed a bow and then back released. The cable end flew back under the glider, the pilot heard a loud bang and the stick became stiff but he managed to push it forward and land safely. The elevator had been wrenched back about 15° and holed by the swivel.

19	Puchacz	3734	M	24.2.93 1130	Saltby	47 P2 34	N N	320 0.5

At 1200ft on the aerotow P1 positioned the glider out to the right of the tug and handed control to P2 who failed to correct. A bow quickly developed as the tug was also turning. P1 took control but the rope went over the wing followed by a lurch, a sharp pitch up and a loud bang. The glider was landed safely with an elevator cut by the rope.

20	DG-200	2394	S	11.3.93 1403	North Hill	46	N	161

On his sixth flight on type the pilot made a normal circuit and approach with 4° of flap. At 20ft on the finals with full airbrakes and 55kt the glider lost speed and stalled. He did not have time to put the brakes in and landed very heavily in a nose down attitude. Curl over/rotor was known to exist in the prevailing wind conditions.

21	Super Cub	TUG G-....	M	–.3.93 1400	**Incident Report**	0	N	–

While landing, the Super Cub tug overflew a K-13 waiting at the launch point. The trailing end of the tow rope clipped the left wing of the glider causing minor damage to fabric and the brake box web. A number of club members were standing near the glider and narrowly missed injury.

22	Std Cirrus	3564	M	7.3.93 1435	Lasham	41	N	109

The pilot's sixth flight in this retractable u/c glider was his first aerotow on type. After release he forgot put the wheel up and, during his downwind checks, he mistakenly raised it. Noise from the vents masked the reduced wind noise with the wheel up and there was no warning device fitted. The glider landed on the grass but ran on to a runway.

23	Capstan	1191	M	21.3.93 1006	Garvock Hill	69	N	10

At about 40ft in the winch launch the pilot felt a momentary loss of power then a resurgance. He continued the launch but almost immediately the power went completely and the glider stalled despite the nose being lowered. The reason for the failure was that the winch had not been properly secured and it had ridden forward about 30 yards.

24	Pegasus	–	S	20.3.93 1415	Booker	47	S	607

The pilot rigged his glider, which he had only flown twice before, for the first time in eight months. While rigging "meticulously" he forgot to connect the elevator or do a "positive check". On the aerotow the glider pitched up 50 to 60° when the rope was released by the tug/back-released. It then pitched down and hit the ground nose first.

25	K-6E	2193	S	20.3.93	Talgarth	61	N	160

While soaring a ridge system the pilot failed to notice that the conditions had become more difficult. He encountered sink then worked back up in 2kt around a spine. Later he flew into a strong down rotor and lost flying speed. He had to push the nose down to maintain speed but only had time to round out before force landing on the hillside.

26	Junior	–	N	17.3.93 1425	Husbands Bosworth	0	N	–

Four cables had been drawn out by tractor and laid at the launch point. As a glider was about to be attached to one cable, the parachute of another was caught by a gust. It flew up and caught on the tractor which was moving to go behind the glider. The cable knocked two people over and pulled the glider's tail round. The wingtip hit a third person

27	SZD Junior	3237	M	20.3.93 1057	Perranporth	69	N	19

During a launch from grass alongside the main runway the winch suffered a power failure. The pilot decided to land straight ahead, initially aiming to land short on the grass before a runway intersection. However, he then decided to land long, beyond the intersection. He landed in the rough intersection area and damaged the glider's nose.

28	Discus B	3879	S	21.2.93 1300	Glyndwr	67	N	370

While ridge soaring the pilot became too low and had to make a hurried field landing. Selecting a field he was distracted from monitoring the circuit by problems with the u/c. As a result he got out of position and touched a wingtip while still completing the final turn. The fuselage was broken near the fin.

29	SZD Junior	3268	S	1.4.93 1905	Talgarth	38	N	148

During his second flight of the day the pilot failed to notice that the wind had dropped and the ridge was not working so well. He became too low to return so called base on the radio. He was advised to keep soaring and select a field. He did this rather late and failed to notice a single telephone cable in the hedge which he hit.

30	K-6CR	2312	M	24.02.93 1750	Wormingford	69	N	600

The pilot had noticed a change in the wind so decided to land in the opposite direction to a K-21 ahead of him in the circuit. He let the other glider land then landed with what turned out to be a 7kt tailwind. As a result, with no wheel brake he rolled on for 400 yards and off the end of the runway.

S=Serious; W/O=Write off; M=Minor; N=Nil.

CLUB NEWS



An aerial view of Hinton-in-the-Hedges Airfield, home of Aquila GC, showing the new grass area. Photo: Mel Eastburn.



Trent Valley GC's new German winch.



John Dean (Oly 419) of Glyndwr GC before completing 50km.





Above right: Ben Moor of Northumbria GC being presented with the award for most overall progress by Brendan Foster, the sports commentator. Ben soloed on his 16th birthday and by 17 had a Bronze badge and Silver height. He is a hard working club member and benefited from the BGA Churchill award. Above left: Jim Laing (in the front) of Angus GC celebrated his 90th birthday with a flight in the Bocian with instructor Gordon Neil aged 73. Below: Ben Boundy, aged 16, Greg Stanton, middle, and Rick Morris who all soloed on a Dartmoor GC



Copy and photographs for the October-November issue of *S&G* should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 0223 247725, fax 0223 413793, to arrive not later than August 10 and for the December-January issue to arrive not later than October 12.

GILLIAN BRYCE-SMITH
June 9

ANGUS (Arbroath)
At the annual dinner in April awards went to Angus Christie (best flight) and Martin Clark (club ladder). The retiring chairman, George Nelson, was presented with an engraved Caithness glass in appreciation of his services.

During the dinner Jim Laing, our oldest member, celebrated his 90th birthday.
G.N.

AQUILA (Hinton in the Hedges)
We have had various Bronze legs; John Rayment flew 300km for Diamond goal and Steve Blackmore, Richard Collings and Bob Murray have AEI ratings.

We came 2nd in our first competition, flying in the Inter-Club League. The new winch has given launches to over 1000ft in zero wind. Hopefully, with £3 launches, we will appeal to younger potential pilots.

We held a successful open day and enjoyed flying the borrowed Puchacz.
S.K.

BATH, WILTS & NORTH DORSET (The Park)
On the morning of the AGM, May 25, we recorded our first year at The Park by taking a group photo of members and included about half. Later the committee were thanked for their considerable efforts in creating our new site and promptly re-elected.

Geoff Smith has gone solo and Fred Arkle has a Bronze badge. After a long break we are aerotowing.
S.G.

BICESTER (RAFGSA Centre)
Superb conditions for the BGA task week meant some pre-Silver pilots left with Diamond goals. Thirteen completed 500kms in one day, including Derren Francis and Toby Harris from Bicester.

Having gone solo Peter Freeman of Surrey Hills GC is subjected to the ritual of receiving the bent boomerang award from instructor Steve Dawes.



The soup bus has been refurbished, thanks to the efforts of many led by Bruno, and the best refreshments in the GSA are being served.
M.H.

BIDFORD GLIDING CENTRE (Bidford Airfield)
Avon Soaring is now under new management, hence the new name. It is the same friendly place with full time instructors Dave and Dennis. We operate seven days a week in "free" airspace.

Peter Ware, Neil Dorward and Keith Whittingham have gone solo; Ken Vincent and Trevor Whitmore have Bronze badges and Phil Manning, Ed Doyle Silver legs, Ed completing his Silver badge. The club fleet has improved and our thanks to Geoff for mowing the airfield and renovating our old tractor. The Jodel fly-in was a great success. We are hosting the Junior Nationals.
D.T.W.

BLACK MOUNTAINS (Talgarth)
Our annual task week in early May was a great success with good weather. Some highlights were seven flights longer than 300km; flights in excess of 200km by every competitor on the last Saturday when wave set up in the lee of the mountains to 12 000ft (this was the most interesting task); Dave Hodsman (after a three year lay off) flying two 300kms on consecutive days in a K-6CR; the longest flight (496km) for Tony Burton who was 1st and Les Bradley coming 2nd in the club two-seater, flying with various members.

Lizzie Fish's first solo flight was 1hr 36min.
S.R.

BORDERS (Galewood)
The flying week after Easter brought three Diamond height climbs on the Friday with a claim from Kevin Burns (Vega), who soon after flew a 100km triangle.

Bill Stephen is an assistant instructor and Darren Robertson soloed on the first flying day after his 16th birthday and gained a Bronze leg.

Several members are making good progress converting a large derelict farm building into a workshop. We now have a small engined Pawnee as a second tug which kept us flying for ten weeks while the Super Cub had major work on its fuselage.

The Gas Board negotiations with us and the local planning authority over the installation of the pumping station should soon be resolved.
R.C.

Alex May with instructor Pete Kelly after going solo at Cotswold GC.





Carl Peters, P2 in Bicester GC's Janus C being flown by Derren Francis, took this photo of "Spud" Hallum (Ventus) with a camera mount he built for an A level technology project.



Burn GC members with the chairman of the Alfeld GC, Germany. Photo: P.Newmark.



Above: Mary Meagher took this photo of Gary Moden's wheat field landing from Sheningtonn GC. It was decided it would be safer to lift the K-8 out rather than derig. Below: Nigel Warren climbed on to the caravan to take this photo of Bath, Wilts & North Dorset GC members. ➡



BRITISH FORCES GERMANY (Achmer Airfield)
Brian Trotter is a full Cat and we have an influx of members from the UK and the Pegasus Club which closed with RAF Gütersloh.

The season started well with lots of solo pilots from the first three courses and a Silver height for Liz Schwarzer. Ian Smith is helping Brian run the courses until November.
A.H.

BUCKMINSTER (Saltby Airfield)
The season started slowly with poor weather. Our K-8 has been spruced up - many thanks to those involved - and thanks to Richard Kicham the club K-13 has been refurbished.

Ralf Hemschenhern went solo on the Nottingham Trent University GC's Easter flying week. The club is open seven days a week with October visitors always welcome. Please use the Sproxton/Skillington road entrance.
M.G.E.

BURN (Burn Airfield)
Andy Thornhill is now an instructor. Our third annual visit to German GCs in May was efficiently organised by Derek Wilson. We flew at three clubs including our twin club at Alfeld, south of Hannover.

Groups are taking the Twin Astir to Gap and the Mosquito to Angers in France.
P.N.

CAMBRIDGE UNIVERSITY (Gransden Lodge)
Some visitors camped on the site for our start of the season party which coincided with the Inter-Club League. The extra 40m wide main runway allows double queues and a faster launch rate. The trailer park has been enlarged.

Robin White, Jim King, Harjinder Obhi, James Chappell and the first of our cadets, David Hawthorne, have gone solo; Keitha Castle, Wendy Hathaway, Ray Jenkins, John Young, Martin Saunders and Darren Johnson have Bronze badges; Derek Jones his Silver; Graham Hows Silver distance ; Neil Foreman an AEI rating and Gold height and Ross McIntyre and Catharina Edwards have renewed their assistant Cat ratings.

There was much relief when Frazer Hayden managed to land in time for his wedding.
M.H.L.

CLEVELANDS (RAF Dishforth)
Summer arrived in early May giving Doug Stewart a Bronze leg, Polly Whitehead 100km and Dick Cole 530km which we think is a site record. Unfortunately the photo didn't quite qualify for the Diamond, so Dick had to do 620km in Poland! Steve Olender also represented us at the BGA Overseas Nationals, taking his father Roy (ex-Spitfire pilot) back to his homeland as crew.

Jim McLean and Polly Whitehead are using their new AEI ratings to good effect on evening visits.
J.P.

CHANNEL (Waldershare Park)
Maurice Theo has found and delivered our second dumper. Jim Peter has resoloed and Peter Whitehouse has a Silver badge, narrowly missing a Gold claim. The Swallow and two K-7s are proving to be a great boon.

Our special thanks to all instructors and members who stepped in at short notice after Ron's turn and slip manoeuvres at home.

We have evening flying throughout the summer which, with quiz nights and barbecues, extends social interactions as well as our flying.
N.O-A.

CONNEL (North Connel Airfield)
Gerry Bryce, our treasurer, has his Bronze badge and our thanks to Chris Rollings for the loan of a Junior. We had the SGA's ASH-25 for a week with our CFI Malcolm Shaw cleared to instruct. It was aerotowed with ease by Paul Keegan's Jodel.

At Penguin's invitation, nine went to the Ulster GC (see also Ulster's report). It is a superb site and its members extremely hospitable. Our return take-off from the beach was an indescribably beautiful experience.

Sadly, one of our party, Danny Clark, and his wife were killed five days after our return in a head-on car collision.

Obituary - Donald Clark
Danny was a founder member and one of the hard core of workers. He was a keen pilot and Pirat syndicate member but even so would happily spend hours in the towcar and could be relied upon to give a good launch whatever the wind.

A keen amateur photographer and astronomer, he wanted to join the RAF but ultimately became a school teacher. His quietly spoken manner and lively, intuitive sense of humour enabled him to relate easily to the young.

Danny and Ina were an extremely popular, well known couple. They leave two daughters and a son. The strength of the community's feeling was such that over 1000 people attended their funeral, a third standing outside in the rain throughout the relayed service.

He was a committee member for many years and is already greatly missed. We hope to establish a Danny Clark annual flying scholarship in his memory to take a local youngster to solo or possibly Bronze standard.
R. Inglis

CORNISH (Perranporth)
We have started a seven-day operation with a tug pilot, instructor and AEI available. Visitors, with or without gliders, are always welcome.

After a depressing series of break-ins the clubhouse and hangars have been "fortified". The national coaches came with the DG-500 and Discus when we had our best two soaring days for months. Our thanks to them for their encouragement and advice, especially in showing us what can be done in Cornish conditions.

Shaônne Shaw is our first active female instructor and husband John is a full Cat. Gordon Hunter landed 20km short of a 300km triangle and although there were no badges from visits to Aboyne and North Wales, everyone had a good time.

Our task week is at the end of July. John Shaw has finished rebuilding yet another glider, this time a Skylark.
I.F.

COTSWOLD (Aston Down)
Some 20 members enjoyed Easter week at Lleweni Park with good thermal soaring, wave climbs and several Silver legs.

We flew around 170 visitors on our open day on May 3. Oliver Ward flew Diamond goal the day before and Brenda Marlow, Peter Clarke, Alex May and Peter Piggott have gone solo.

We have bought an Astir for Silver distance pilots to fly glass-fibre. Like HusBos we aren't charging visitors for reciprocal membership and would encourage other clubs to follow suit.
M.S.

CULDROSE (RNAS Culdrose, Helston)
Conditions in early May were outstanding. On the 3rd Angie Toller flew 5hrs; Dave Eddy went solo; Daren Robinson and Dave Brown got Bronze legs and Pat Eady a B certificate. On the 8th Martin Tuthill took the club Junior to 8500ft in wave over the Lizard - the best climb for 20 years from Culdrose.

Unfortunately we had poor weather for the Easter *ab-initio* course and only seven went solo. There was an enjoyable expedition to Cerdanya, led by CFI George Kosak, and John Smith and Martin Tuthill found a healthy gliding movement in Czechoslovakia this Easter.
R.A.

DARTMOOR (Brentor)
We are sad to report that Peter James, a founder member, and his wife Pat, were killed in a light aircraft accident in thick fog near Exeter in April.

Ben Boundy, Rick Morris and Greg Stanton went solo on Alan Holland's course. From early May there has been wave over west Dartmoor and four different types of gliders have flown to 10 000ft - a K-7 (Graham Lobb and Steve Bolt), a K-10 (John Bolt), a K-8 (Terry Roberts) and a K-6 (Dave Hopper). Steve Bolt has his Silver badge and Dick Toop, Bob Hawley, Phil Brett, John Clark, Phil Jarman and our chairman, Terry Roberts, all gained Silver height with 5hrs for Terry and Dave.
F.G.M.

DEESIDE (Aboyne Airfield)
Lionel Sole has won the British Aerobatic Gliding Championships and will be competing in the World Championships in August.

We had more good than bad days for our task week, won by Kevin Adam with good performances from Tony Brown (SGU), who came 4th after gaining his 5hrs, and Gordon Watson (Edinburgh University) who gained his Bronze badge, flew glass for the first time and then flew cross-country.

Andrew Birtle has gone solo and Paul Boath and Alistair Stark have Silver badges after distance flights, Paul, as well as Graham Mann, Dave Pirie, Steve Thompson and Glen Douglas, choosing the Highland GC at Easterton for the leg. The best heights in April were 21 000ft with May seeing us at 11 500ft.

Heather Clark is looking after the wave season bookings and some autumn slots are free. Contact her at the club on phone or fax (03398 85339) or at home on 031555 3837. Bookings for 994 open at 9am on August 28.

For those interested in early season cross-countries, Pete Coward and Ruth Housden flew 300km triangles on January 14.
G.D.

DERBY & LANCS (Camphill)
A big thank you to Steve Robertshaw for organising the first Camphill Syndicate Competition which was a great success with over 7000km flown in one weekend, including three pilots each completing 500km.

Mark Hawley has soloed; Nigel Hodkinson and Brian Hamlet have Silver badges and Christine Fowler and Dick Moir have AEI ratings.
J.B..

DEVON & SOMERSET (North Hill)
At last 1993 is bringing regular (if difficult) soaring. Ron Johns (Pegasus) set the cross-country ball rolling by flying a 100km O/R on March 25. With Damian le Roux (K-6CR) and Dave Reilly (who flew the first 300km of the year in his Libelle on May 3), he features regularly in the cross-country book.

Lisa Knights has gone solo; Richard Petheram, Phil Morrison and Stuart Procter have Silver heights and 5hrs and Marion Dean Silver height.

We have had a successful instructors' course at the site, in spite of washout conditions with heavy thunderstorms. We are hosting Competition Enterprise is in July with our task week from August 9 to14.
I.D.K.

DORSET (Eyres Field)
At the May AGM Jack Priddle took over from Bill Cook as chairman. We owe a large debt of gratitude to Bill who provided leadership during a time of great change.

Membership is on the increase with a greater percentage of *ab-initios* This puts great pressure on our instructors and K-13 which is why we are trying to sell our club Grob Twin 2 to buy a second K-13, which is also more appropriate for the new field. We would also welcome any instructors who would like to fly with us.

Despite the move, we have flown considerably more than last year with our first crop of new solo pilots - Val Komosa, Dave Piercy and Gary Davidson.
G.G.S.

DUKERIES (Gamston Airport)
At the AGM in April trophies were presented to Mike de Torre (outstanding club service); David Urpeth (most improved pilot) and David Clarke (best cross-country pilot).

We had a very successful open day on May 3. Peter Uden has a Silver badge and Tom Newton a Bronze.
J.C.P.

EAST SUSSEX (Ringmer)
The by now traditional spring expeditions to Talgarth and Denbigh resulted in several Silver distances and heights. Back home, Dave Elliott and Tim Huff have gone solo and Malcolm Williamson has a Bronze badge.

We welcome back Stewart Forster and Tony Kerwin-Nye after a gap of several years.
L.M.

ENSTONE EAGLES (Enstone Airfield)
We are cleared to launch to 3000ft and started the season well with the Jaguar winch regularly giving launches to around 2300ft. The Rolls Royce winch should be in use later this year.

Tim O'Sullivan and Neil Edwards have Bronze badges and Paul Noonan and Greg Burton AEI ratings. There are four new syndicates with an Oly 463, K-6E, Open Cirrus and Kestrel. Robin Pearce-Boby has a LAK-12.

The bar been reopened and we have bought a launch point caravan. Geoff Dixon has made a welcome return as CFI and our chairman, Ken Sparkes, has been directing the BGA Overseas Handicapped Nationals in Leszno, Poland. In July we are hosting the Open Class Nationals again.
L.J.B.

FENLAND (RAF Marham)
A lot of hard work by a few saw the clubhouse rewired and decorated inside and our bar is now called the Thermal Inn. Thanks to the RAF 75th celebrations we also got the outside of the clubhouse painted and a new club sign.

Rhod Evans is CFI and Al Raffan DCFI. S. Kennedy, N. Millikin (on his 16th birthday), J. Luckhurst and T. Wordie have gone solo; P. Luckhurst has a Bronze badge; J., Harvey a Bronze and Silver height; D. Landsel Silver height and 5hrs (at Sisteron) and G. Rooke gained a Silver badge in one day from Marham. C. Elliot, P. Avery and M. Crocker flew Gold height at Portmoak last winter.

We had an enjoyable weekend at the end of May when Nene Valley GC flew with us.
M.R.S.P.

FOUR COUNTIES (RAF Syerston)
Our successful Easter *ab-initio* course resulted in seven solos.

Andy Mason and Mark Davies have flown 300kms; Steve Walker Silver distance and Phil Green has a Bronze badge.

Visitors are welcome to our task week from August 28-September 5 (tel 0636 525300 for details).

With increasing membership Nottingham University have bought a half share in a K-8 and too many have gone solo to mention.
R.M.D.

FULMAR (RAF Kinloss)
Membership is increasing plus the arrival of two instructors. With reasonable conditions Paul Edwards and Steve Smith have gone solo; Eddie Pratt has resoloed; Mark Whitaker has a Bronze leg; Martin Teague Silver distance and Barry Fitzgerald, Colin Forsyth and Graham Morrision have Silver badges.
B.F.G.

GLYNDWR (Denbigh)
Various clubs including East Sussex, Devon & Somerset, Oxford and Fenlands have visited to fly on our 18 mile ridge and use our wave, easily getting Gold heights in westerly and recently easterly wave. Holiday courses are proving successful for the experienced and *ab-initios.*

During our soaring week Chris Fox, Liz Silverstone and John Dean completed their Silver badges with distance flights. Chris Bolton and Mark Johnson have gone solo; Kenny Cleworth and Roger Salmon gained their 5hrs and several have Bronze legs Chris Fox and Keira Hibberd have AEI ratings and Rob Vaughan is an assistant Cat.

We are now hosting the BGA soaring course and the Vintage Glider Rally. Good Bank Holiday flying gave Silver heights and 5hrs.
G.P.

HIGHLAND (Easterton)
We are negotiating with our landlord for a 20 year lease so that we can plan suitable buildings. Our thanks to Bill Scull for his input.

We had a successful Easter week with the SGA's ASH-25 when Steve Young gained Gold height. A number have Bronze legs including John Maclean, Viv Robertson (after recently going solo) and Martin Birse; Gordon Beattie and Jill Matthews have Silver height and Robert Tait has become an assistant instructor.

Our condolences to Merv Ross whose daughter died suddenly after a very brief illness. Our new chairman is Andy Anderson.
A.G.V.

KENT (Challock)
The expedition to Le Blanc, France, was spoilt by rain but we had more luck in Poland. Julie Garside completed her Gold badge with a Diamond goal flight and husband Alan was only 50 short of his 500km, while crewing for Tony Moulang in the Overseas Nationals.

Ray Haddon from Cambridge University GC is our course instructor for the season, ably assisted by Rupert the Tug and Jim the Winch - this also benefits weekday pilots. .We have a BGA soaring course and task week in August.
A.R.V.

LAKES (Walney Airfield)
Blackpool & Fylde finally came for the picture but six days later it was heroically retrieved by Graham Sturgeon on a fine day when Alan Dennis and Brian Dalton gained Silver heights.

May Day saw the first 300km from the club - but Peter Redshaw needed a new LS-6 to do it! Rod Murfitt went to Sutton Bank via Rufforth and Peter Lewis (CFI) made it to Kendal.

On his annual Minden, Nevada trip, Peter Cravan was thwarted on his way to a potential altitude record by Reno ATC at 35 200ft. Just as well since he only had a 30k barograph.
A.D. .

LINCOLNSHIRE (Strubby Airfield)
Eric Hughes and Dave Armstrong have Bronze badges and we have an influx of new members.
R.G.S.

LONDON (Dunstable)
Edward Downham is claiming the UK Standard/15 Metre Class 500km triangle record. Trips are planned to Aboyne in September and Talgarth in October.

Our vintage week in June was well attended and we are hosting the Vintage Glider Club annual dinner on October 23.

Late entries are welcome to our Regionals (August 21-30) and we have a soaring week from August 16-20.

The privately owned fleet is increasing and Terry Perkin's Silene is making its maiden flight here. The club buildings are being surveyed with a view to refurnishment and our thanks to Kay Harris for her magnificent work on the redecoration of our bar.
S.M.



A line up of gliders spanning 621 Volunteer Gliding School's 50 years at Weston-Super-Mare and Halesland Airfields - a Grasshopper, Cadet Mk 3, Sedbergh and Viking. Photo: Peter Turner.



The two Rick Locks (father and son), of the British Forces Germany Gliding Centre at Achmer Airfield, in the K-21 in which they both soloed on the same day. They are photographed with their instructors, Alan Harris (at the back) and Ian Smith.



Lizzie Fish of Black Mountains GC with CFI Gerry Martin photographed after she went solo.

MARCHINGTON (Tatenhill Airfield)

Steve Blackwell and Nigel Duke have gone solo; Paul Shelton and Steve Hickingbottom have assistant instructor ratings and Val Roberts and Nigel Render AEI ratings.

The Inter-Club League weekend we hosted in May was a great success with challenging flying and an excellent barbecue. Unfortunately the weather won on Sunday.

Our courses now have a different format with our introduction to gliding - three evenings with up to five flights spread over a week, culminating in a barbecue. We are hoping they will attract new members and encourage our own pilots to fly midweek.

A.R.

MENDIP (Halesland Airfield)

We had some cross-country flights and local soaring during our Long Mynd expedition.

Our AGM in May was less controversial than expected. CFI Peter Turner flew the first 300km of the season from Halesland; Kirstie Turner has a Bronze leg and Patrick Hogarth Silver distance and height.

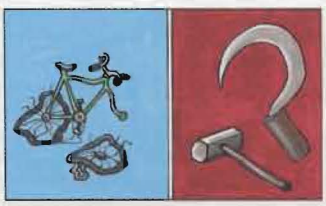
The first 1993 open day was excellent with four new members to add to three previous newcomers. Our new airfield extension is a great success with higher winch launches.

G.W-S.

MIDLAND (Long Mynd)

Dave Wilcox soloed and Jamie Hamilton flew his 5hrs in east wind wave in April. The first week in May yielded some 300km flights. Richard Bennett, Mike Whitton and William Brewis have Gold distances, Richard completing his Gold badge. John Collins gained his Silver with a distance, as has Ann Edwards with her duration. Jon Blackhurst has Silver height and duration.

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



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We had a successful weekend's flying at Caernarvon and members have been visiting other clubs. Our second open day was blessed with fine weather and advanced TV publicity ensured a good turnout of the public.
A.R.E.

NEWARK & NOTTS (Winthorpe)
Our CFI for seven years, Rance Noon, has handed over to his deputy, Roger Starling. Our thanks to Rance for all his hard work.

David Charysz and Richard Crewe have soloed; Brian Harvey has his Bronze and gained Silver distance in the Inter-Club League's Novice Class and Mike Evans has completed his Silver.

John Shipley's safety lecture gave us food for thought.

Our first flying week was enjoyable though not blessed with perfect weather. Our thanks to Sue and Graham Cowland, Bob Tatlow and George Gatenby for the electrics in our new launch point caravan and to Keith Dykes for his cross-country soaring exercise.
M.A.

NORFOLK (Tibenham)
With the arrival of the spring north-easterlies two members decided that our president, Alfred Warminger, shouldn't be the only one to hold a UK record. On May 5 Dave Stabler and Jeremy Moore flew 445km in a 1955 Bergfalke 2 to Launceston in Cornwall in 9hrs to claim the UK multi-seater straight distance record. The retrieve by Denis Cooper and George Day took over 17hrs.

We have had many first solos including one by Steve Pavelin on his 16th birthday.

A recent open day attracted over 500 visitors, 90 of whom had trial lessons. We now expect a large increase in membership.

Our club task week and Inter-Club League weekend produced many superb flights of over 250km and "Snoopy" was retrieved from Crowland by Terry Cooper.

Irene and Mike Womack are impressing us, having taken on the catering and the bar. Our thanks to Terry Jeffery for past services.
E.P.

NORTHUMBRIA (Currock Hill)
Flying has been good with Tom Corrigan soloing on his 55th birthday and gaining a Bronze leg. Phil Slater has a Bronze badge; Jon Pickering his Silver with a distance leg and Steve Fairley and Susan Hall are instructors.

A privately owned Std Cirrus has been imported from Germany. A Dart 15 has been loaned to the club by Brian Holburn which will relieve the strain on the Pirat and K-8 as we have so many at solo standard.

Our BGA safety evening was well attended. We have had a barn dance and in June a visit to RAF Boulmer.

During the joint task week with Borders GC we had tasks from both sites and sampled each others wave and thermals. The Eagle team from Borders won.
J.T.C.

NORTH WALES (Bryn Gwyn Bach)
The rain held off for most of our open day weekend (ably organised by Ken and Julie Payne) with many visitors having trial lessons

Paul Carsley is busy flying his way through the £100 Churchill award and was one of those enjoying another excellent wave day on May 31. Dave Jones got Gold height but Tony Cooper couldn't reach his oxygen mask at 12 000ft in 7kt of wave.
D.J.

OXFORD (Weston on the Green)
On a very good day in early May Steve Evans (LS-6c), Gordon Craig (LS-4) and Martin Hastings (Std Cirrus) flew their first 500kms and Martin Cooper (Astir) his first 300km on the BGA soaring course. Brian Payne accompanied Graham McAndrew in the BGA DG-500 on 680km of a 750km attempt.

Our Inter-Club League weekend was a washout but we are now in the lead.

The Grob Acro Twin flew a 160km cross-country when several considered conditions too marginal. We now have such a long list of pilots wanting to fly cross-country in it names will be drawn from a hat.
F.B.

PETERBOROUGH & SPALDING (Crowland Airfield)
Our annual dinner-dance was a great success with trophies presented to Roger Gretton (ladder winner); Jim Crowhurst (ladder runner-up and CFI's cup); Dick Thirkill (most spectacular field landing and worst retrieve) and Roger Gretton and Steve Turner (longest cross-country) with the wooden spoon award going to our CFI Dave Crowhurst.

Glenn Williamson and Chris Hill have gone solo and the **fifth** Libelle has arrived on the site.
R.T.

PORTSMOUTH NAVAL (Lee on Solent)
The successful Easter course yielded ten solos and five resoloed. Our thanks to Bannerdown GC for the use of their K-21.

Kevin Hills, Glyn Jaques, Mike Hazzard, Peter Hollamby, Keith Howard, Beverly Kaye and Sarah Sturgess have gone solo, Sarah later missing her 5hrs by just 2min, but Mike Stanier and Phil Taylor flew 5hrs at the Long Mynd. Brian Cornes gained Diamond height at Minden, Nevada.
K.S.

RATTLESDEN (Rattlesden Airfield)
We have our first Churchill award - Jule King who soloed at 16 and gained a Bronze badge at 17. Richard Goodchild has his 5hrs. Edwin Westacott has gone solo and Tony Bartlett has Silver distance. Some members are on an expedition to Sisteron, France,

The second safety lecture was well supported; the tug is proving a good investment and we have bought a second winch and an ex Wattisham bus.

Thursday flying is popular, thanks to Martin and Roger. The start procedure is very effective and Reg Smith has overhauled a small caravan for the startline. Our courses have been well attended.
M.E.

SACKVILLE (Riseley, Beds)
Competition is hotting up with our new club ladder - last week both club two-seaters landed out! We had some good flying during another expedition to Talgarth.

It is with sadness we report the death of Dave Pollock. Dave was a fairly new member of the group who had previously flown at Bicester. Our sympathies go to his wife Liz.
D.C.W.

SCOTTISH GLIDING UNION (Portmoak)
We have had some memorable flying; courses have been successful with few unflyable days and in late May saw hill soaring and wave.

The AGM heard that the first stage of Kevin Dillon's financial plan has given an operating surplus. The team of directors were re-elected.

E. Molden, G. McNae and A, Cowan have gone solo; J.F.Green, and M.Mackenzie have Bronze badges and M. Edwards and W. Turnbull (a visitor) have their 5hrs.
G.McN.

SHENINGTON (Edgehill)
The club has doubled in size over the last two months and more hangars are going up to cope with syndicate gliders. Our Regionals are from August 21 to 30. Curious? Come and visit us.
P.G.

SHROPSHIRE (Sleap)
We have had a slow spring with just a few good wave days. On May 3 a few tried a 380km, Hay, Swindon, but only Dave Triplett succeeded. Dave is one of our best young pilots (at Sleap this means you aren't drawing a pension). On the same day Vic Carr flew to HusBos and right round the Birmingham control zone, which was about 300km.
T.A.

SHALBOURNE (Rivar Hill)
Our open day in April was a great success with a steady stream of trial flights resulting in new members. Our thanks to all the helpers.

We hosted the Inter-Club League in May and the very enjoyable barbecue was organised by Verity Murricane with Steve Glassett as cook.

Richard Dann, John Parsons and Roger and Ben Madelin had good flying on Bicester's BGA cross-country course. Peter Mortimer and Neil Lloyd have a Skylark 3. Colin Graham has soloed and Malcolm Howerd resoloed.
J.R.

SOUTH WALES (Usk)
The good weather returned and one weekend Richard Addis, Richard Slater and Paul Macer-Wright gained Bronze legs; Mike Rossiter a Silver badge; Rod Weaver a 100km diploma and 5hrs and Mike Dunlop flew 200km in the L-Spatz. Cross-country fever also returned.

Evening trial lessons are well booked and the midweek courses have Peter France as the resident instructor. We have an open day on July 11 and our task week starts ion July 18.
N.S.J.

STAFFORDSHIRE (Seighford)
The open weekend in April was a great success. The hangar was officially opened by the Mayor ➡

of Stafford, Mrs Salome Dainton, who had her first glider flight at the age of 79. Lord Lichfield and his guests flew and nearly 100 visitors had trial lessons. PRO Alan Jones ensured we had maximum exposure in local and regional publications and we have created a lot of local goodwill and gained new members.

Peter Jennings, Stuart Jeffries and Gerry Maggs have soloed; Graham Bowes, David Gill and Ian Martin have Bronze badges;.John Abbot and Bob Heath-Webb have AEI ratings and David Gill gained Silver height and distance in one flight. Andy Oultram is leading the cross-country ladder after a 297km O/R.

Blackpool & Fylde GC are lending their Pawnee for the June task week when members are hoping to be checked out for aerotows. We now have ten privately owner gliders and seven club aircraft.
I.G.P.M.

SURREY HILLS (Kenley Airfield)
Richard Mace and Dave Williams have Silver height and duration with a Gold height for Richard. Peter Freeman has gone solo.

Our charity day was a great success . We flew Sebastian Coe and local MP Richard Ottaway and had support from Kent, East Sussex and Southdown GCs. It was nice to see eight two-seaters in one thermal.

We have bought a Bocian from HusBos and our K-8 has been re-covered. In keeping with many other clubs we are doing away with that ridiculous reciprocal fee; members of other BGA clubs are always welcome.
P.A.P.

THE GLIDING CENTRE (Hinton-in-the-Hedges)
Recent expansion of the grass areas has enabled us to run almost all the courses (except SLMGPPL) from Edgehill where the fleet has been joined by two more K-13s, two more K-8s, an Astir, Twin Astir and a Puchacz.

We sent 38 on first solos in April and May.
M.F.C.

THE SOARING CENTRE (Husbands Bosworth)
At the AGM we changed our name from the Coventry GC to The Soaring Centre - Husbands Bosworth, to reflect that we have been here for so long. All our gliders and trailers have the name painted on them to distinguish them from private aircraft. We also decided, subject to local grants, to build the first phase of the new clubhouse/extension. This will give us improved toilets and showers, a task briefing room and a new office for Harry.

The committee were re-elected and thanked for their good year's work which has seen us improve our fleet to almost all glass-fibre and be one of the few clubs to see a profit despite the recession. The new Discus is proving very popular. Launches and hours are up over 55% compared with 1992 and cross-countries have included a number of 300, 400 and 500km flights.

Our task week was a success despite some appalling weather midweek. Our thanks again to Doug and his team for organising the event. We are holding the 15 Metre Nationals from August 7 to 15 and have an autumn wave expedition to Feshiebridge.
T.W.

TRENT VALLEY (Kirton in Lindsey)
We are learning to cope with our powerful Black Forest winch imported from Bavaria, under the wing of Norbert Stumm. The open top is fine for a German summer but we plan to fit a Buccaneer canopy.

Our one and only *ab-initio,* Colin Metcalfe, has gone solo and we won the first leg of the Inter-Club League at Tatenhill.

Brian Griffin, CFI for seven years, is retiring later this season. Our sincere thanks to him and Chris for everything.
M.P.G.

ULSTER (Bellarena)
By the end of May hangar steelwork was going up on the new field following 36 lorry loads of concrete for the foundations and floor.

Two visitors from Surrey Hills think Bellarena is magic - Richard Mace going to 12 300ft in the K-6 for Gold height and his 5hrs and David Williams in the Dublin GC's K-18 breaking off at 10 000ft.

Jeremy Bryson is again CFI, succeeding Mervyn Farrell when he stood down.

Highlight of the glorious May Day weekend, during which we ran an open day, was the visit of nine Connel GC members who crossed the North Channel in a Jodel/Puchacz combination and two two-seater microlights, following a tug-only recce the weekend before. To return, the tug/glider combination took off from the beach.

Jim Lamb (Astir) and Harry Hanna (SHK) flew 100km diploma triangles that weekend and Peter Richardson (K-6) Silver distance. Derek Thomas and David Miller have gone solo.
R.R.R.

VALE OF WHITE HORSE (Sandhill Farm)
Our clubhouse is looking very smart after our new secretary Pauline redecorated it (with a little help from the two Eric's). We have had a good number of bookings for evening flying and are also flying on Wednesdays.

Mike Leach has Silver height and Sue Foggin, chairman, gained her 5hrs. David and Graham now have a DG-300 and Steve and Stuart an ASW-20.
S.F.

621 VGS (Air Cadets)
We (621 Volunteer Gliding Schoool) celebrated our 50th anniversary with an open day in May with 104 launches and 16hrs 30min's flying. A nice touch was a line up of gliders covering the 50 year span (see photo). We ended with an enjoyable barbecue. The second celebration, both organised by the CO, Sqd Ldr Dave Woolcock, is a dining-in night for staff and ex-instructors in July. But by that time we will have moved to Hullavington.

We started life at Weston-Super-Mare as No. 87 Gliding School. In addition to the Weston base, 621 also operated Halesland Airfield until 1987 (now home of the Mendip GC) for advanced training by all the UK schools.
P.T.

WOLDS (Pocklington Airfield)
Our thanks for their contribution to Eddie Room, tug master for many years; Bob Kirbitson, who had handed over as CFI to Chris Price, and Gareth Jones, our treasurer, who has retired after long service.

Our K-7 has been fettled and looks like new, thanks to Mike Thompson and helpers.

Applications are still flooding in for our Two-Seater Comp in August.
N.R.A.

WREKIN (RAF Cosford)
We have a new glider - the "barge" - which is popular with those who like to brave the elements. Brian McKenzie, Ian Crammen and Mark Judd have AEI ratings; Terry Moyes is an assistant Cat and Pete Evans a full Cat.

Colin Lowe and Bob Wiley have gone solo Alison Arnold has 5hrs; John Sproat Silver height and Siobhan Hindley a Silver badge, Terry Moyes gained his Silver badge in one flight on the May Bank Holiday when the club flew 52hrs - a record I think.

We have had several 100km diploma flights and Dave Judd flew 300km. We are competing in the Inter-Club League this year.
S.H.

YORK (Rufforth Airfield)
We suffered two months without a tug during extensive C of A work. In spite of this our income continues to increase.

May 3 gave superb soaring conditions enabling Paul Scorer to gain Silver distance.
H.McD-R.

YORKSHIRE (Sutton Bank)
Steve Hill, Paul Foster, Jonathan Tomlin and Richard Walker have Bronze badges; Don Smith and Trevor van Spall Silver distances; Phil Holland a Diamond goal and Andy Wright a Diamond distance flown on a difficult day.

The task week in early June started and finished with good weather. Our thanks to the winner, Mike Brook, for organising both the week and the enormous curry night meal - complete with belly dancers!.
C.L.

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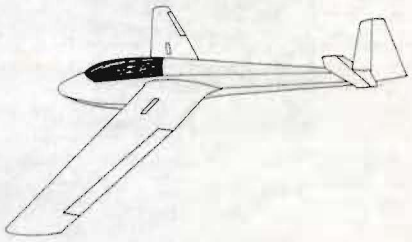
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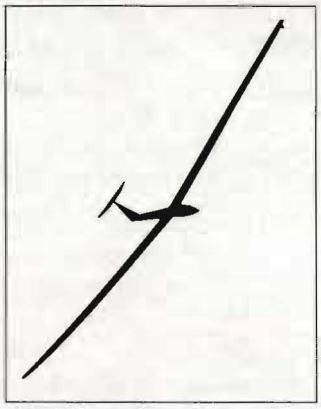
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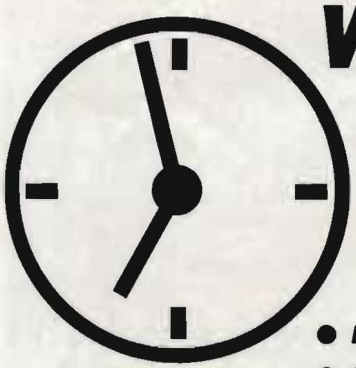
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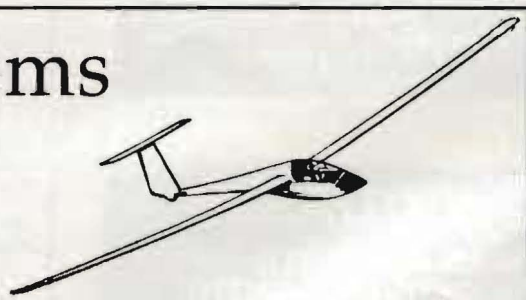
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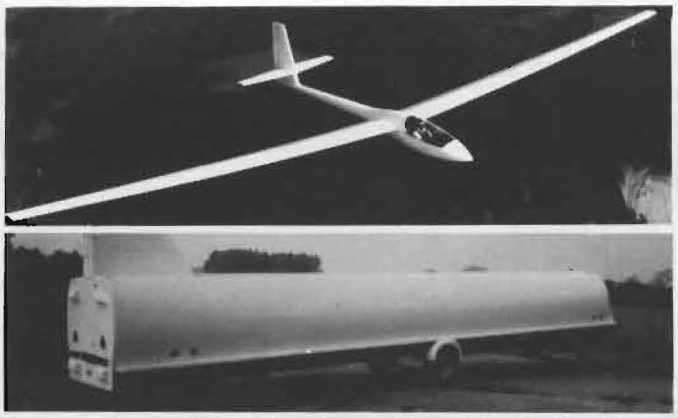
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Please complete the form below and return it to the BGA with your payment. Please note that only BGA members and their families may participate and that the BGA is registered under the Lotteries And Amusements Act 1976 with Leicester City Council.

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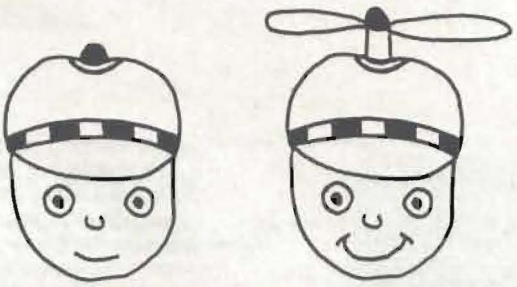


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WAY OFF TRACK

The sheer unlikelihood of the long-distance runner

It's very sobering for a soaring pilot to find he has a child who usually manages to fly cross-country these days. It is Penguin who has been so sobered. I refer to my younger son who, two days before this note was penned, won his own weight in Coca-Cola – which, reared by a sensible beer-quaffing father, he doesn't drink – by coming third in a 100km O/R running race at Marseilles in a time of under 8hrs and temperatures of over 28°C.

And that only 36hrs after a 1000 mile drive from Gloucestershire; eight days after winning the Shakespeare marathon at Stratford-upon-Avon more than five minutes clear of the second man home, and wiping the field in a mere soupçon of a 10km cross-country trot in between.

Next time you're pondering – from a pasture – your dismal failure to get round a task, think how much greater would have been your agony if you'd tried running it.

The Marseilles event, with a field of 183, was the first 100km race my son had actually completed, having progressively lengthened his distances from the 5000 and 10000 metre track events in which his athletics career began.

Even marathons, of which he's won half of those he's ever run, are a little short these days.

But for Penguin – who commonly takes the car from the clubhouse to the launch point as it appears too far to waddle – the really baffling thing is the sheer unlikelihood of it all.

Damon's success is, indeed, a triumph of determination over genetics. ■

Obituary to my soaring hat

My soaring hat has gone, left us following a long but, in the later stages, obvious decline. It was not born to greatness – rather greatness was thrust upon it.

My soaring hat was born in a sweatshop in Hong Kong, but somehow managed to catch the eye of a Millett's buyer. From these humble beginnings it was pushed to the front of the hat rack, and was chosen.

Yellow and pristine, it kept the sun from the head of a bumbling *ab-initio*, thrilled at the sensation of a first solo and was thrown into the air on the occasion of a hard grafted 32min.

Between soaring days, it did stints sunbathing and at the odd cricket match. It was, however, as a soaring hat that it was really in its element. It did appear, as a guest, at other gliding clubs and has been seen as far afield as Aboyne and Tibenham. On occasions, it has honoured the heads of other pilots, and memories of its motivation abound.

From the beginning of 1992 age began to take its toll. The odd bare thread could be seen, and it began to look very pale. The combined effects of washing powder and ultraviolet hastened the ravages of age. The brim was getting terribly thin, and the colour, once a bright yellow, had faded to almost white. Still, the magic lingered on, and it managed to guide me to two thirds of a Silver badge before the end became inevitable.

The end, when it did come, was violent. A collision with a sharp protrusion on the inside of an Oly trailer rent the top asunder. My head seamstress and sandwich maker deemed it beyond repair.

Even though it was mortally wounded, it did manage one last cross-country, with a gaping wound in the top, then it passed on. Though its life as a soaring hat was at an end, it rests forever as a rag in the car. It will never be forgotten.

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