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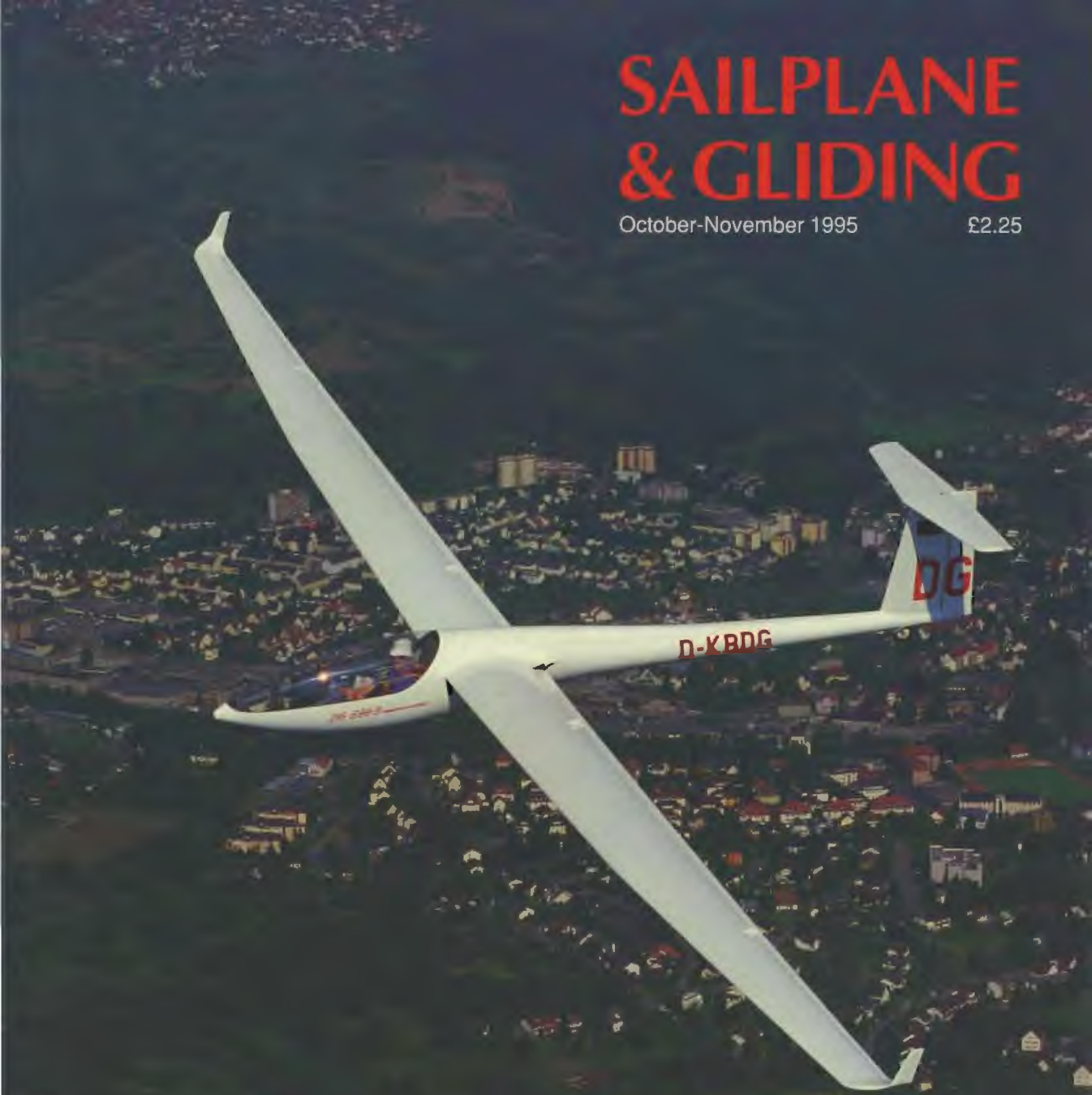

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Magazine of the
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October-November 1995
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Cover: Jochen Ewald photographed Wilhelm Dirks flying the DG-800B over Karlsruhe, Germany. See Jochen's report on p258.

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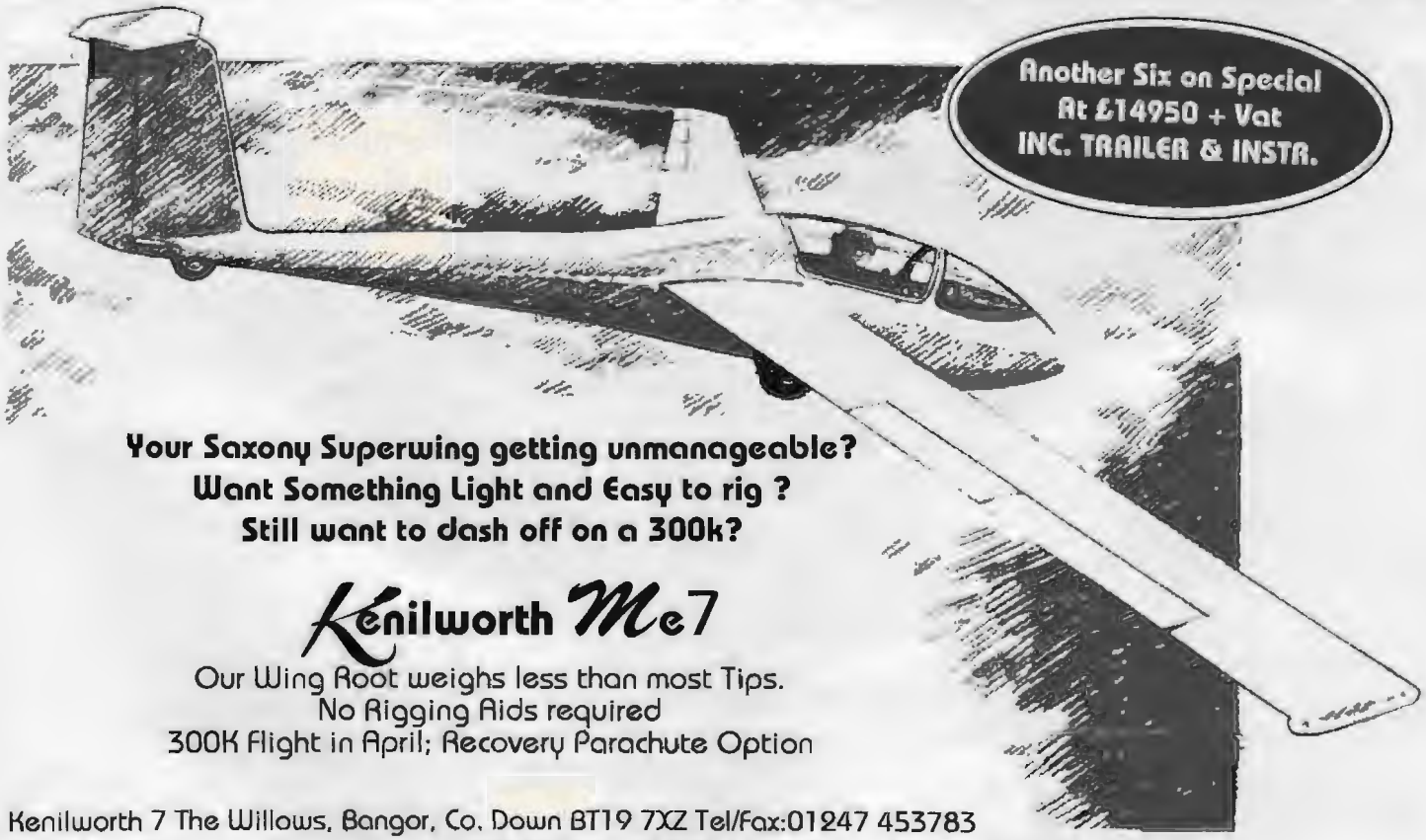

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YOUR LETTERS

DISCONNECTED AILERON

Dear Ediitor,

In the last issue, p224, there was a report of a fatal accident at Talgarth involving an in-flight disconnection of a port aileron on a Std Cirrus.

A few years ago I had a similar occurrence in a Std Cirrus. Some distance into a cross-country flight I heard a metallic clunk from the centre-section area which I guessed was one of the control linkages falling off, although there was no immediately obvious change in the handling.

As I had plenty of height available I flew slowly and carefully back to the site and then carried out handling checks while still high enough to bale out if necessary. It then became obvious that the port aileron was disconnected and trailing in the slipstream. Although the rate of roll was somewhat reduced, I was able to make a safe landing.

As in the above accident, a positive control check had been carried out after rigging. I can only presume that I had somehow managed to get the joint only partly on, but sufficiently so to pass the positive control check and to survive a winch launch. Only on encountering turbulence during flight did it come apart.

After landing I got an inspector to check the disconnected L'Hotellier joint which he pronounced as being sound and undamaged. He also said that if I had flown at much over 60kt the aileron, which is only semi-mass balanced, would have started to flutter, as was the case in the Talgarth accident which occurred on aerotow.

I believe this type of glider is prone to port aileron disconnection and indeed there is a diagonal bar in the centre-section specifically to catch the long push rod and prevent the aileron circuit from jamming should this occur.

Ever since this incident, which I did report to my club's safety officer, I always try to pull these joints apart after connecting them and have not (touch wood) had any further problems with them. Should this be a standard procedure?

DEREK COPELAND, *Rickmansworth, Herts*

Bill Scull replies: Derek Copeland is right on most counts. Yes, a positive check may not reveal a partial connection. The most effective check is to try and pull the connection apart. Several other experienced pilots I've talked to have coped with a disconnected aileron. There is a modification for the Std Cirrus to support the port aileron control if it is disconnected, to stop the ailerons from jamming completely. However, I would query the statement that "this type of glider is prone to port aileron disconnection." I think it's down to the person doing the check and, incidentally, a lack of lubrication seems to make it harder to make the connection.

BRIAN'S SWIPE AT THE BGA

Dear Editor,

I read Natasha Spreckley's article (last issue, p200) on Brian's achievements, his philosophy and above all, perhaps, his impressive competition record, with admiration and even a touch of envy!

Brian has put a great deal into our sport and, deservedly, taken much from it. He is a high profile and successful personality on the British and, indeed, the world gliding stage. He is therefore particularly well placed to influence glider pilots of all levels of achievement and experience, and his advice and opinions are likely to be taken seriously.

What a pity, then, that the article should include such a sour and unjustified swipe at those of us who, entirely voluntarily and in our own time, undertake the demanding and onerous task of "administration". The members of the BGA Executive Committee - according to Brian "people who have not experienced the enormous elation and despair that is the stuff of competition" - deserve better than that. As vice-chairman of the BGA it is my pleasure to write this letter in order to set the record straight.

The facts speak for themselves. Your chairman is an ex Nationals pilot and your vice-chairman is a current Regionals pilot. The chairman of the Instructors' Committee is a Nationals pilot and, with Chris Rollings, has this July achieved the first ever 1000km flight in the UK. (See p280). In addition, we have on the Executive a number of other extremely enthusiastic and successful Nationals and Regionals pilots. The Committee provides a high level of commitment to the whole competition fraternity through the Competitions and Awards Committee, and substantial financial support for the members of our national team - including Brian!

Lastly, I would remind Brian that the BGA is run very much along democratic lines. If he wishes to put even more back into the movement why not set about being elected on to the Executive and thus influence the style of administration from within?

DICK DIXON, *BGA vice-chairman*

THE GPS DEBATE CONTINUED!

Dear Editor,

Evidently both Derek Copeland in the last issue, p199, and your good self (your headline), misinterpreted my April letter, p69. I was simply commenting on what the effect of the "one either side" rule only would be if in the future GPS dataloggers became the only accepted method of TP control. I am pleased to see that the alternative "one in" has now been restored. The current legitimate tactic of barely entering any part of the zone, then leaving on the same side, should thus remain available. If the "one in" option is again deleted, the zone radius should be increased so as not to force pilots to either hold or fly through adverse conditions, such as a cu-nim over the TP.

I made no complaint. On the rules existing I could run my GPS datalogger throughout the flight, and where tactical circumstances at a TP were unfavourable to the "one either side" GPS method of control, all I had to do was take a photograph instead.

Now I'll really stir things up with a provocative comment. The essence of racing is completing a course as quickly as possible using muscle, motor or the natural elements. Few forms of racing require any type of navigation. Some that do, *eg* offshore yacht racing, do not demand traditional navigation only but permit modern aids as well. We have to navigate through a three dimensional maze of restricted airspace. Anything that simplifies this subordinate task should be welcome. If you want to compete at using topographical maps and compass, join an orienteering club.

If you want to race gliders, get yourself a GPS. But if you don't also make sure that you can revert to basic map reading, you are not likely to do well when your GPS fails. More importantly, the good name of the movement will be at risk when you bumble into prohibited airspace or thermal inside an airway. If you do submit datalogger evidence, your sins, inadvertent or deliberate, will surely find you out.

I should really advocate the banning of GPS ➡

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and other aids. Some people have said that 44 years of professional flying (including four years as an RAF QFI/pilot navigation instructor and five years aerial survey) and 41 years gliding, give me an unfair advantage in map reading. If I lose this debate I won't complain!
SAM ST PIERRE, *Bedale, North Yorks*

A DIMPLED GLIDER?

Dear Editor,

I read in a *National Geographic Magazine* that a baseball player was using a bat covered with little dimples, claiming it would aid him in hitting the ball farther and faster. The technical reason is that dimples on jet aircraft and golf balls allow air to flow over them more efficiently by reducing surface drag.

I wonder how many little hemispherical holes need to be drilled on a glider to achieve similar benefits? Maybe some learned aerodynamicist should give the idea some wind tunnel time on a glider nose, wing or both. But not on our syndicate ASW-22 please until the benefits are proven?
MICHAEL RUSSELL, *Henham, Herts*

Beverley Margaret Grey: Does anyone know Beverley's married name and address? Ronald Hurst of 27 Crockhamwell Road, Woodley, Reading, RG5 3LE is anxious to contact her as he is writing a thesis on her father's career - C.G.Grey, the editor of *The Aeroplane* until 1939. Beverley was a member of the Army GC at Lasham in 1952 and married an Army officer.

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TEST FLYING THE DG-800B

Jochen continues his popular series assessing the latest German gliders

Just two years ago the DG-800, designed by the Glaser-Dirks' team, was presented as the first of a new generation of 18 metre self launching sailplanes. They used the high performance, comfortable to fly Delft wing section developed by Loek M. M. Boermans. The aircraft also has a slim 15/18m sister, the DG-800s sailplane.

The S prototypes were built using a slightly modified DG-600 fuselage. It wasn't much advertised and the first ones were built for pilots who specially ordered them. After showing excellent performance in both the 15 and 18 Metre Classes at competitions and at the last two World Championships, the glider was also put in Glaser-Dirks' production and LBA type certified last February. It became a favourite choice for competition pilots and for clubs and those looking for an easy-to-fly flapped competition glider.

There were two reasons for developing the B. The first was that Rotax, who had made the engines for most self launching sailplanes with retractable power plants, stopped production of all their two-stroke motor glider engines. The second was the old engine, already well proven in the DG-400, which had a lot of successful modifications to lower its noise level.

Glaser-Dirks found the new engine they were looking for here in Great Britain - the Mid-West MWAE 50 which is a small, water cooled two-stroke two cylinder engine with 50hp at 6000rpm. It was developed especially for motor gliders from a three cylinder engine used in light aircraft, working together with Glaser-Dirks.

It is fixed at the bottom of the propeller boom and drives the prop *via* a toothed-belt with a three to one reduction. The boom carrying the broad-bladed prop consists of two spars, in which the belt is guided. Between them is the water cooler. The silencer in the fuselage connects automatically to the engine's exhaust system when it is extended. When extended, the top of the engine with its four spark plugs and ignition coils (yes, it has an electronic double ignition system) is just level with the top of the fuselage, so it is easy to check, although it doesn't act as an airbrake.

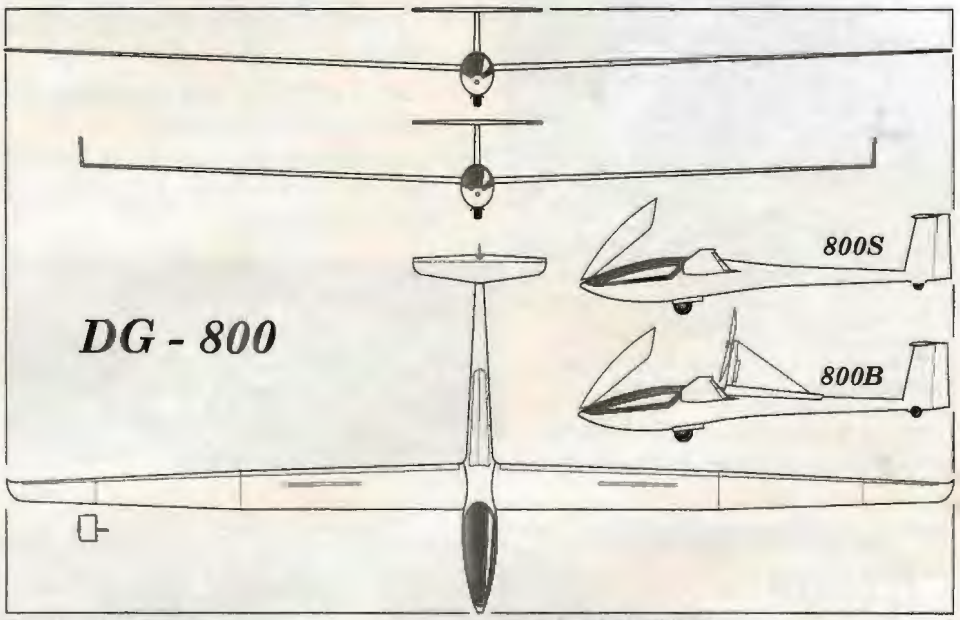
The engine is simple to operate. Glaser-Dirks digital engine interface (DEI), well known from the DG-400, 500 and 600 motor gliders, has been steadily improved. To start the engine, you set the main and ignition switches at "on" for the engine/propeller unit to swing out. You then press the starter knob in the middle of the throttle. But don't worry - the starter won't work until the unit is completely raised! There is no choke, the electronic system decides with temperature sensors how much extra fuel is to be injected automatically to give the engine a good start.

The DEI display shows the engine speed, the fuel in the fuselage tank and water temperature. Other information can be dialled up. If anything goes wrong, the "out of range" value is immediately displayed blinking, overriding the normal display. To prevent the variometer needle from trembling, simply switch the variometer supply from the total energy tube to the static holes when the engine is running. The holes in the fuselage aren't influenced by the propeller wash.

The ignition switch turns off the engine and below 90km/h the propeller soon stops. The boom automatically swings some degrees backwards, bringing a rubber stopper into the propeller circle. You can see the propeller in the little mirror on the instrument panel and if it doesn't stop in a vertical position, pushing the starter knob makes it move slowly in position. The unit then automatically disappears in the fuselage. There is also a "manual" switch on the instrument panel, but normally you won't have to use it. In a fire emergency you only need to close the fuel cock, which is hidden on the left side of the cockpit. Actually I prefer fuel cocks that are obvious when closed if you are using the engine.

The fuselage fuel tank holds 22 litres of two-stroke fuel, enough for one hour "full throttle" operation. There are two optional wing tanks with 15 litres each to refill the main tank in flight by opening a valve left and right of your shoulder. The fuselage tank is refilled by a little electric pump system from a can or through a petrol cap on top of the fuselage. The drain valve is below the fuselage in the wheel housing. Many pilots forget this useful aid and are sometimes astonished if their engine does not run properly due to water in the fuel system!

The 100 litre waterballast tanks allowed bring the motor glider's weight up to the maximum 525kg. It is possible to reach a maximum wing load of 44.5kg/m² with the 18m tips and 49.2 kg/m² with 15m span. There is also the option of a 15m winglet. I feel that flying with 15m span is more reasonable for the pure DG-800s glider.



Technical data:DG-800B

Span (m)	15	18
Aspect ratio	21.07	27.43
AUW (kg)	525	525
Wing loading (kg/m2)	37.6	34.5
Max speed (km/h)	270	270

Technical data DG-800S :

Span (m)	15	18
Aspect ration	21.07	27.43
AUW (kg)	525	525
Wing loading (kg/m2)	31.5	29
Max speed (km/h)	270	270

But even if you don't fly with the short wing, the 15/18m option allows you to buy a short standard trailer. The low empty weight of 325kg (328kg with removable 18m wingtips) and the automatic connections make rigging and handling easy. The tailplane is fixed by a bolt that can't be lost - you see its head sticking out at the top of the tailplane if it is not screwed in.

There is now the option of newly designed small winglets for the 18m wing. They were fixed to the 800B prototype when I flew it.

The cockpit design is well known from other DG single-seaters. Glaser-Dirks was one of the first to give a (DG-600) fuselage for crash tests, and it proved to be stronger than it looks with its big canopy. These tests led to some structural improvements to give the pilot even more safety. Another good safety option is "Augsburger Ballonfabrik's" "NOAH" cushion that is inflated by pressurised air after the canopy is jettisoned. It helps the pilot bale out and should save valuable seconds and lives. This system is available for all their other single-seaters from the DG-100 onwards.

The big canopy makes it easy to climb into the cockpit which is spacious for even the tallest pilot. But while there is excellent visibility, there is one drawback - reflections which can be avoided by wearing dark trousers, socks and

shoes. Thanks to the adjustable backrest the controls are within easy reach. Only the canopy jettison lever and the opening lever behind it on the right canopy frame do not grip very well and pilots with well built legs might have problems operating it, especially the one you need in an emergency. If this red lever is operated, the canopy is opened by a spring at the nose, while a "Röger-hook" holds the rear end down. This ensures that the canopy flies away upwards.

The engine starts well and runs astonishingly smoothly for a light and small two-stroke two cylinder unit. During the engine checks, you might find you could do with an extra hand. One holds the airbrake lever, combined with the wheel brake and the other pushes the throttle forwards - the nose goes down and there is no third hand to pull the stick back!

The engine is so powerful that even the elevator would not prevent the nose going down at full power with brakes on. Taxying is nearly as easy as in a Falke with the steerable tailwheel and little wheels at the wingtips. If the grass is high it turns the DG-800 out of direction but taxying and flying with any glider would be dangerous. The airfield should be cut to avoid the risk of groundloops and if using paved taxyways, take care of the nine metre wide track.

After the magneto check you set the flap position of the big flaperons to +8, pull the stick back and push the throttle fully forwards. There is no need to alter the flap setting during take-off or landing and on aerotows and winch launches the flaps remain at their preset position. This prevents problems with inexperienced club pilots. It is no problem to keep the tail down with the elevator even on rough ground, and after some yards of taxying you can get the wings levelled. Acceleration is very good and it leaves the ground after a short run. The undercarriage lever (as usual with DGs on the left) is rather small. There isn't much room at the side of the cockpit but it isn't difficult to operate. In flight, the B is really quiet from the ground and the cockpit sound level is lower than in its predecessors, but the headsets given with each motorised DG should still be worn to protect your ears!

The climb rate is excellent. In spite of temperatures > 25°C I reached 1000m in only 5min, flying at 90km/h with 6000rpm and full throttle. Flying level gives about 140km/h, so the optimum (and fuel saving) for powered cruising is using the sawtooth system. In hot weather there is enough fresh air coming into the cockpit from the front, but most of it passes along the canopy and doesn't cool the pilot's face. It is possible to get fresh air with the little window scoop, but I would prefer an adjustable fresh air nozzle on the right cockpit wall as in the DG-500 series.

I didn't feel any remarkable trim changes stopping and retracting the engine. If the engine is stopped, but not retracted, performance and flying qualities are far better than with the old "outboard" engines (like the DG-400). But this shouldn't tempt you to try and start the engine too low or too late. Especially with retractable engines most motor glider accidents occur when the engine doesn't start immediately at low altitude and the pilot fails to look for a good field before trying to start the engine. With every motor glider you should think about making a nice outlanding in a normal glider, as you have been taught. If the engine then starts, be happy and fly home, but never be in a situation where the engine has to start!

My take-off weight was 420kg, so I flew with a wingload of 35.5 kg/m². Stalling was gentle and at 70km/h indicated airspeed the glider started to feel soft. After some buffeting and shaking the DG-800B dropped a wing at 65km/h. It stopped turning immediately I moved the stick forward. Using the flaps landing position "L", the behaviour was the same and the speeds indicated about 3km/h lower. Putting the airbrakes out resulted in a stall speed of 71km/h. The flap lever is positioned high, but in a comfortable position.

The aileron forces are, due to the long flaperons that have to be moved, a little bit higher compared to similar sized gliders. But they result in excellent manoeuvrability. Even with the flaps at +8 (the most positive thermalling setting) only a little more than 4.5sec was needed to change from 45° to 45°at 90km/h. Thermalling at the positive flap positions requires a little amount of aileron support. Rolling at 0-flaps shows a good aileron-rudder co-ordination - with flaps down the aileron is more effective than the rudder. The DG-800 is very stable when thermalling and even in rough air doesn't need much work. The main advantage compared with the DG-600 is it makes better use of the thermals while offering equal performance at high speeds without the same degree of concentration and work.

The trim release knob on the stick may be fixed in the "released" position by a little clamp. This makes flying very comfortable, as the elevator forces are low and the trim spring is only needed during aerotow. A piece of elastic between the flaps and elevator gives an automatic elevator setting when using the flaps which works well. The ASI showed 75km/h at +8, 110km/h at 0 and 180km/h at the most forward flap position -14. These are about the optimal speeds for each flap setting. In landing configuration, flaps L and airbrakes out, the speed went to a sensible 85 km/h.

After lowering the wheel with the little lever it is wise to check whether the lever has really snapped in the correct (front/left) position. Flap setting for the landing is L, but if you forget to operate the flaps there is no danger. The lever is on the same pivot as the airbrake lever. Putting the airbrakes full out switches the flaps to a positive position, where they remain. The airbrakes are effective and allow a steep approach.

Sideslip is also easy to control and landing is as problem free as with a club glider. The steerable tailwheel allows safe taxying from the landing area. The aileron response to prevent the wing dropping is also perfect in the flaps L position. You don't need any help to bring the DG-800B back as you can taxy with the engine. If the engine is still warm, the throttle has to be set at full power before starting to prevent it from getting too much fuel when starting. If it is not too windy, the good aileron response allows taxying, even at slow speeds, with the wings level.

Judging from contest results the DG-800B is one of the best high performance competition self launchers. At the same time the quiet engine, the easy handling and engine operation make it a comfortable cross-country glider for less experienced pilots and for use on noise sensitive airfields.

New wingtips for the DG-600

Due to the initiative of DG-600 pilots Bernard Dolba and Wilhelm Dirks winglets for the 17m wings of both the DG-600 and DG-600M have been developed, tested and LBA certified.

Test flights have shown a noticeable increase in performance at low speeds and the effectiveness has been even higher when thermalling. Also the handling has improved and it is possible to fly slower in thermals. The eight pilots who have these winglets are extremely satisfied, including Ingo Renner who flew his DG-600 to 2nd place in the Australian Nationals.

(The British DG agent is McLean Aviation.)

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Photo: I.D.Parker.

THE RISKS OF WAVE FLYING

The photograph above looks idylic but gliding at high altitude needs to be treated with respect. This is emphasised in both the introduction by Pete Harmer and the OSTIV paper presented by Pete and Bob Weien

Grounded for three years because of ignorance - an incident described by Pete

A pilot was flying a wave cross-country and had been at high altitude for about four hours when he was suddenly attacked by a searing headache. The pain was of such ferocity that he could no longer really concentrate on flying the sailplane, but through the discomfort he thought it best to get on to the ground before something disastrous happened. During the descent the pain eased a little and he managed to fly to his home airfield.

Once on the ground the headache had gone but the pilot felt completely drained of enthusiasm for anything, except for going to bed for a long sleep.

This he did, but on waking next morning he found one arm numb and devoid of any sensation. The pilot, thinking that this was getting a little serious, decided to go to his doctor to get things sorted. The doctor diagnosed a transient ischemic attack, a transitory stroke, and immediately grounded the pilot!

It took the luckless pilot three years to convince the medical and licensing authorities that this was a wrong diagnosis and that he should be allowed to continue flying. He is flying again and representing his country at World Championships.

What was the real reason for this pilot's incapacitation?

All the evidence available suggests that the he suffered an attack of decompression sickness (DCS). It was quite obvious that with time the pilot has totally recovered, but a course of recompression therapy on the day of the event would have ensured a speedier result and he would have been able to be flying again 48hrs after the event.

It is hardly surprising that the doctor did not diagnose DCS as I doubt if he had even heard of the problem, except perhaps in association with divers rather than fliers, let alone seen a case before this one.

In my casual discussions with glider pilots about DCS the response ranges from mild confusion to total ignorance. In this article we will try to unravel the confusion and remedy the ignorance, but one fact to start off with is that decompression sickness is not hypoxia or lack of oxygen.

Flying at altitudes above, say, 15 000ft is full of danger to catch the unwary and can be divided into four areas:

1. Hypoxia, which was dealt with by Peter Saundby in his excellent article in *1993 S&G Yearbook*.
2. Trapped gas within the body, which expands with increasing height and is only unpleasant when it gets vented. Voids (sinuses and inner ear) within the head may not equalise pressure on descent and cause pain.
3. Cold, which has been written about before but basically prepare for it by wearing many thin layers of clothing. However warm it is on the airfield, it is always cold at altitude.
4. Decompression sickness, which we cover in the paper we gave at the OSTIV Congress held with the World Championships at Borlänge, Sweden in 1993 and reproduced from *Technical Soaring*.

DECOMPRESSION SICKNESS IN HIGH ALTITUDE GLIDER OPERATIONS by Robert W. Weien and Peter M. Harmer, RAF IAM, Farnborough, England.

Introduction

High altitude glider operations possess the potential for causing decompression sickness (DCS), as a consequence of the altitudes reached and the times spent at those altitudes. The risk, and therefore the incidence, should be higher in glider pilots than in military pilots, because of the general lack of preventative measures taken in soaring. This paper discusses DCS in general, the risk in glider operations, and briefly describes a study which attempted to establish the incidence of DCS in the gliding community.

DCS is the medical condition which occurs as a result of the reduction in ambient barometric pressure to such a degree that inert gas dissolved in the blood and tissues comes out of solution and forms bubbles. It is most commonly associated with diving, but also occurs in the aviation environment.

Physiology of DCS

The fluids in the body contain inert gases, in quantities consistant with Henry's Law. This states that the amount of gas that will dissolve in a liquid at a given temperature is directly proportional to the partial pressure of that gas over the liquid. All gases are absorbed and eliminated according to this law, but most gases are either metabolically active or have a partial pressure too low to be of significance.

The inert gas of primary interest in DCS is nitrogen, since it constitutes 79% of the atmosphere. It is not metabolised, thus it is absorbed and eliminated from the tissues and body fluids passively. The body tends towards saturation with nitrogen, so a diver absorbs additional nitrogen when breathing underwater under high pressure. When the diver returns to sea level pressures, the excess nitrogen must be eliminated.

Nitrogen is absorbed and eliminated through the lungs, and further dissemination through the circulatory system. Different tissues have different rates of absorbtion and elimination, complicating the issue of predicting total body nitrogen levels. This area has been extensively researched, primarily in the diving environment, as part of dive table development.

When a body has been at sea level for a prolonged period (days), it is saturated with nitrogen. An ascent to higher altitude (lower pressure) results in supersaturation, and the body begins to off-gas the excess nitrogen. The degree of supersaturation necessary for bubbles to form is defined by the critical supersaturation ratio:

$$PN2 / PB = CSR$$

in which PN2 is the partial pressure of nitrogen at the equilibrated altitude, and PB is the total barometric pressure at the altitude of interest. In aviation we are rarely concerned with mixed gas use, so only air (79% nitrogen, 20.9% oxygen) is considered here. For air the CSR is 1.58.

Bob Welen is a Lt Col and doctor in the US Army, and has been an exchange officer at Farnborough for three years. Bob has a US PPL for aircraft, helicopters and gliders and owned a Nimbus 2 when in the USA. Pete Harmer is a physicist and has worked at RAF IAM and CHS for the last 12 years on altitude life support and protection. Pete started gliding at Farnborough in 1964 and is now a Full Cat instructor with two Diamonds and 2500hrs. He, with his wife Jill, has flown their K-2e from many sites throughout Britain and several in Europe, and they have often been seen local soaring Lasham in their shared Nimbus 3DM.

When a reduction in pressure is made which exceeds this level then DCS becomes possible. For those equilibrated to sea level pressures (760 mmHg), this occurs at approximately 18 500ft. The CSR threshold is based on the assumption that the linear ascent threshold well known in the diving community extends into the altitude realm. Recent studies in the USA indicate that the altitude threshold may actually be considerably lower. Nonetheless, 18 500ft can be used as a rule of thumb in describing the potential onset threshold.

Clinical features of DCS

Once bubbles form, they can have a variety of effects ranging from simple joint pain, through to death. The degree of symptoms and their location depend on the number of bubbles, and where they travel after they have formed. Bubbles cause symptoms through two basic mechanisms; mechanical effects and surface activity effects.

Mechanical effects are those which occur as a result of the physical presence of the bubble. These include obstruction of blood vessels and tissue distortion or disruption. When a vessel is obstructed the flow of blood downstream in that vessel is restricted or eliminated, resulting in symptoms of tissue hypoxia. Tissue changes can be caused by the expansion of gas bubbles through the effect of Boyle's Law which states that as ambient pressure is reduced, a bubble will expand, and exert force on the surrounding tissues.

The surface activity effects are those resulting from the body's active response to a foreign body. The surface of a bubble is viewed as a foreign body and several systems respond to it as such, including the complement cascade and platelets.

Common presentations of altitude DCS include joint pains (the "bends"), skin symptoms (often itching), neurologic symptoms (headaches, numbness, or paralysis) and respiratory symptoms (shortness of breath, substantial chest pain).

A number of factors which influence the onset of DCS have been noted, these include:

1. Exercise. Physical exercise, especially during or in the hours immediately after an altitude exposure, increases the likelihood of DCS.

2. Cold. Low temperatures increase the risk of DCS, probably due to vasoconstriction resulting in poor perfusion of peripheral areas (poor circulation). This, in turn, leads to incomplete clearing of nitrogen from the poorly perfused tissues.

3. Age. Increasing age increases risk.

4. Obesity. Fat is a long half-time tissue: that is, it absorbs and eliminates nitrogen over a much longer time course than "fast" tissues, such as blood. This leads to localised areas of increased off-gassing gradient where bubbles can form.

5. Dehydration. This leads to reduced circulating blood volume, and poor perfusion, and can result in incomplete clearing of excess nitrogen.

6. Physical injury. Inflammation associated with an injury is a common site for DCS symptoms.

7. Flying after diving. If one has participated in diving activities and absorbed extra nitrogen, this increases the total need for nitrogen elimination and lowers the altitude at which the CSR will be exceeded.

8. Gender. Females are at significantly higher risk of DCS than males.

The onset of symptoms is usually rapid. Approximately half the cases occur while at altitude, or in the first hour after return to ground level in altitude chamber runs. The initial symptom occurs within 12 hours in 86% of cases and within 24 hours in 97%.

DCS responds well to correct treatment. Recompression therapy in a hyperbaric (diving) chamber is the standard treatment: in a recent ten year review of the USAF's experience with altitude DCS, 98.5% had complete resolution. In the absence of a hyperbaric chamber, or until a patient can be transported to one, 100% oxygen should be breathed, (this treatment is not as effective, however).

Prevention of DCS

The rate of DCS can be reduced through preventative measures. If 100% oxygen is breathed then nitrogen is cleared from the system in a process termed denitrogenation. This is somewhat of a misnomer, however, since denitrogenation results only in partial elimination of nitrogen from the body. The longer the course of denitrogenation, the higher the threshold for DCS. Symptoms are also less likely to be severe. The RAF uses a 30min denitrogenation schedule before ascent for altitude training above 30 000ft.

How big a problem is DCS in aviation? Estimates of incidence are usually made from records of military altitude chamber training. A number of these have been published in recent years. The range is from approximately 0.5 to 3 cases per 1000 exposures.

Potential for DCS in gliding

The potential for DCS in high altitude glider operations is great, for a number of reasons:

1. The altitudes reached are high enough for DCS to occur. Flights above 25 000ft are common. The British altitude record is now over 37 000ft.

2. No preventative measures are taken against DCS. Wave pilots typically do not don their oxygen masks until at 10 000ft or above.

3. Oxygen systems in gliders are not standardised, and so may not provide 100% oxygen. Denitrogenation may not occur, even when the mask is in place.

4. There is no method to alert pilots with predisposing factors, to allow them to reduce their risk.

The incidence of DCS in high altitude glider operations would therefore be expected to be higher than that experienced in military aviation. We have not been able to find any reported cases of DCS among glider pilots, in the medical literature, or in gliding publications, or *via* informal inquiries at several gliding sites known for wave prior to writing this paper. But subsequently several cases, including the one heading this article, have come to our attention although not always directly from the pilot concerned.

DCS incidence study

The Centre for Human Sciences of the Defence Research Agency (ex RAF Institute of Aviation Medicine) at Farnborough began a study to establish the incidence of DCS in glider pilots during the wave season 1993-1994, comprising a questionnaire based survey of pilots returning from wave flights.

The two possible outcomes could have shown:

1. The anecdotal evidence is correct and DCS occurs much less frequently in the glider population than in military aviation. This would be a suprising result, and would require further investigation of glider flight profiles to determine the reason. If true, then lessons learned could be applied to military aviation.

2. Glider pilots have an incidence of DCS as high or higher than military experience would suggest. This is the most likely outcome, and could be used as a basis for communicating DCS prevention techniques to wave flying pilots in an effort to enhance safety.

Pete concludes

DCS is a likely side effect of high altitude glider operations, but is a risk which can be minimised through the use of proper preventative techniques. There was a study (1993-94) to determine the size of the DCS problem in gliding but unfortunately, for many and varied reasons, it floundered fairly early on and long before any statistically correct sample had been reached. The idea behind this study was NOT to gain evidence to put any sort of restriction on altitude flying, I enjoy it as much as anyone, but to gain an insight into a previously unmentioned problem to enhance the safety of our sport.

However what I would now like to try is for pilots having read this article who think they could have suffered from DCS, to let me know - any personal details will be kept confidential. I believe there are many pilots who have suffered from mild DCS and have just thought that the joint pain was due to the cold, cramped cockpit and the headache to a heavy session the night before. Mild symptoms will invariably disappear on descent and will possibly be forgotten in the wild story telling that evening. Could anyone who has had any strange symptoms or sensations, which cannot truly be put down to hypoxia or anxiety, during or after a flight to above 10 000ft please write giving details to P. Harmer, Aeromedicine and Neurosciences, Centre for Human Sciences, Defence Research Agency, Farnborough, Hants GU14 6TD.

TAIL FEATHERS

PLATYPUS'S TRAVELS IN AMERICA

The curse of Platypus strikes again

June 13, the first day of the US Open Class Championships in Nevada, was decidedly interesting. You know, when someone serves you a dish you can't eat and they ask you how you like it, all you can mutter with your mouth full of the godawful stuff is "Er, ulp, interesting". The five pilots who got round the more or less unlandable mountains and desert in the teeth of a high wind, by polishing the ridges low down then surfing the wave to over 17 000ft, each deserve a medal. The other 18 failed to make it - a monstrous failure rate for Minden.

Plat showed his increasingly craven character, the product of old age compounded by avarice and sloth, in rejecting the prospect of 1000pts at the price of a certain landout on an uncertain airstrip. Instead, after 5hrs of struggle covering nearly 250km, I clawed my way back home over snow-draped peaks and settled for zilch, sip, nowt and "Nyule pwang", as they say in what I call the Eurovomit Song Contest. Not having any crew at this competition was a sort of excuse for such behaviour, but in the glorious days of my youth, when two field landings in a day were the norm, the absence of crew would never have stood in my way. It would have been "Damn the torpedoes, full speed ahead, and let the devil organise the retrieve[1]."

Then the next three days in a row were scrubbed. At Minden Comps this is **unprecedented**. Pilots were in shock and I was regarded

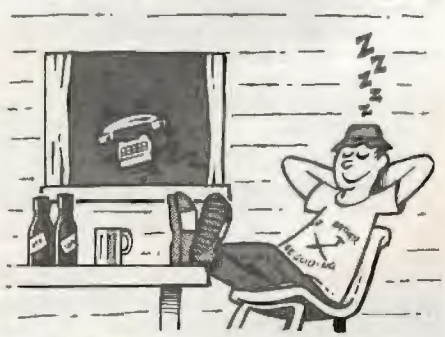
I know how Jonah felt.

with dark looks. I know how Jonah felt shortly after he was introduced to the whale. My jovial offer on Day 1 to quit the competition (and indeed the site altogether) for a fee of $100 per head, that is $2500 in total, came to be taken seriously, and at briefing on the third scrubbed day several hundred green ones had been collected, but not sufficient to meet what auctioneers call the reserve. I think a round $1000 would just about have persuaded me to derig and move to a safe distance, like 500 miles.

The brickyard in the sky

After that the gods decided the competitors had been tormented sufficiently and relented to give six successive days of weather that in England would have been greeted with ecstasy, but which in Minden were considered just barely acceptable. Normal thermal soaring conditions were resumed, so I shall not report on them since I have forgotten, if I ever knew, how to make normal competitions sound fun. One day is worth mentioning, however, because it was the fastest ever US Nationals contest day, with Jim Payne's winning speed in an ASH-25 of 183km/h or just a hair under 100kt.[2]

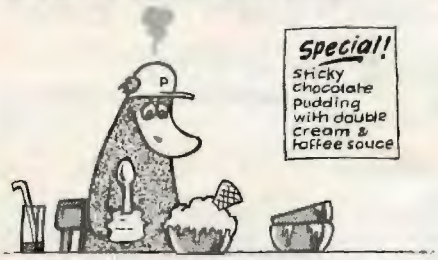
It was a 3hr POST (pilot selected) task in which the key rule to remember in this instance is that you cannot just shuttle back and forth between two TPs. You must use three or more TPs in any repeated sequence, and the trick in this particular day's weather - forecast to be strong Sierra Nevada wave to the mandatory ceiling of 17 500ft - was to choose a flattened north-south triangle or quadrilateral for your racetrack, with Minden roughly in the middle, and then zoom round it without wasting your time in circling or S-turning till the 3hrs were up.



Quiet Week day.

Another relevant constraint was the limit of ten TP pictures: that limit of 12pts in total (including start and finish) meant you could only do three or four circuits, so if you were going very fast you had to choose a racetrack large enough - say, 200km per circuit - to avoid running out of film before the 3hrs expired. It seems that the fastest pilots did not hunt about from the primary to the secondary wave, as I did, but managed to stick to one or the other. That accordingly meant they did not have to dash through heavy sink, which required one to slow up again when lift was reached to restore the height lost.

Panic at the thought of dropping below 15 000ft and missing the wave would alternate rapidly with panic at being sucked through 18 000ft and being disqualified; it was only within a very narrow window that you could relax and admire the dazzling view. Since Minden was visible in gin clear air the whole time, any spectator with a sufficiently high-powered telescope could in theory have watched this soaring Indianapolis throughout and placed bets on the riders. I have to say that after my own three circuits at a paltry 145km/h I was happy to land. It was like finishing three massive bowls of one's favourite sticky pudding. Thanks, but I've had enough.



One's favourite sticky pudding.

I notice I have been using food analogies a lot here. This must be to do with the difficulty in the USA of escaping from huge amounts of very inexpensive food, most of it delicious, and only some of it "interesting". It's amazing that everyone in the land is not 300lbs, though quite a few are. Such people don't glide much, of course.

All comes to them what wait

Hardened critics (that is, any glider pilots with a pile of dog-eared logbooks) will not be at all surprised to hear that the best weather of the month of June was the week immediately after the Nationals, when the competitors had folded up their mobile homes and quietly stolen away. (Some of the more luxurious travelling gin palaces literally do concertina, at the touch of a switch, from a capacious 12ft wide on the field to a handy 8ft wide on the road. It's a disturbing experience, if you've not seen it previously, to watch and hear a monster caravan, with much whirring and heaving, attempt to vanish up its own back door.)

So I did the local FAI 1000km milk run on June 14. Then I was told I had not photographed the second TP from the right sector, so three days later I went and did it again properly, and have a gracious letter from the Soaring Society of

[1] A friend of mine in England once landed miles from base, and there was nobody at the club willing or able to retrieve him (it must have been a quiet week day, since he is a perfectly reasonable guy, who does not make enemies easily) so in desperation he rang one of his ex-(let's stress that EX-) girlfriends at home, and pleaded for her to come to the club, hitch up his trailer and come out to get him. He must be one of the violin players of all time, for she eventually, if reluctantly, was persuaded to leave the comfort of her home late into the evening and retrieve him. I ought to offer readers a prize for the most convincing piece of dialogue between two former lovers as they meet in a ploughed field at midnight with the drizzle gently slanting down.

[2] This wasn't one of those freak speeds resulting from starts in the stratosphere, by the way. Starts were limited to 5000ft agl or 9700ft asl.

Don't query that claim.

America to prove it. Just like that.

Sorry to disappoint you, but it isn't always a cackhanded fumble. Stick around long enough and you're bound to do something right, if only by accident. Thought maybe that will do for my epitaph?

Now it can be told - up to a point

I'm back in Uvalde after four years, girding up my loins to take part in what the Texans modestly call the Texas **Nationals** (don't query that claim if you wish for a quiet life) and memories flood back. After the passage of those years, I think it's time this column discreetly revealed the fact that the fun and games in Uvalde in 1991 between visiting World Championships teams and ladies of the Lone Star State were not confined to the continental European, though one did earn his Green Card in the nicest possible way, and is now happily assimilated into Texan society.

One of the younger non-flying members of the British team is said to have had a torrid romance with a Uvaldean and was all set to go back over Christmas 1991 to pick up where he had left off, so to speak. A friend met him in the new year and asked how the trip went. "Nothing doing," was the glum reply, "her husband came back!." Very tricky that kind of thing in Texas: anywhere south of the Mason-Dixon line jurors are apt to take a very lenient attitude towards husbands who perforate their wives' boyfriends with anything from a Saturday night special to an AK-47. (Mason and Dixon were a couple of British officers, by the way, who knew where to draw the line, which is more than can be said for the British team members in 1991.) It must have been the heat: age was certainly no barrier to Cupid's laser beam. Thus the most senior and distinguished gentleman in our entourage was snapped up by a Texan lady who specialises in collecting fine old English antiques. Well, she's got an elegant specimen there to be sure, and very hard wearing, too. A yearly rubdown with linseed oil and wire wool and he should last more or less indefinitely. An absolute bargain.

(What about you, Plat? Ed.)

Well, er - Good Heavens, we seem to have run out of space...

Refusing to give way to superstition.

Wheels of fortune

One of the great features of the State of Nevada is its omnipresent casinos. Whatever gambling urge I have is usually sated by the monthly bloodletting of the Dunstable poker school, so it is not for the roulette or the blackjack that I seek out these places. Their immense virtue, especially when you are dragging a long trailer across the desert, is that they are open 24 hours a day, and you are equally welcome at 3am as at 3pm. There is vast parking space; dinner at midnight (a monster steak plus trimmings) is $1.99; breakfast of hashbrowns, two eggs and toast is 99 cents and a vast double room is under £30.

Oh, for such establishments the length and breadth of Europe and the USA! However some economist would doubtless point out that if casinos were to be found everywhere they wouldn't make enough money from gamblers to afford to be so generous to non-gamblers.

En route to Texas, we found ourselves trailing the ASH-25 down the main strip of Las Vegas which has become even more lurid and over the top than when I went there is 1980. We did think of driving it up to Caesar's Palace, with all its animated Roman statuary and coloured fountains and Tom Jones as cabaret, but decided that the tip for valet parking 45ft of Jeep and trailer would wipe out any savings on bed and board. Besides, if you've seen these kids doing the valet parking you would hardly want to entrust your life savings to them. So we settled for a more modest joint between Las Vegas and the Boulder Dam on the border with Arizona.

Glider No 13 extracts a blood sacrifice to placate the weather gods

One day in Minden, while inspecting the waterballast electrics in the ASH-25 outer wing panels, I extracted the pins which hold the outer and inner panels together. Not a smart move. These sprags are like hypodermic syringes magnified 1000 times with a vicious cutting edge. Yes, you've guessed it. A momentary loss of concentration and suddenly blood was spurting everywhere from a deep gash in the back of my left hand.

Dale Bush, a veterinary surgeon[3] and one of the Nationals pilots, put a temporary bandage on the gory mess - he said a small artery had been cut - and I was rushed off to the local emergency clinic. One stitch per ½cm resulted in exactly 13 stitches. This coincidence struck everyone present as hilariously funny. Still refusing to give way to superstition I went off to see Apollo 13, and enjoyed it hugely.

[3] I like vets: they don't expect their patients to answer daft questions the way ordinary doctors do.

A FIELD LANDING MADE IN HEAVEN

Sunday, May 7 (Inter-Club League, Gransden Lodge) produced the kind of once in a blue moon brush with Lady Luck that makes soaring cross-country such a rich and varied sport.

The flight was almost an irrelevance; a mostly blue day with strong bursts of turbulent lift until a cold front marched down from the north-west and saw me grovelling south of Cambridge in steadily deteriorating conditions.

Drifting downwind towards a cluster of good looking fields revealed several opportunities, with one that looked just right - good size, smooth brown surface, into wind, no perceptible slope, no approach obstructions and roads on two sides with entrances on both.

On circuit I noticed the ultimate bonus, **a pub**, from which was spilling a cluster of humanity, lining up to watch my antics.

The touch down and ground run were as smooth as you would expect from an agricultural version of a billiard table and as I removed the Kestrel's canopy there was a ripple of applause, with some raucous cheering, from my audience.

The first priority of finding the farmer was easily solved as he lived next door to the pub, The Prince Albert, Stow-cum-Quy. He was absolutely charming, told me the field was set-aside, that I could take the trailer to the glider and could use either entrance.

All I had to do was return to The Prince Albert and await my crew, Neale Banks, in comfort.

The Prince Albert; what a find!

On walking through the door I was presented with the gift of a delicious pint of Freedom Ale drawn from a selection of 25 VE Day celebratory brews. I had unwittingly arrived in the middle of a three day beer festival.

Amongst the regulars were two Tiger Moth pilots, a retired carpenter who used to maintain Mosquitos and a gliding New Zealander full of hairy mountain soaring stories.

What a crowd; all friendly, all full of banter and all more than a little affected by the attempt to sample each and every example of the 25 brews on offer.

Knowing I would be driving later put the limit on my alcoholic participation, but the party was really under way.

After Neale and I had derigged, we went back for a superb steak dinner, making a perfect ending to our visit. Fond farewells, promises to return and we were on the road.

Lady Luck gave me a gentle reminder of her fickle nature by stripping the tread from a trailer tyre, but changing the wheel was a small price to pay for a field landing made in Heaven.

ROLEX STANDARD CLASS NATIONALS

Nympsfield, June 10-18 - a report from Les, the competition director

The weather was generally poor but we managed to achieve four contest days. The first Saturday and Sunday were scrubbed despite expectations of short weather slots which did not materialise.

The first usable task was on Monday, June 12, being a 195km triangle, Abergavenny, Ludlow. The majority of competitors landed in two groups near Abergavenny and near Hereford. However Phil Jeffrey (LS-7) managed to keep going round the second TP and most of the way down the third leg. As such a small number got past Y the day was only worth 511pts.

Three competitors in adjacent fields discovered an irate farmer who had to be pacified by his local NFU secretary. Another three in a field not far away found that the farmer had just spread the field with a combination of chicken and pig slurry. They were presented with air fresheners at the following morning's briefing.

The next attempt at a task on Tuesday proved to be a failure as most people landed out at the first TP or returned to the site, so it was a no contest day.

Thursday, June 15, proved to be much more fruitful. Northerly wave was in evidence and reasonable thermals were forecast. The 279km task was Bath racecourse, Tewkesbury north and Ironbridge.

Most competitors were defeated by what appeared to be a convergence or sea breeze line around the second TP. However, some overcame this and ran the energy line to Wenlock Edge, managed to scurry up the ridge to Ludlow and returned to the thermals further south. There were seven finishers. George Metcalfe (ASW-24) won the day with 957pts, followed closely by Russell Cheetham (LS-7), Phil Jeffrey, Pete Harvey (Pegasus), Nick Wall (Discus), Ted Lysakowski (Discus) and Mike Young (Discus).

Mike Young, the Standard Class Champion, collecting the prize for Day 1 from Les. All photos by Chris Terry.

The 223km task on Day 3, Friday, June 16, was to Didcot, Goring and Edgehill. This was the first racing day, although some slower competitors were narrowly beaten by sea air charging into the Severn Valley just before the first finishers arrived home.

Thirty-six managed to complete the course led by a surprised "Spud" Hallam (Discus). This was also the first 1000pts day.

Saturday was a complete blow and rain out, thankfully clearing in time for the barbecue. Sunday was a better soaring day but with a very limited task area to choose from. The 197km task was almost identical to Day 3, Didcot, Oxford East, Edgehill.

This was also a good racing day with all the competitors returning to Nympsfield, though some were considerably slower than the others. John Kingerlee (LS-7) won at 107.43km/h scoring 842pts. The day was devalued due to the fastest pilots completing the task in less than 2½hrs.

Despite the small number of flying days the general feeling from the pilots was that a reasonable competition was achieved. The more difficult first two days amused the wilier competitors whilst the racers enjoyed the last two. Our commiserations go to Tim Milner who unfortunately damaged his Pegasus whilst landing at base on the last day.

FINAL RESULTS
Standard Class Nationals

			Day 1.12.6 195km ▲ Abergavenny, Ludlow			Day 2.15.6 279km Bath, Tewkesbury, Ironbridge			Day 3.16.6 223km Didcot, Goring, Edgehill			Day 4.18.6 197km Didcot, Oxford, Edgehill			
Pos	Pilot	Glider	Dist	Pos	Pts	Speed (Dist)	Pos	Pts	Speed (Dist)	Pos	Pts	Speed	Pos	Pts	Total Points
1	Young, M.	Discus	118.3	2	406	45.92	7	902	80.71	10	909	91.2	4	811	3028
2	Jeffery, C. P.	LS-7	161.6	1	511	58.59	3	940	81.13	36	846	85.44	21	733	2848
3	Lysakowski, E. R.	Discus	93.9	14	301	46.16	6	903	80.09	12	901	85.44	21	733	2838
4	Wall, N. H.	Discus	90.9	16	286	48.44	5	904	77.38	20	864	82.04	31	687	2741
5	Barker, K.	Discus	85.9	=19	262	(255.4)	8	800	77.62	18	869	86.06	11	782	2712
6	Campbell, D. R.	Discus	112.2	=3	391	(293.7)	9	796	67.43	83	731	87.3	=15	759	2676
7	Smith, E.	LS-4	94.4	21	254	(216.2)	10	720	82.05	8	927	83.89	25	712	2613
8	Hallam, J. A.	Discus	112.2	=3	391	(127.8)	=30	410	57.48	1	1000	86.54	8	789	2590
9	Cheetham, R. A.	LS-7	58.4	=38	112	57.47	2	943	73.76	27	816	93.5	27	707	2578
10	Marsh, B. C.	ASW-24	99.2	=12	327	(127.8)	=30	410	86.05	2	961	83.45	=28	706	2404
11	Edyvean, J. R.	Discus	110.4	=5	382	(134.3)	15	440	72.4	29	796	90.58	7	802	2422
12	Jones, P. R.	Discus	109.9	7	380	(129.5)	27	418	80.27	11	903	83.95	24	713	2414
13	Elliott, B.	Discus	73.2	24	199	(132.5)	=16	432	80.82	9	911	92.72	3	832	2374
14	Tillett, N. D.	Discus	101.9	=8	340	(132)	=20	430	83.82	4	951	78.11	44	607	2328
15	Fox, R. L.	Discus	89.2	=12	327	(136)	13	456	81.01	8	913	77.65	42	628	2326
16	Metcalfe, G. C.	ASW-24	70.2	26	184	61.32	1	957	(199.1)	41	350	92.81	2	839	2324
17	Glossop, J. D. J.	Discus	87.7	18	270	(132)	=20	430	75.01	25	833	88.43	13	774	2307
18	Hodgson, K.	Discus	101.9	=8	340	(132.5)	=16	432	75.9	23	845	80.15	26	662	2279
19	Durham, M. W.	LS-7	105.7	6	364	(137)	14	453	72.86	28	804	79.38	37	651	2272
20	Scott, T. J.	Discus	58.7	=38	132	(132.5)	=16	432	83.29	5	944	84.66	22	723	2231
21	Jones, R.	Discus	92.2	15	292	(107.8)	=42	315	79.03	14	887	83.42	=28	706	2200
22	Stone, A. J.	Discus	75.2	22	209	(110)	=38	325	85.88	3	979	81.81	=32	684	2197
23	Aldis, C. J.	LS-4	58.7	37	167	(126.3)	32	403	77.49	19	866	87.25	=15	758	2194
24	Franks, H. S.	LS-7	65.9	=19	262	(128.3)	=23	412	76.9	22	856	79.21	=38	649	2181
25	Morris, B. C.	LS-7	99.7	11	329	(92.4)	46	254	75.16	13	888	81.53	34	680	2151
26	Payne, R. D.	Discus	58.7	=32	128	(147.3)	11	502	70.09	32	787	86.56	20	735	2132
27	Rollings, C. C.	Discus	58.7	=29	132	(122)	33	382	81.58	7	925	78.14	40	648	2087
28	Aspland, W.	ASW-24	58.7	=32	128	(106.8)	=44	309	74.48	17	879	86.07	14	769	2085
29	Milner, T. J.	Pegasus	58.7	=32	126	(130.5)	26	423	70.9	31	776	86.9	=17	752	2081
30	Crabb, P. G.	Discus	21.4	46	5	(132)	=20	430	76.73	23	856	86.59	12	776	2067
31	Stingemore, G. P.	Discus	51.4	=43	91	(111)	37	339	77.12	21	861	86.81	=17	752	2034
32	Marczynski, Z.	SZD-55	71.4	25	190	(132)	=20	430	64.14	35	687	84.17	23	716	2023
33	Jordy, M. J.	Discus	0	47	0	(143.8)	12	485	78.98	15	886	78.74	41	643	2014
34	Harvey, P. J.	Pegasus	90.4	17	284	53.39	4	829	72.22	30	796	Withdrawn			2008
35	Arnold, J. G.	Discus	35.9	45	47	(132)	=20	430	75.98	24	846	80.97	35	673	1996
36	Crabb, S. J.	Discus	54.4	41	107	(117.8)	36	362	78.6	18	881	74.96	45	592	1942
37	Strathern, M.	LS-7	57.7	=36	123	(106.6)	=44	309	65.58	34	706	89.4	10	787	1925
38	Kingerlee, J. C.	LS-7	59.7	=29	132	(132.5)	=16	432	(222.3)	=37	410	93.49	1	842	1816
39	Coward, P. J.	LS-4	110.4	=5	382	(110)	=38	325	(222.3)	=37	410	76.86	43	617	1734
40	Francis, D. P.	Discus	79.7	23	201	(131.3)	25	426	(154.5)	=43	233	90.95	=5	808	1668
41	Johnston, E. W.	LS-7	58.7	=32	128	(128.3)	=23	412	(222.1)	=37	410	83.65	26	709	1659
42	Sheard, P. G.	Discus	51.9	42	94	(107.8)	=42	315	(222.3)	=37	410	90.97	=5	808	1627
43	King, P. A.	LS-7	58.4	=38	112	(109.3)	41	322	(154.5)	=43	233	78.18	=38	649	1316
44	Langrick, D. J.	LS-4	51.4	=43	91	(110)	=38	325	(167.1)	45	216	81.79	=32	684	1316
45	Mee, M. P.	LS-4	65.7	28	162	(120)	34	373	(179.6)	42	297	84.04	46	444	1276
46	Shelton, P. M.	Discus	57.7	=36	123	(119.8)	35	372	(71.2)	46	*50	82.56	30	694	1239
47	White, S. A.	LS-7	55.4	=38	112	Withdrawn			Withdrawn			89.47	9	788	900

* = penalty

Ray Payne (Discus) on finals.

The winning combination of Mike Young and his Discus.

Above: Nick Wall flying his Discus through the finish line. Below: Chris Rollings, senior national coach, in pensive mood.

Above: Derren Francis, talking to his crew, doesn't realise he has a flat tyre.
Below: Left, Jed Edyvean. Right: A cheerful Ralph Jones.

BRITISH WORLD CHAMPIONS

Andy Davis outlines two big steps in a pilot's career. Overall placings of 11 to top five in National Championships and the progression from top five in the Nationals to competing internationally. Over the last 20 years he has achieved these two goals, winning the British Standard Class Nationals numerous times and ultimately becoming World Standard Class Champion in 1994. In the last of the series on British World Champions, Natasha Spreckley looks back at Andy Davis's gliding career and asks him about his development as a competition pilot

From the age of five, Andy went with his dad to the local gliding club, Bath and Wilts at Keevil. Dragged off to the airfield every week and waiting for the "old man" to finish flying can leave a child either loving the sport or hating it. Andy loved it. Brought up on a diet of frogs and snails and glider pilot's tales, Andy's interest in the sport grew.

Learning to fly in a T-21, it wasn't long before Andy's first solo flight on his 16th birthday in a Swallow. He quickly progressed, completing his 5hrs in an Oly 2B, his Silver height in an Oly 463 and his Silver distance in a K-6. By his second season Andy had clocked up enough hours to fly the Open Cirrus and fly his first competition - the 1974 Lasham Regionals.

Andy was keen to fly in a competition as he thought the sky would be opened up to a whole new spectrum of experience. Indeed it was here that Andy first learned to fly on days club members wouldn't even rig. With 120hrs under his belt, a competition also meant he could see how good a pilot he was against the benchmark of other pilots.

Team flying with his father, in what turned out to be a three day competition, Andy finished 4th and 3rd on his days. The following year he finished 2nd overall at the Western Regionals in a Std Cirrus. He was now, at the age of 19, a Nationals pilot.

Over the two year period 1974/75 Andy had taught himself the rudiments of competition flying. He recalls that he was not influenced by any other pilots, but rather developed his skills untutored.

With hindsight, Andy describes his self-taught methods as "unconventional". By this he means he would follow his instincts about which route to take through the air, often deviating off track and often to resist following the rest of the competition.

Despite this "unconventional" approach, his self-taught method proved to be a winning formula. He won the first day of the 1976 Standard Class Nationals, finishing 5th overall.

By 1981, aged 25, he was picked to fly with the British team in the World Championships at Paderborn. It was here and at subsequent WGCs that he discovered a more tactical routine was needed if he was to succeed abroad.

The main reason for this was the difference between the British weather and the European climate. He discovered that in the UK Nationals you can usually get away with taking risks and making outrageous decisions as the weather somehow seemed to favour this approach. On the other hand, the weather overseas generally provided consistently good soaring conditions, which required consistently good performances from the pilot.

Maturity and experience has changed his attitude to competition flying. Andy's principles of competition flying have thus developed into a comprehensive strategic approach. This includes:

Flying conservatively

- Just do enough and always fly with something in reserve.
- Fly not to make mistakes – consistency is everything.
- Taking risks very rarely pays.
- Fly knowing you could step up another gear. Don't fly in a higher gear all the time as it is too high a risk level.

With a new strategy defined, Andy began to get higher overall placings. In fact, he can pinpoint a turn around in his results. From the 1989 WGC onwards, his placings were higher. He puts this down to a better mental attitude, flying consistently and tactically, astute decision-making (not outrageous), flying conservatively, slowing down and not taking risks. The result was less day wins but a higher place overall and, let's face it, high placings are what it's all about.

When a pilot of Andy's calibre enters a competition he sets out to win. "I want a competition to be challenging, to stretch my abilities and to be enjoyable - winning makes it more enjoyable," he says.

But winning competitions is not just about a pilot's flying ability. A successful pilot needs a combination of flying skill and a healthy mental approach. Above all, good pilots need to be mentally tough.

Andy's mental approach has developed with maturity. Indeed, this is perhaps something that cannot be taught; it is something a pilot copes with from experience. Important advice is to learn not to let past mistakes upset the next flight. A successful pilot has to learn to accept the bad breaks, then get on with the next decision. Andy achieves this by knowing that he is flying with something in reserve. If he makes a decision, and it is a bad one, he knows he has something to fall back on.

But even World Gliding Champions make mistakes. Andy's main concern is the first day of a competition. A pattern began to develop where if he won the first day, he'd win the competition. As the first day started to become an indication of how the competition would go, he began putting pressure on himself to win. Fortunately, he realised added stress of this kind could lead to his making mistakes. Now he has to psychologically prepare himself for the first day of any competition to ensure he completes the task with a respectable result.

Andy after winning the 1994 World Standard Class Championships in Borlänge, photographed by his father Bill alongside the Discus in which he won.

After the first day, Andy believes the hardest position to be in is 1st. He would much rather be in 2nd or 3rd gaining on 1st. This is because the pressure of retaining 1st position leads to irrational decision-making or risk-taking.

Andy's physical preparation for international

YEAR	COMPETITION	GLIDER	POS
1976	Standard Class Nationals, Lasham	Std Cirrus	5
1977	15 Metre Class Nationals, Dunstable	Nimbus 15	2
	Euroglide, 15 Metre Class,Husbands Bosworth *(hors concours)*	Nimbus 15	2
1978	15 Metre Class Nationals,Lasham	Nimbus 15	1
	Euroglide, Standard Class, Nympsfield	Std Cirrus	1
1979	Euroglide, 15 Metre Class, Dunstable	Mini Nimbus	2
1980	15 Metre Class Nationals, Dunstable	Nimbus 15c	4
	Standard Class Nationals, Lasham	Std Cirrus	1
1981	World Championships, Standard Class, Paderborn	LS-4	9
1982	15 Metre Class Nationals, Dunstable	Ventus	15
	Standard Class Nationals, Booker	LS-4	1
1983	World Championships, Standard Class, Hobbs	LS-4	21
1984	Standard Class Nationals, Nympsfield	LS-4	1
	15 Metre Class Nationals, Dunstable	Ventus	2
1985	World Championships, Standard Class, Rieti	Discus	20
1986	Standard Class Nationals, Dunstable	Discus	17
1987	World Championships, Standard Class, Benalla	Discus	13
1988	Standard Class Nationals, Nympsfield	Discus	3
	15 Metre Class Nationals, Booker	Discus	12
1989	World Championships, Standard Class, Werner Neustadt	Discus	2
1990	15 Metre Class Nationals, Nympsfield	Discus	1
1990	Ameriglide, Standard Class, Minden	Discus	2
1991	World Championships, Standard Class, Ulvade	Discus	9
1992	15 Metre Class Nationals, Nympsfield	Discus A	7
1993	World Championships, Standard Class, Borlänge	Discus B	1
1994	Standard Class Nationals, Bicester	Discus	1
1995	World Championships, Standard Class, Omarama	Discus	6
	Standard Class Nationals, Nympsfield		

The above results do not include all the competitions Andy competed in. They do, however, indicate his success as a competition pilot over the years. All results taken from S&G.

competition is based on a routine (starting one month before the event) of distance tasks at competition tempo. For instance, Sunday May 2, 1993, Andy began his preparation for Borlänge. That day he flew 500km and thereafter flew long cross-countries on every possible day. In this training programme he set out on long tedious flights to fly hour after hour without making mistakes.

This preparation obviously paid off, as Andy went on to become the World Standard Class Gliding Champion for 1994. Preparing for New Zealand was a little more difficult. Andy could not really prepare for this competition at all, not only for practical reasons (the British team had to crate their gliders to New Zealand at the beginning of October 1994), but having never flown there, he was not accustomed to the unique wave and soaring conditions New Zealand provides.

Andy maintains that this did not put pressure on him as the reigning Champion, as he was not setting out to defend his title *per se*. He contends that winning at Borlänge proved that for two weeks, at a given place and a given time, he was better than anyone he was flying against. Therefore, winning the World Gliding Championships is now no longer an obstacle for Andy and he can just get on with the flying, knowing that if he's done it once, he can do it again.

One thing that would have been in Andy's favour in New Zealand is his background of learning to glide in the quasi-mountainous region of Avon and the Welsh mountains. This experience has given him the ability to read the conditions particular to a mountainous terrain. Indeed, Andy prefers mountain flying, thriving on the interesting conditions it provides, comparing it to lifeless blue desert climates which he finds difficult. " I fly by what I can see. In the blue, because you can't see, I worry that I am missing something. Flying in the blue is almost flying by pot luck. I don't fly by pot luck. I make a conscious decision to go to a given place," he adds. (Typically Andy favours windy conditions with long cloud streets with a tendency to overdevelop, as he feels he can read what's going on better than other pilots.)

Competitions in the mountains also cut down on gaggle flying, one of the symptoms of competitions that Andy deplores. He believes the problem of gaggle flying should be addressed, not only for safety reasons but because it is bad for the sport. "Gaggle flying" he insists "occurs because people are following other people and not making their own decisions."

With nearly 20 years of competition flying experience, he has seen a lot of changes in the technology used for aiding and verifying tasks. One advance is the GPS which Andy has mixed feelings about. On the one hand it is a good thing, as competitors who cheat by entering airspace can be policed. The GPS also opens up wave flying possibilities and improves safety.

However, rules such as the acceptance of a TP in cloud are problematic and could prove to be very dangerous. Aside from this, the GPS is an expensive piece of equipment which further increases the cost of the sport, thus decreasing it's affordability and accessibility.

Andy's main concern is that modern gliding practice is pricing the sport out of the leisure market - particularly for young people. Anxious that the movement is suffering because of this, he is in favour of any scheme that reduces the cost of gliding and makes it less elitist.

For instance, sponsorship would enable as many people as possible to compete. Camera pointing systems used in competitions purely for broadcast will make the sport visible and public, not private and exclusive.

One new development Andy looks forward to is the World Class. This, he hopes, will be kept simple with instrumentation at a minimum so that entry level is open to those with few resources. He contends that people should not concentrate on expensive equipment. "The vario is really the only instrument you need, as the pilot should be getting information outside the cockpit from the sky, clouds and ground."

An active club member, Andy puts back into the movement by sharing his skill and experience with young, enthusiastic pilots who want to compete. Through two-seater and lead-and-follow flying he teaches "seeing" and decision making, influencing and advising pupils on the information they take in.

But training should not end there. It is important that a training programme is maintained. In particular, he believes Britain should provide squad training for top pilots who want to fly at international level. Britain is unfortunately one European country that does not patronise this policy. However, before Britain can operate a proper squad training scheme, like France or Germany, we have to wait for a change of culture, where perhaps the British team are given the same privileges as the English Rugby Union players who tour other countries for several months a year.

In between training pupils and flying competitions, Andy doesn't have much time to glide due to the nature of his work (he is a First Officer for BA and flies 747 100/200s on long haul routes). But he probably doesn't need to. He has a library of memories from over 20 years of gliding that he can file through to inform him of what decision to make on a particular day. There is only one way to get this good, and that, Andy advises, is to "fly, fly, fly. Fly at every opportunity. If it's a choice between instruments or aerotows chose aerotows. Fly cross-country in all weather, not just the good. You have to learn how to handle the bad weather as well."

This article first appeared in the *European Gliding News*, November 1994.

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A ↑

B ↑

Photos A to D, taken by Tom, show a series illustrating the effect of increasing moisture below the inversion. In A the air was fairly dry, B and C were increasingly humid and D was very moist.

WATER VAPOUR - THE INVISIBLE FACTOR

TOM BRADBURY says that in exceptional summers, such as this, one starts to wonder where all the water has gone

Clouds are the visible result of the condensation of water vapour. In most years the British Isles has so much cloud cover that few people concern themselves with the invisible portion of the atmosphere. In exceptional summers such as 1976,1983 and 1995 one starts to wonder where all the water has gone.

Water vapour, humidity and dew point

These three factors are closely connected. The amount of water vapour in the atmosphere is usually quoted in grammes, water vapour per kilogramme of dry air. One can find the value marked along the foot of a tephigram. In Fig 1, an enlarged section of a tephigram, the figures run from 4g/kg at a pressure of 1050mb and a temperature of about 1.2° C to 24g/kg at the same pressure and a temperature of about 28.5°C.

Fig 2 is a graph showing how the vapour content increases with temperature. The curve rises rapidly as high temperatures are approached.

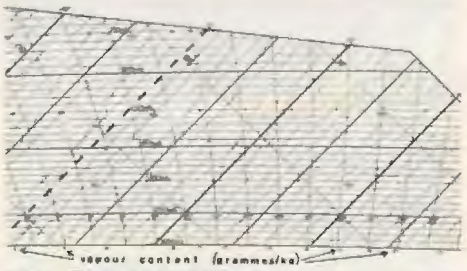

Fig 1. Part of a tephigram.

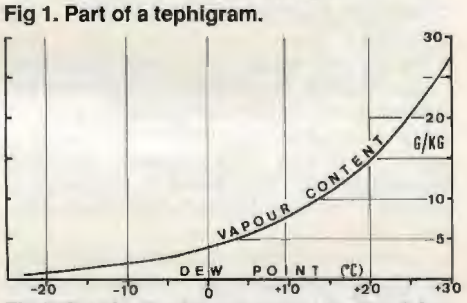

Fig 2. Graph of water vapour content and dew point.

Humidity is defined in the **Meteorological Glossary** as the condition of the atmosphere in respect of its water vapour content. There are several variations but the one most people think of is "relative humidity". This is expressed as a percentage of the actual vapour content of the air over the maximum vapour content. Thus 50% means the air is half saturated while 100% means the air is completely saturated.

The dew point is the temperature at which the air is completely saturated. If the temperature falls below the dew point the air would be supersaturated. Normally the excess water vapour is condensed out to form dew on any surface, hence the term "dew point".

Finding the dew point

The airfield weather reports (METARS) quote air temperature and dew point. The dew point is usually calculated from the difference in temperature between dry bulb and wet bulb thermometers using a special slide rule.

Hygrometers

One can measure humidity directly without the usual wet and dry bulb thermometers. The simplest devices consist of a bundle of hairs in tension which actuate a needle or pen arm. Changes of humidity alter the length of the hair and vary the readings. Old radiosondes used a tiny strip of Gold Beater's Skin; this is made from the outside membrane of the large intestine of an ox. The skin is hygroscopic - it expands or contracts with changes of humidity. Modern instruments use the electric resistance of films of hygroscopic material.

Use of a tephigram

One can find the dew point from temperature and humidity readings. For example if the pres- ➡

C ↓

D ↓

sure was 1000mb and the temperature 24.7°C the tephi shows the vapour content to be 20g/kg at 100% humidity. If the measured humidity was 60% then the vapour content would be reduced to 12g/kg. The pecked line from this value gives a dew point of 16.6°C at 1000mb.

Lapse rates

The lapse rate is the change of temperature with height. The initial state of the atmosphere is usually measured by sending up radiosondes. These establish the "environmental lapse rate" which changes if the air goes up or down. Ascent takes it to a level of lower pressure so the air expands. Expansion takes energy which involves a loss of heat so rising air cools; it always cools at the same rate as long as it remains unsaturated. This is called the Dry Adiabatic Lapse Rate. (DALR). Adiabatic means that heat from outside does not enter or leave the system. The DALR is 9.8°C/km or 3°C (5.4°F)/1000ft. It is true both for ascent and descent of dry air.

Saturated air

The cooling caused by lifting of air eventually reduces the temperature to the dew point. Further cooling usually produces condensation of the excess water vapour into fog or cloud droplets. In the free air condensation nuclei are needed before the process can begin. It is theoretically possible for absolutely pure air to be supersaturated by some 300% but in practice there are always enough nuclei to allow cloud droplets to form with much less than 1% supersaturation.

Condensation releases extra energy

Evaporation of water requires extra heat to turn drops into water vapour. This latent heat is released again when vapour condenses and so the surrounding air is warmed. The warming alters the lapse rate of the rising air. The new rate is called the Saturated Adiabatic Lapse Rate (SALR). The SALR is neither constant nor reversible. The tephigram shows a series of curves representing the SALR. The difference between the dry and saturated lapse rates is greatest at high temperatures and becomes almost zero below -40°C.

When saturated air is lifted its temperature follows one of the SALR curves. During its ascent some of the moisture may fall out as rain. If so the air will not follow the same SALR on descent. Saturated adiabats are not reversible. They are only correct for rising air.

Dew point and cloudbase

When air is lifted the temperature at first decreases at the DALR of 3°C/1000ft. The vapour content stays the same and the dew point follows the pecked vapour content line as shown on the tephigram. At the point where the DALR and dew point lines cross the air temperature and dew point are the same, so the humidity must be 100%. Fig 3, which is a skeleton tephigram, shows a dry adiabatic from the spot marked dry bulb and a dew point line from the spot marked dew point. These lines cross at CL, the condensation level. Any further lifting results in cooling at the saturated adiabatic rate.

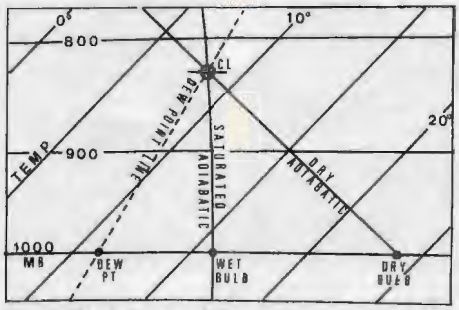

Fig 3. Skeleton tephigram to show how dry bulb and dew point can define the condensation level.

By following the SALR down to the surface one can find the wet bulb termperature there.

Finding cloudbase

The cloudbase is almost the same as the condensation level and there is a simple rule for getting cloudbase from the difference between dry bulb and dew point. Multiply the difference by 400 to find the cloudbase in feet.

In Fig 3 the difference between dry bulb and dew point is 13°C which gives a cloudbase of about 5200ft. One day last summer the Volmet broadcasts gave "Temperature 31, dew point 08". The 23° difference suggested a condensation level of 9200ft and a pilot observed cumulus based at 9000ft.

In 1976 a pilot saw a cumulus form just above him with a base of 11 000ft. This is the highest report I have seen over England but bases can be much higher over continents such as Africa, Australia and the USA.

How dew point changes affect cumuli

Fig 4 shows the effect of increasing the dew point. The thick line shows the environmental temperature measured before dawn. DP1 is a low dew point and T is the temperature when cu first form. The DALR from T and the pecked dew point line from DP1 meet at a level marked as BASE 1. This is just below a stable layer which limits tops to TOP 1.

If moister air spreads in so that the dew point rises to DP2 the cloudbase lowers to BASE 2. The SALR up from base 2 is warmer than the environment up to the much higher TOP 2. The shaded region between the SALR and the environment curve represents the energy released when towering cumuli form. This example shows

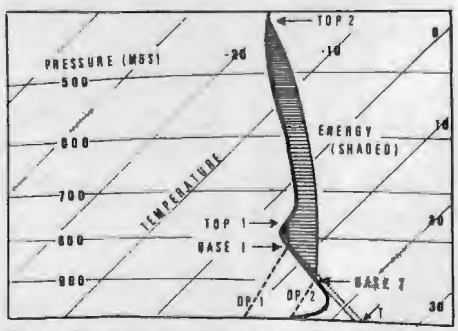

Fig 4. Skeleton tephigram to illustrate how dew point changes can alter cumulus size.

how a 5° rise of dew point may make all the difference between a day of fair weather cu and a showery day.

Effect on spread out

The increase of moisture also affects spread out of cu under an inversion. On good soaring days the air below the inversion is relatively dry so when cu form the clouds evaporate before they join up. If moist air spreads in clouds are slow to evaporate and the cumuli tend to join up to form a continuous sheet of stratocu which cuts off the sun and ruins the soaring. This is shown in the series of photos A to D.

Regions near the sea are worst affected. Ireland often has extensive stratocu while sheltered eastern areas of Scotland, England and Wales keep well broken cloud.

Effect of water vapour on air density

The atmosphere consists mostly of nitrogen and oxygen which are heavier then water vapour. The addition of water vapour reduces the total density. The buoyancy of a thermal depends on the difference in temperature between the thermal and its environment. The effect of water vapour is allowed for by using a fictitious value known as the virtual temperature.

Virtual temperature

The virtual temperature of moist air is the temperature at which dry air would have the same density. For example if the air at 1000mb was completely saturated at a temperature of 20°C then it would have the same density as dry air at 22.6°C. The difference of 2.6° between the actual and virtual temperatures shows the extra buoyancy of moist air rising through a very dry environment. If the air in the thermal was only half saturated (relative humidity 50%) then the difference would be halved too making the virtual temperature only 21.3°C.

Moisture may increase the buoyancy of a thermal

Many thermals carry moisture up from the surface so the air inside may contain more water vapour than the environment. As a result a thermal may still be buoyant even though it no longer has an excess of temperature. However the effect is likely to be small in cold weather.

Evening lift over woods

Towards the end of a warm sunny day weak lift may be found over woods when nearly all other thermals have died out. This is often attributed to the release of heat stored in the woods but it may be due in part to the extra moisture. As long as the roots have a good supply of moisture the process of transpiration can add tons of water vapour to the atmosphere.

The energy in a depression

Most depressions are associated with large areas of slowly ascending air. At low levels the air converges towards the fronts or troughs while at high levels the air is extracted by strong upper winds. This causes a large mass of air to ascend and produces extensive areas of cloud.

When warm moist air is drawn into the region of ascent a large amount of heat energy is released by condensation. This extra energy is expended in deepening the depression and increasing the winds all round.

The earliest computer models of the atmosphere were not given any water vapour data. As a result the depressions they predicted were too shallow and the winds too light. As soon as water vapour data was included the numerical models began to predict much more vigorous depressions.

Some of the fiercest depressions are the hurricanes and typhoons which form over tropical seas whose temperature is about 28°C. Evaporation from these very warm waters makes the vapour content particularly high so when condensation occurs a vast amount of energy is available.

Active hurricanes spend most of their life over the sea and when they move overland they start to weaken because there is no longer enough moisture to supply the energy.

Dry spells and hot weather

Although most moisture comes from evaporation over the oceans a significant amount comes from green vegetation. A wood can extract hundreds of tons of water from the ground each day. If water starts to run short the stomata in the leaves close to cut down the water loss. As dry spells continue the grass dies and the normally green English countryside begins to look as brown as southern Europe.

Dry ground becomes much hotter since little of the sun's energy is wasted heating up soggy fields. With little water to be evaporated the dew points fall lower than usual during the afternoons, the cloudbase lifts higher and the cloud amounts dwindle. Thus an unstable north-westerly airstream which produces 7/8 spread out overland in April or May can only mamage 2/8 shallow ou after a spell of summer drought. Conditions of drought are good for long cross-countries such as the 1000km flight this July. (See p280.)

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Which Book Should I Get?

Derek Piggott is regarded all over the world as one of the great instructors and writers of gliding books. The BGA, who stock most of his publications, often get asked the specific content of various books, so we thought it might be helpful to list just what he has written with a little about them.

For a start the books are aimed at three levels of glider pilots - the beginner or novice; the early soaring pilot and the more experienced pilot and instructor. The beginner books, which have sound principles and easy explanations, are also appropriate for instructors.

Gliding, A Handbook on Soaring Flight (£15.99). Much of Derek's spare time in the early 1950s as CFI at Lasham was spent writing and re-writing a comprehensive book about gliding. This was eventually published in 1958 as **Gliding**. Apart from very minor changes it remained the same book until 1986. Inevitably by then there were many changes and Derek completely revised it leaving only two chapters, "Flying High" and "Cloud Flying", much as they were before. For all practical purposes it is a new book. Many pilots having read the early editions don't realise that the 5th and 6th editions (both only available as paperbacks whereas the earlier editions were hardback), consist almost entirely of new material and drawings and contain just about everything he knows about soaring.

The first section has comprehensive chapters for the student pilot. The second more information on flying technique, side slipping, out of wind landings, precautions for flying in strong winds and advice on local soaring. The third section has been enlarged with a vast amount of information on instruments, flying techniques in all conditions, rules for badge attempts, in fact just about everything a glider pilot needs to know.

It is probably the most comprehensive book on gliding ever written and is known all over the world as a very readable reference book.

The next edition is due in 1996 or 1997 and will be updated covering, for instance, circuit planning to include the diagonal leg. As Derek was never enthusiastic about square circuits for gliders the text will need little alteration. However it is hoped to make it similar in type size and format to **Beginning Gliding** and **Understanding Gliding** to make it more readable.

Incidentally, **Beginning Gliding** (£13.99) and **Understanding Gliding** (£14) were originally written as one book and intended for instructors and others wanting to understand more about flying and instructing and why a glider behaves as it does. Published as two companion books, they have one similar chapter about the wind and thermals. As Derek says, you can't have a book on gliding without relating to wind and weather conditions.

Whereas **Gliding** told you what to do to make the glider perform, it had few hints and tips on overcoming any problems. But **Beginning Gliding** covers the problem areas with advice on how to overcome them.

The subtleties of the use of airbrakes, making accurate approaches, circuit planning and judgments, stalling and spinning and learning to aerotow are covered comprehensively. The new 1995 edition has a chapter on winch launching and, of course, a revised chapter on circuit planning to include the diagonal leg.

Understanding Gliding covers glider design features and why and how a glider behaves. The explanations are non-mathematical and cover all aspects of stability and control, as well as stalling and spinning, flight limitations, aerobatics and glider performance. Do you know why a glider drops a wing at the stall if it is flying in straight flight with even a small amount of yaw? You will when you have read this book as well as many other oddities unique to gliders and it is a must for the competitive pilot who wants to know how to get the best out of his machine.

The final chapter was written to help glider pilots convert to power and gain PPLs and SLMG PPLs. Often an instructor at a flying club doesn't always appreciate how much a glider pilot knows. Showing them this chapter can often save you time and money.

Going Solo is at present out of print but is sometimes found in book shops. It was specifically written for the beginner and, printed on very tough paper, was small enough to be kept in a pocket for reference on the flying field.

Understanding Flying Weather (£9.49) was written because Derek had been accosted by pilots studying for their Bronze badges who wanted a simple book on Met. It soon grew to a sizeable volume with some suggestions from Tom Bradbury. Incidentally Derek talked Tom into writing his own book, **Meteorology and Flight** which is excellent and highly recommended (£15.99). Derek simplified his book to make it specifically the Bronze badge textbook.

Derek Piggott on Gliding ((£10.50). Derek has been a regular contributor to *S&G* on many subjects from instructing and safety to test flying the latest gliders and he has collected together and updated this material so that this mine of information has been preserved for pilots coming in to the sport long after the magazine article has been printed.

Gliding Safety (£15.95) is Derek's newest book and features the "Which Glider" series which were previously in *S&G* and goes on to cover the more modern machines, suitable for Bronze badge pilots, on the secondhand market and almost all modern machines are discussed.

As Derek says: "Every student pilot should be encouraged to read books on gliding. Far too many think they will pick up enough information from their instructor when they fly but inevitably they miss a great deal of information and take longer to learn as a result."

Derek has written on a wide range of subjects and the prices quoted are from the BGA and include p&p. They have also all been published by A and C Black Ltd. In addition the BGA stock a good collection of books by such well known writers as Ann Welch, Helmut Reichmann and Ken Stewart. Just ask the office for a catalogue.

LORNA BEVAN

15 METRE CLASS NATIONALS

Enstone, July 8 - 16

Rebriefing on the grid on one of the non flying days.

The 15 Metre Class Nationals hosted by Enstone Eagles GC for the first time attracted a full entry list of 50 pilots plus two *hors concours* entries.

The competition was dogged by either bad weather or unsoarable conditions almost throughout the nine day period in what proved to be a very frustrating experience for all concerned, including the director and task setter Ken Sparkes who was directing his 21st BGA rated competition and seventh Nationals.

The London GC weather forecast for the opening day, Saturday, July 8, was quite promising and a modest 205km quadrilateral was set, Chinnor, Chilbolton, Oxford East.

The grid was launched in good soaring conditions and all the pilots made a prompt start only to find that arriving at Chinnor the route to the south had been cut off by a wall of low cloud which had not been forecast and this killed off all the thermal activity.

About half the field landed out and the remainder came back to the site where it remained soarable all day. The outcome was a non competition day.

The next three days were lost to the weather in stable unsoarable conditions.

Wednesday, July 12, was the first competition day with conditions improving to the west and a 235km quadrilateral was set, Hereford racecourse, Bromyard and Ludlow Castle.

Phil Jones (Ventus CWL) raced round the task at an actual speed of 90.9km/h to win the day with Alister Kay (LS-6cw) taking 2nd place and Tim Scott (LS-7) in 3rd place.

There were 45 finishers plus the two *hor concours* entries.

The weather then deteriorated badly with the

FINAL RESULTS

15 Metre Class Nationals

			Day 1.12.7 235.14km ■ Hereford Racecourse Bromyard, Ludlow			Day 2.15.7 179.51km ■ Worcester, Edgehill, Winchcombe			
Pos	Pilot	Glider	Speed (Dist)	Pos	Pts	Dist	Pos	Pts	Total Points
1	Kay, A. E.	LS-6CW	90.9	2	925	126.7	1	463	1388
2	Crabb, P.	Discus	85.1	7	848	124.9	3	450	1298
3	Dawson, M. R.	Ventus A	85.3	5	851	123.2	5	439	1290
4	Wells, M. D.	LS-6B	81.7	16	804	123.5	4	441	1245
5	Brice, P. F.	ASW-24	82.0	14	808	113.7	7=	376	1184
6	Johnston, E. W.	LS-6A	76.1	24	717	125.6	2	456	1173
7	Watt, D. S.	ASW-24WL	85.1	6	849	92.8	16=	308	1157
8	Jones, P.	Ventux CWL	95.5	1	985	42.0	28	157	1142
9	Lysakowski, E. R.	Ventus BWL	77.0	20	743	107.9	11=	337	1080
10	Sheard, P. G.	Ventus AWL	83.7	9	830	59.0	20	243	1073
11	Murphy, T. J.	LS-7WL	83.1	11	822	62.6	19	250	1072
12	Jeffery, C. P. A.	LS-7WL	70.8	30	661	109.2	10	345	1006
13	Jones, S. G.	Ventus 2	82.5	12	815	48.2	25	189	1004
14	Hartley, K. J.	ASW-20BLT	74.9	29	665	107.9	11=	337	1002
15	Gatfield, J. E.	ASW-20	87.1	4	874	35.7	42	126	1000
16	Pozerskis, A.	Discus	81.9	15	807	48.5	24	190	997
17	Marsh, B. C.	ASW-24WL	66.6	34	607	113.7	7=	376	983
18	Spreckley, G.	LS-6C	84.4	8	839	36.3	33=	129	968
19	Morris, G. D.	ASW-20L	83.4	10	826	36.7	31=	131	957
20	Scott, T. J.	LS-7	88.8	3	897	19.6	48	45	942
21	Davies, F. J.	LS-8C	80.7	41	528	114.8	6	384	912
22	Watt, C. C.	ASW-20B	79.6	18	776	36.3	33=	129	905
23	Jordy, M. J.	LS-6CW	73.9	26	702	50.2	22	199	901
24	Campbell, D. R.	Discus	65.5	36	592	92.8	16=	308	900
25	Weir, N.	Ventus CT	79.9	17	780	33.7	43=	116	896
26=	Fox, R. L.	Discus	78.5	19	762	36.8	31=	131	893
26=	Gardner, D. H.	LS-3A	76.0	22	730	43.0	27	163	893
28	Barker, K. D.	Discus WL	74.8	25	714	41.7	29	156	870
29	Allds, C. J.	LS-4	82.5	13	814	21.3	47	53	867
30	Edyvean, J. E. D.	Ventus CT	76.5	21	736	36.3	33=	129	865
31	Stingemore, G.	LS-6C	64.1	38=	574	81.6	18	287	861
32	Baker, P. E.	Discus	75.8	23	727	33.7	43=	116	843
33	Morris, B. C.	LS-7WL	58.4	42	500	101.2	14	325	825
34	Wall, N. H.	Discus	58.4	43	498	100.4	15	323	822
35	Shelton, P. M.	Discus WL	72.9	27	689	36.3	33=	129	818
36	Rice, P. E.	Mosquito B	72.0	28	677	36.3	33=	129	806
37	Glossop, J. D. J.	Discus	66.0	35	598	49.1	23	193	791
38	Young, M. J.	Discus	70.3	31	655	36.3	33	129	784
39	Langrick, J.	LS-7	68.5	33	632	36.3	33=	129	761
40	Robertshaw, S. P.	ASW-20	69.6	37	645	30.4	46	99	744
41	Giddins, J. B.	DG-202/15CWL	64.4	37	578	36.3	33=	129	707
42	Hood, L.	LS-7	56.8	44	478	46.5	26	180	658
43	Throssell, M. G.	Discus	64.2	38=	574	0.0	49=	0	574
44	Burry, J. R.	LS-6C	63.9	40	571	DNF	49=	0	571
45	Cheetham, R. A.	LS-7WL	(232.0)	45	354	36.3	33=	129	483
46	Clarke, A. J.	Discus	(84.8)	46	109	111.2	9	359	468
47	Wilton, J. N.	ASW-20C	(33.5)	49	50	107.9	11=	337	387
48	Brimfield, R. J.	Pegasus	(80.4)	47	102	54.7	21	222	324
49	Franks, H. S. M.	LS-7	(71.1)	48	86	32.5	45	110	196
50	Reed, J. R.	Discus	(34.5)	50	27	39.6	30	145	172
Hors concours									
	Redman, S. J. B.	LS-6B	71.0		663	47.6		186	849
	Hawkins, P. S.	Discus	77.2		745	DNF		0	745

• = penalty

Above: Paul Brice (ASW-24) with his crew. Below: The grid. Photos: Lorna Bevan.

arrival of a series of low pressure systems sweeping in from the west which were accompanied by high winds and thunderstorms which led to flying being cancelled over the ensuing two days.

The forecast for the penultimate day offered some small hope and a 179km quadrilateral was set, Worcester, Edgehill, Winchcombe.

The conditions improved enough to permit a late launch and all the pilots made a prompt start in improving conditions.

Alister Kay won the day with 126.7km. Ed Johnston (LS-6A) was 2nd with 125.6km and 3rd place was claimed by Paul Crabb (Discus) with 124.9km. There were no finishers.

The final day promised more continuous rain and this duly arrived by mid afternoon and finally washed out the competition.

Alister Kay was the winner and took his 4th consecutive title away from Enstone having been the winner in the three previous Open Class Nationals at this site.

Alister Kay, 15 Metre Class Champion, with his daughter Eleanor at the prizegiving. Photo: Nick Kelly

Paul Crabb finished in 2nd place after a very creditable performance and Mel Dawson (Ventus A) also flew well to take 3rd place.

The first day's prizegiving was followed by the presentation by David Hands (on behalf of the BGA) of the John Hands' trophy to Robin Pearce-Boby for services rendered to competition gliding. Robin becomes the fourth Enstone member to receive this award.

The British contingent with Bob Bickers, team manager, far right.

3RD JUNIOR EUROPEAN CHAMPIONSHIPS

MATT REBBECK

Leszno, Poland - July 8-15

There were 61 pilots under the age of 26 with Dave Allison (LS-4), Derren Francis (Discus), Henry Rebbeck (LS-4), Richie Toon (Astir), Oli Ward (Discus) and Lucy Withall (ASW-19) in the British team, Richie arriving from the Falkland Islands. Due to the lack of gliders in the Falklands he hadn't flown for four months so ran around for a day looking for a check flight.

The practice week didn't start well. On the first day a Danish pilot was killed in a field landing accident after hitting power cables. The atmosphere for the next few days was fairly sober and the Danish team were sent home by their federation.

At the opening ceremony there was a fantastic airshow by the Poles which included an ASH-25 doing three consecutive beat ups and a tug towing four gliders.

The first few days saw mixed fortunes for the Brits. Richie, flying in the Club Class, found that none of his varios worked as he took-off on Day 1. Unperturbed he still managed 50km in blue conditions. Lucy, our other Club Class pilot, damaged her glider on the last practice day and lost the first two days while it was mended. But Derren started magnificently with a win in the Standard Class, landing one thermal further than the next best. Whilst waiting for his retrieve he was given a red rose by a local family looking to marry off their daughter!

The weather stayed good with some days giving 8000ft cloudbases and 9-10kt thermals. Derren, Mr Consistency himself, managed to slowly lose a few positions each day whilst the Germans and Poles showed the rest how to fly.

Three German Club Class pilots were particularly impressive, flying virtually wingtip to wingtip on most days, and only straying further from each other when conditions went blue. Most days they finished within a minute of each other, normally in the top six. In the Standard Class the Polish pilot, Sebastian Kawa (SZD-55) showed that the Germans were beatable and gradually gained a very impressive lead.

The competition wasn't protest free. The Polish ASH-25 was seen flying in the contest area and some teams were worried that it was passing information to the Polish pilots. The ASH pilot claimed he was just going for record attempts. Eventually one of the stewards made a sensible speech saying that he believed flying was for fun and no one should have the power to prohibit a glider from flying. The fact that no information was being passed had to be taken on trust.

The task setting was generally good despite the Met man being fairly random with his forecasts. A 540km task proved impossible but Henry managed to glide out a few more kilometres than the rest of the gaggle. Lucy and Dave landed in a huge field with 15 others while Richie landed next to a church and was greeted by the vicar who then blessed his glider.

Sabastian Kawa had a very unlucky day. With one day left he was well in the lead but on going to 'phone for a retrieve had his camera stolen. This meant zero points for the day instead of about 900, taking him to 6th.

We had nine days of good fun competition flying. The Austrian Guido Achleitner won the Standard Class in his ASW-24 by 1pt and the Germans took the top three places in the Club Class, showing you don't have to fly an expensive glider to go fast. The top Brit was Henry in 11th place. It was clear that if the Brits intend to compete at top level there must be an improved selection procedure with more consistent training.

The British team thank Bob Bickers, the team manager, for keeping them well prepared and relaxed. Without him the competition would have been very difficult.

We look forward to the 1997 Junior Europeans in Freudenstadt, Germany.

Final results:- Standard Class, 1. G. Achleitner (Austria) ASW-24, 6840; 2. F.Kuster (Germany) Discus, 6839; 3. T.Bode (Germany) ASW-24, 6806: with UK 11. H.Rebbeck, 6083; 20. O.Ward 5503; 22. D.Allison, 5289 and 27. D.Francis, 5013pts. Club Class:- 1. F.Hahn (Germany) ASW-15, 6986; 2. F.Kirchberger (Germany) Club Libelle, 6880; 3. T.Bottcher (Germany) DG-100, 6827; with UK 18. R.Toon 4756 and 22. L.Withall 3582pts.

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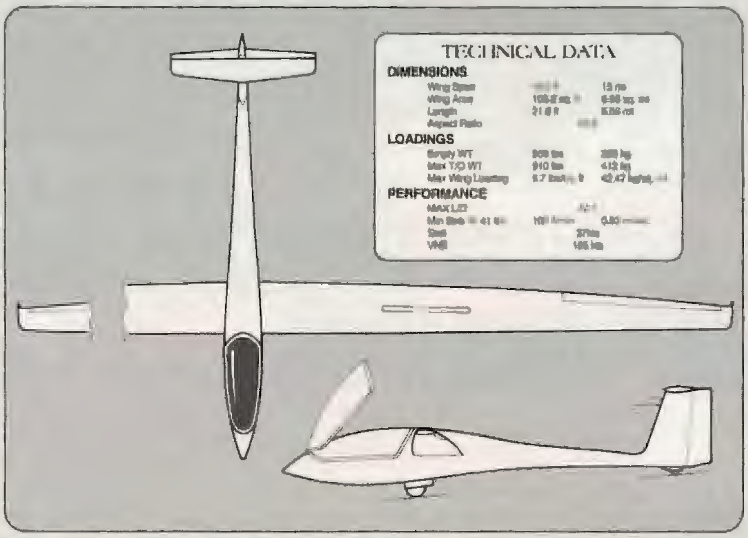
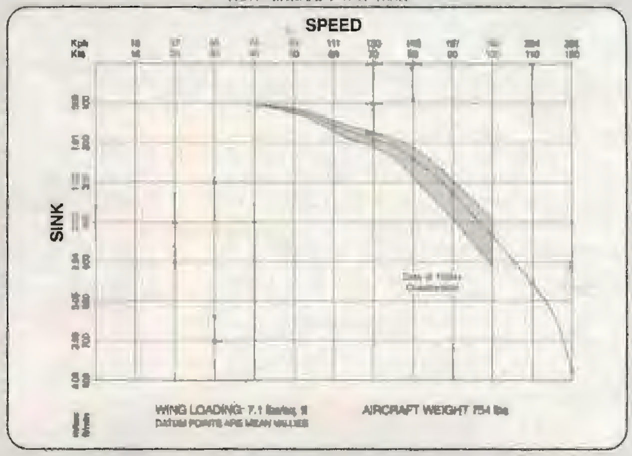


ASC SPIRIT POLAR DATA



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CLOCHMERLE REVISITED

For several years Jenny and John, with fellow Vectis GC members from the Isle of Wight, while away some lazy summer days gliding in France. This is their story of two flights on the same day

The SHK rumbled to a halt over the dusty stubble. Utter silence. I jumped out for a quick look round, feeling elated at having made a good circuit and outlanding, then a feeling of shame – the fifth outlanding of this expedition and still nowhere near the elusive 300km. A cheeky duty instructor had told me that unless I could get back today I would have to have a site check the next day.

We were miles from anywhere but a figure appeared in the distance and ambled up to the glider. "G'dai mate. Made a right mess up of that landing didn't yer? Landed with yer brakes open, if you had kept them in yer could 've put down in that nice smooth paddock that runs down to the creek."

It was no use trying to explain that I wasn't too good at landing downwind, downhill; he would not listen, I might as well have landed in front of an instructor on the home site. He must have known something about gliding though, because he said "Those wings look heavy mate, I've got a crook back," and disappeared.

I was surprised to have met a gliding-wise Antipodean because we were in the outback of central France.

The flight had started promisingly. An early start from Thouars and a fast run to the first TP at Le Blanc, photos taken and back to 5000ft and on to the second leg. But although it was past midday there were still no cumulus. "Faster, faster" said the vario and the ground got closer. We sniffed over the villages for lift and found none, so it was a case of studying French agriculture at close quarters again.

The next chap to arrive was a French garagiste whose advice was more helpful. "No one will ever find you here, it's kilometres from nowhere. I'll take you to the nearest village and you can phone your equipe from there. Await them in the village square, then guide them back to this place."

We jumped into the Citroën van and wound our way through the lanes to the pretty village of Vic-sur-Gartempe which must have been used as a prototype for Clochmerle. There was a square with tables and chairs in the middle, bars on three sides and an old fashioned urinal on the fourth side.

Having made a phone call from the first bar, I settled down in the square with a glass of wine and a jambon sandwich. It was a blue day, the sun gradually scorched round the square, so I moved round to the next bar and eventually, *via* the pissoire, to the third.

There were four of us with two gliders on the expedition. On this day, Jenny was flying the K-6E, I was flying the SHK and Chris and Martin were crewing. When they got the message that I was *aux vaches* yet again. Jenny was still in the air about 50km to the west of me and saying that she might land at Chatellereault Airfield. They decided to drive in convoy to the airfield, park the K-6 trailer there and continue east to get me.

When they arrived Jenny wasn't there so they came for me.

The trailer finally appeared. I had made another full circuit of the square. It was getting cool and somehow I didn't seem to be too clear about the directions back to the field. Chris had some practice reversing up narrow lanes and after another hour or so found the SHK which we put in its box as the sun dipped below the horizon. A couple of phone calls established that Jenny wasn't at Chatellereault but that's her story. A K-6E is easy to derig by moonlight.

JENNY'S STORY - The Blues

I watched the owl swoop by in the bright moonlight. It was so bright it even cast a shadow. Nothing could cast a shadow over the day's flying though - I'd gone cross-country in the blue.

I'd taken a morning launch and an early retreat to earth to eat lunch. We sat watching the two glass ships which shared the house thermal. Gerry Martin was our neighbour in the multinational camp site at Thouars Airfield. A leisurely discussion followed which became an excellent exposition on flying in the blue. This was avidly mopped up by Chris, Martin and myself. At home if it's blue the sea breeze has arrived, so we go home.

By now the two glass gliders had stopped chasing each other's tails at 800ft and climbed away. Time for a relight.

This time instead of flying on track through mega sink I followed the energy - the wonderful thing talking to experts is you learn all the 'in' words - and arrived at Loudun 25km away. Chatellereault and back looked on. The radio which had been silent of English voices for so long suddenly started up. John had landed at...? And Martin and Chris, stalwart duty crew for the day, were going to collect him. You soon become stalwart if you are derigging SHKs all over the French countryside.

What did I want to do? I now had no ground crew.

"Why don't you land at Chatellereault and we'll pick you up on the way past?"

Even though I was some 35km away I could see the town and the runway clearly from 3800ft. "Sounds a good idea" I said.

The direct route meant overflying a hilly wooded area and the centre of town. As any deviation from the easterly direction brought a massive loss of height I resolved not to fly over anything unlandable.

Eventually just east of Richelieu I managed to jump to the next source of energy to the south. To arrive at the airfield I would have to cross the river north of town and fly round the fields to the east. I was now 15km away and could almost see the colour of the controller's socks. Theory stated that the little village just over the river should be giving off thermals. It wasn't. The fields didn't look too wonderful either. The last chance was the factory with a large flat stubble field next door. Not a tweet from the vario. So straight in to the circuit and land.

At the farm I was greeted with Orangina, fresh figs and a seat in the shade. It was 5pm. 'Phone calls made, all I had to do was wait... At 9pm my hosts were yawning; it was their bedtime. The 'phone rang. The SHK was derigged. Some problem finding it apparently. They would go back to collect my trailer and come as soon as possible. I thanked my farmer hosts and walked to the corner to await the trailer. Always fly with a jacket and a torch. My T-shirt was not warm. At 9.30 the farmer's wife came out and lent me her jacket and retired. Eventually at 11pm the trailer arrived - a glider so visible in daylight takes twice as long to find after dark. By the time we got back it was 2am.

Discussing the day's adventures with Gerry the next day he said "I certainly wouldn't have gone cross-country yesterday. The thermals weren't properly organised."

Neither were we, but I wouldn't have missed it for anything.

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BOB RODWELL

SAILPLANE NEWS

Now SF-34s, too, from Le Blanc

The Ximango photographed by Derek Piggott.

French manufacturer Centrair has taken a licence to produce in quantity the Scheibe SF-34 tandem two-seater which, though on the market for years, has fallen far short of being a world, or even UK, best-seller. The first is due to come out of Centrair's Le Blanc factory about the time this note appears in September.

At the Paris air show in June Centrair showed a Hungarian-built version but the French-made SF-34 will be finished to a much higher standard and incorporate restyled cockpits and other changes, said Centrair designer Jacques Bigenwald. After the first few licence-built models are produced a retracting undercarriage may be introduced, based on an Aachen University akaflieg design. Later, an entirely new wing will be fitted.

There are about 200 ageing Wassmer Bijave and K-13 two-seaters in French club fleets which would need replacing in coming years so there was an "interesting" domestic market, said M Bigenwald. Centrair tooling will support a production rate of about 30 SF-34s a year.

The national governing body, the FFVV, has specified that a realistic Bijave/K-13 replacement should cost around 320 000 francs with an absolute maximum of 350 000fr - a price range of about £41 300 to £45 160.

It is price which has ruled out of contention Centrair's own Marianne two-seater, developed with very substantial French state aid but too complex and costly for widespread club adoption. It has failed to make any market impact outside France but, nonetheless, its development continues with the recent introduction of a carbon-fibre mainspar.

In 1993, Centrair built 25 Pegasus but only two Mariannes; in 1994 15 Pegasus and two Mariannes and this year's output is expected to be much the same.

In each case, the Mariannes were delivered to French military clubs. Civilian clubs required a simpler and less expensive trainer, Centrair's designer said.

The French firm has bought the right to sell its SF-34s anywhere, including Germany, and to modify the design without inhibition. In a reciprocal deal it is to supply the wings for a new Scheibe motor glider, said M. Bigenwald.

The deal recalls the arrangement made during the 1970s between Centrair's founder Marc Ranjon - who has now sold the company to the investment group CFCI (which also owns the lightplane maker Avions Robin) and has left the scene - and Schleicher, under which ASW-20s were licence-built at Le Blanc and modified, allegedly, without the sanction of the licensor.

When the Pegasus then emerged, with a fuselage built in ASW-19/20 moulds married to new French state-aided laminar-flow wings, lengthy litigation resulted together with the complete severance of relations between the French and German firms.

Franco-Brazilian beauty enters two-seater motor glider fray

A most attractive two-seater motor glider which combines a 31:1 glide ratio with the comfort, endurance and long legs you'd want in a first-class touring aircraft is newly on the UK market and available for demonstration flights from Rufforth.

Noted DG distributor and glider repairer Bob McLean has joined clubmate George McLean (no relation) and Pocklington's Bob Beck to sell and support throughout the UK and Ireland the Brazilian AMT-200 Super Ximango (pronounced Chimango - and it means falcon).

Built by Aeromot at Porto Alegre in the far south of Brazil, the AMT-200 is an uprated version of the Limbach-powered AMT-100 Ximango, Aeromot's licence-built copy of the French Fournier RF-10, of which it has made and sold some 150 throughout both North and South America.

Its lines of classic Gallic elegance give away its provenance - if any lightplane designer has produced more quietly eye-pleasing designs than René Fournier over his long career they had been lost on me and only one other, Italy's Stelio Frati, has ever come close.

The 60hp air-cooled Limbach 2000 engine of the original RF-10 and AMT-100 has been replaced in the AT-200 by a Rotax 912A of 81hp, driving a three-position Hoffman prop of increased diameter. Apart from its extra horses, the most important change is the 912A's water-cooled heads which retain heat better than the Limbach's pots, thus giving a more certain restart after a long period of power-off soaring flight.

Like its familiar wooden predecessor, the tandem-seater RF-5B Sperber, the Super Ximango's high aspect ratio wings are each hinged at roughly midspan, to reduce hangared width from 17.47 metres to only 10.15m (57ft 5in to 33ft 4in). The simple single-action hinge and bolting mechanism appears identical to that well proven on the RF-5B.

Another notable feature is the exceptionally wide track of the manually retracted undercarriage, which confers good taxying and crosswind tractability on the low-set, big-span, machine.

Of glass and carbon composite construction, the AMT-200 displays a very high standard of surface finish. The cockpit is particularly impressive and superbly comfortable though entrance and particularly egress over the trailing edge and in front of the backward sliding canopy is not the easiest and, like the deep bucket seats, is reminiscent of some of the costliest GT cars.

A short demonstration with Bob Beck from Rufforth to Dishforth and back under exceptionally low stratus, with a landing at Dishforth in rain beneath a 600ft cloudbase, did not permit me any opportunity to try the aircraft in gliding flight. But under power it handled beautifully, with light and well harmonised controls and a surprisingly low level of engine noise in 80 - 90kt cruising flight.

Realising that, with its 7hr power-on cruising range - say, 565nm - one could easily fly nonstop with a companion from northern England to the Alps, there to enjoy complete autonomy for a mountain soaring holiday, one wonders how the manufacturers of conventional tin-and-rivet lightplanes like those from Wichita continue to find any customers at all.

Though contractual prices are quoted in US dollars, an equipped Super Ximango, with a C of A, registered, and at Rufforth all ready to go, will cost you the thick end of £70 000.

Given a worthwhile lottery win, you'll find my name above yours on the three-month waiting list.

VINON COMPETITION

Justin Wills won the 28th Vinon Mountain Gliding World Cup Competition's Racing Class, which was held from July 19-29 with nine contest days. Flying an LS-6 he scored 8081pts with S.Ghiorzo (Italy) Ventus 2, 2nd with 8022 and M. Grund (Germany) Ventus, 3rd with 7946pts.

The first three places in the Open and Standard Classes were claimed by French pilots as follows:- Open Class: 1. G.Lherm (ASW-22BL), 8637; 2. P.Mazzega/P.Garcin (ASH-25), 8320; 3. G.Gerbaud/J.Gianni (Nimbus 2DM) 7983pts. Standard Class: 1. D.Hauss, 8493; 2. J.C.Lopitaux, 8442, 3. R.Fontin, 8368pts, all flying Discus.

This was a much larger event than usual with 85 competitors from 12 countries. This was possibly due to the influence of Jacky Clairbaux, the task setter, who is to direct the next World Championships at nearby St Auban.

WAY OFF TRACK

A peek at Penguin's patch

Ballarena GC's site.

Tom Zealley suggested that *S&G* should publish aerial views of club sites and our saintly Ed (whom God preserve) promised to run them in a winter issue.

October/November is clearly categorised as winter in Penguin's calendar for it's when Hen Penguin lays out his long johns before he goes to fly. So he's sneaking in this shot of the Ulster GC's fief before the rest of you have triggered your Instamatics.

It qualifies for Way Off Track by being way off track, as far west as you can be while remaining within the BGA's - and the Major government's - remit.

This is Bellarena looking due east, with the eastern shore of Lough Foyle in the immediate foreground (the tide is out) and a shortish stretch of our ridge behind. The main 800 yard run is on the left and has been extended to the shore since the picture was taken; the remaining rough foreshore strip is permanently fenced as a sheep pen for flying days and both NE/SW and NW/SE diagonals for crosswinds fit in easily beyond the two bald patches, the levelling and seeding of which are in our future plans.

The distance from the eastern threshold to the Binevenagh ridge is just under two miles. The ridge line is 1260ft above the foreground beach. Regrettably, only the last 300ft are absolutely vertical.

That shiny tin tabernacle in the middle distance is Boyle's Blister, probably the biggest hangar, on a floor area per member basis, of any BGA club; we have only about 45 members but some 15 000sq ft of concreted hangar space - and we erected it ourselves.

Only about half the resident aircraft (all hangared and permanently rigged) are out this day - their would-be pilots probably wondering why the hell the duty tug pilot doesn't land and get on with the job.

Both north and south boundaries of the field are delineated by a deep, wide, ditch - called a *sioch* (pronounced shock) in this part of the world. If you undershoot and go into one, that's exactly what you'll get.

Three miles to the left, and out of sight, is the North Atlantic. Behind you - and also out of sight unless your eyes are rather oddly placed - is the Irish Republic. So on a purely local soaring flight from Bellarena you can both fly over the ocean and in another national jurisdiction too.

The Ed could have cropped the picture to exclude the intruding elbow on the right. But had she done so you might miss the fact that the ridge does a sharp turn above the forest to present faces to SW, S and SE winds as well.

Our north-facing seacliffs, like the ocean, are out of the picture, to the left, together with the fabled Magilligan Strand which we use as a standby autowing strip if the tug is sick.

The closing date for submissions to the Ed's intended picture spread is October 1, so if you intend to give us all a sight of your site - hurry, hurry, hurry!

Memorably, all at sea

I remember VE Day 50 years ago with crystal clarity. As an undersized and convalescent 10 year-old I spent part of it sitting on my father's shoulders, one of about a million people who gathered in front of Buck House and stretched all down the Mall, chanting for the King. HM duly obliged by appearing with the Queen, the two princesses and the wartime premier, still *Mr* Churchill then.

Few of that immense and joyful crowd who made their way home by tube or train, bus or Shank's pony, that night could speak in anything more than a hoarse croak.

Half a century on, I'm going to remember the VE 50th anniversary commemorations with equal clarity for one of the most imperishably unforgettable flights of my gliding life - and proof that even when cross-country conditions prevail, it sometimes pays to stick around the site.

Saturday, May 13, was Londonderry's turn to remember the role played by this seaport city and its hinterland in the battle of the Atlantic as a convoy escort, submarine and RAF Coastal Command base, and for RN and Merchant Navy veterans to honour shipmates who died.

It was probably the best cross-country day of the year so far with a stiff, chill, north-westerly playing directly on our ridge and creating booming convection southward from a point a few miles inland.

But as I climbed on aerotow I could see four frigates grouped about six miles off Benone Strand, for a wreath-laying at sea ceremony involving the Duchess of Kent, who had just flown in to Derry airport and been helicoptered out to HMS *Beaver*, the one RN vessel in the four-nation flotilla.

Unusually, two RN Lynxes, two naval Sea Kings and one USN Sikorsky original of the Sea King design were skittering to and fro, while there was abnormal activity by the Army Lynxes, RAF Wessexes and Pumas to which we are more accustomed. I parked myself on the main face of Binevenagh, where apart from club colleagues, three or four hang gliders and, for the first time in my experience on this ridge, two para-gliders were also airborne near Eagle Rock.

Both the naval Lynxes passed by, each climbing up for a closer look at my Jantar and subjecting me to what transpired, later, to be a royal review as one was flown by Prince Andrew who was in NI that day as a working naval pilot rather than a visiting dignitary.

Climbing to cloudbase at 4000ft in a thermal well south of the ridge, I set off north to conduct my own naval review, but chickened out a mile or so short of the flotilla, turning to regain the shore. Other Bellarena aircraft were thermalling at height before the creeping sea breeze front but I decided to stay low and mix it with the ragwings on the ridge. ➡

On the turf behind Eagle Rock an RAF Wessex and a Puma, both with rotors turning, stood. I did a couple of fast passes, the Puma looking oddly bug-eyed as I passed it a few feet below its level as it squatted there, whining, on the ridge.

At sea the naval formation was breaking up - two warships heading to enter Lough Foyle, a third steaming east and the fourth, the USS *Aubrey Fitch*, moving two or three miles further out. I flew south, picked up another thermal to 3500ft and decided this time I'd really go for it as, with so many other public attractions that day, Benone Strand was unusually deserted and on my return I could always land on the beach.

I turned the *Aubrey Fitch* at about 2300ft, snapped it with my TP camera and, both right and left, enjoyed an unparallelled view of Ireland's north coast as I had not seen it before.

No stranger to warships from my defence reporting days, I speculated on what might be happening on the frigate's deck or in its operations room. The Jantar, one supposes, produces a very low radar return; it clearly has very high aspect ratio, U-2 style, wings.

"Hey, Chuck, have the Paddies or the Limeys got some stealth surveillance plane, 'cos I've got one staring down at me?"

I flew back to land, crossing the beach at 1500ft. It was so wide and empty that, given the bearing strength, you could have landed a loaded 747 there.

Not that *I* could safely land a 747 anywhere, for on touching down back at the site I unforgivably groundlooped the Jantar for the first, and I hope last, time.

That evening the club's naval pensioner, Sailor McFarland, entered the clubhouse, rosy and glowing, having spent the day at sea with the Belgian Navy aboard the frigate *Wandelaar*, recapturing his youth while being liberally and liquidly entertained.

The next day was grotty but Jim Weston, one of our keenest cross-country pilots, appeared. He had spent Saturday at home, jet-lagged after flying back from lecturing at Stanford University in California the day before

He expressed slightly mocking surprise that I had not gone cross-country for, say, a modest O/R to Cookstown and back.

But Cookstown is always there and Jim, old horse, you'll never know the fun you missed.

(The last piece was topical when it came from Penguin's quill but was squashed out of the last issue by advertisements. However, we thought it too good to lose. Ed.)

Recognition

A few weeks ago I stripped my Jantar of the all-enveloping orange pyjamas which it had worn in the hangar for two or three weeks while I'd been away, to find an amusing penguin sticker on it, which remains.

Fittingly, it is only about 2 by 1¼in square - wholly appropriate for a modest fellow who eschews ostentation and to whom quiet understatement is a way of life. It also obligingly hides a gel coat crack where the windscreen hoop meets the cockpit side.

But I was most struck by the impeccable judgit displayed. For emblazoned on Penguin's chest, in brilliant red, is a big No. 1.

After 26 years' club membership, due recognition at last.

The gulf between

Graham Lawrence took me to task in the last issue, p199, for apparently not understanding that in contemporary Yankspeak "Hi, Guys" is not male gender-based but is just as likely to be used by a female greeting other women.

I was about to demur but checked with my in-house expert and youngest daughter Gemma, newly graduated with honours in, of all things, American studies and history. She deflated me by confirming that Graham was right.

Despite numerous visits "stateside", and contributing for years to various US publications including the *Wall Street Journal* and *Soaring*, I'll never entirely master American colloquialisms.

My worst gaffe occurred 16 years ago at Oshkosh, Wisconsin, when working on a team producing a daily newsheet at the great annual EAA fly-in. Three of us were billeted in a lakeside chalet and were about to turn in.

Discussing what time we should rise, breakfast and get on the road to the field, as we moved towards our rooms I turned to a US lady colleague, a brusque and large New Yorker, who I had met for the first time only that evening.

She had already indicated that she was a long way from being partial to short blond Englishmen, but in perfect innocence I asked "Would you like me to knock you up?"

Such was the reaction it was surprising I did not end up feeding the fishes in Lake Winnebago which was lapping the lawn and barbecue only ten or 15 yards away.

We often remind you that the editorial office is at Cambridge but sadly deadlines are still frequently missed by contributions going to the BGA at Leicester.

Martin Carolan

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SOMETHING SPECIAL

Paul started gliding at Kestrel GC last spring and since then has become an enthusiast. This is his account of an exceptional flight on March 19 with Alan Sommerville in a K-21

We noted the weather was becoming more and more squally but, not deterred, we headed towards a blackening street. I could see what I can only describe as cylinders of rain totally obscuring the visibility from cloudbase to the ground. We connected with our first thermal and Alan suggested in his inimitable style that I should get the wing in further and the speed off, which by this time was approaching 60kt - my usual unsettled start of thermal speed. However, I had trimmed almost right back and a lot further than usual for my weight, but I didn't have the heart to tell him that his weight might have something to do with it.

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I then began to start my usual struggle with the stick, which was by this time back on the stop, fear, anxiety, hyper-ventilation and a desire to be the best soaring pilot in the world. But I began to centre on the thermal indicating between 4-6kt on the vario.

By now we had reached 5000ft as we set off to what can only be described as the most amazing meteorological conditions I have ever experienced in flight. There was a complete wall of rain which looked like a dark version of the white cliffs of Dover and extended as far as I could see to the west. About 2km to the south was a mirror effect of the same system and the whole thing appeared like a black spooky inverted valley towards which we were heading.

I had a marked reluctance to proceed which was noticed by Alan by the fact that I had almost done a U turn. We then spotted a lightning flash which brought fears of endowment policies. By now my hair was beginning to stand on end - I put this down to static and not fear.

I could hear the excitement in Alan's voice as he explained it could be turbulent ahead. I checked my straps and had the MacCready ring set at 6kt.

Over Basingstoke with gliders rushing to land at Lasham we connected with a thermal Alan earlier suggested would be 8kt. It's nice to know that even he could be wrong and we went up at 9-10kt, something I had never experienced. With my sinuses expanding and ears popping he began to brief me about increasing the speed at the top of the thermal ready to come out towards the next area of lift.

By this time it was extremely dark as the sun was completely obscured. Going round in the thermal at 80kt with a climb rate still in the region of 8kt, we left it to head along the leading edge of the squall. Increasing the maximum rough airspeed (VRE) to about 98kt we were still climbing at the same rate and it was absolutely amazing to be sucked up at such a rate with a nose down attitude. All the early fears were now left in my wake and the adrenalin was rushing through every vein.

We headed south being pursued by the valley of darkness after deciding not to land back at the airfield. South of Farnham we contacted another stonking thermal and were soon back to the base of the TMA. Looking at the big black curtain we had to decide whether to attempt to return to Odiham or land out.

I radioed base where they were busy derigging and picketing gliders in readiness for the ensuing squall to ask if there was a break in the weather. The answer was negative and then I spotted a tunnel of visibility. Setting the speed again to VRE and still climbing, we set off home through snow with a thick layer of ice on the leading edge.

As we approached the airfield we were greeted by a blue sky and sunshine. It was as if the sun shone to warm our wings and welcome us home. It felt as though someone had turned the lights on.

It was an hour long flight I will never forget and still can't stop reliving. I know it probably doesn't sound that exciting to some intrepid aviators, but the feelings of fear and excitement I encountered being drawn up into a cloud while flying so fast were truly amazing.

LAUNCH FAILURE ACCIDENTS

Chris, BGA senior national coach, focuses on a problem which has been particularly accute this year

This season has seen an unusual number of serious launch failure accidents. There appear to have been two main problems involved - mishandling turns near the ground following launch failures and turning when it was unnecessary to do so as a straight ahead landing was possible. This article is about the second problem. The first will be tackled in a later article.

Glider folklore has it that the pilot who turns when he could have landed straight ahead does so for "bad" reasons, such as to land near the launch point and save a long walk, or because there was enough height to turn. My own research and that of Chris Pullen and other senior instructors leads me to believe that in many, possibly most, cases they turn for the very good reason that they are not sure of being able to land straight ahead.

Traditional training regards the straight ahead landing as being the easy one - and apart from the very low level case it is. Normally only one or two are practised, usually from a height where a straight ahead landing is the obvious choice. The problem comes when the glider is a little higher up the launch and the pilot, having recovered to the approach speed and stabilised the attitude, does not think he can land ahead - or in any event is unsure of it.

For most pilots this state of mind arrives long before they are in fact unable to land ahead. The reason for this is that most normal landings are carried out with ½-¾ airbrake at a steady speed.

The pilot's perception of how short he can land is generally based on his visualisation of the approach angle achieved in this way. If full brake is selected and the nose lowered very steeply so as to create an increasing airspeed despite having full brake, a much steeper approach results and, despite the somewhat longer float resulting from this increased airspeed, a very much shorter landing is achieved.

Practising this to develop a good judgment of just how short a landing can be achieved is clearly desirable but does present two problems if carried out from simulated launch failures. First, until the judgment is developed an error can easily result in an overshoot accident and second, the number of practices required, each entailing a retrieve the full length of the airfield, would be very time consuming.

The solution is an exercise which will develop the necessary judgment without risk of an overshoot accident. And without the time wasting retrieve. All you need to do is mark an artificial "airfield boundary" about 100 yards further into the field than the normal landing area. A few day-glo or white marker strips will do.

The flight with whatever upper air exercises are required is carried out normally as is the circuit. After the final turn, the glider is flown at the normal approach speed with the brakes closed whilst the pilot assesses the approach angle to the "boundary".

When in his judgment he can only just get down and stop before the boundary he opens **full** airbrake and lowers the nose as much as is safe - remember to start the round out earlier to allow for the higher speed and more nose down attitude - and lands normally still with full airbrake and normal use of any wheelbrake after touchdown.

The distance the glider stops from the "boundary" represents the error in the pilot's judgment. A satisfactory standard is reached when the pilot consistently gets within (50) yards of the boundary but never overshoots. This will need a fair bit of practice, but it is practice you can get off every launch. I would suggest that this exercise should form part of the annual check of every instructor, including AEIs who instruct on wire launches, and should form part of every student's pre-solo and post-solo training.

The approach angle achieved of course varies with different wind conditions and should therefore be practised over a range of wind strengths.

More important still, the angle varies considerably from one glider type to another. This exercise should form part of every type conversion that takes place at wire launch sites.

This may seem at first glance to add up to a lot of extra flying, but since it can be done at the end of a normal flight it shouldn't significantly increase the total number of training launches required at any level. Try it, it might save your life.

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THE FIRST 1000KM EVER FL IN THE UNITED KINGDOM

Until Saturday, July 22, 1995 was turning out to be a disappointing temperatures. But on that day this flight by Chris Pullen, honorary with Chris Rollings, senior national coach, gave a boost everyone time there were many other outstanding flights including 750kms f Philip and Steve

Chris Pullen flies at the London GC, started gliding in 1965 and has 750km. Chris Rollings, a Booker GC member, came to gliding in 1962 and has flown 750km twice and has all three Diamonds.

It was an early morning at Bicester in late June where Chris Rollings and I were sitting under a clear blue sky waiting for the heat to rise sufficiently for the day to work. Whilst the soaring course members dragged out their gliders we were discussing our own personal gliding goals. "Where do we go from here?"

We really had been busy during the spring and summer and it was very rare for us to be in the same place at the same time. It made a really nice change to talk face to face rather than communicating by telephone and fax machine.

Our work load had meant that Chris was forced to withdraw from the 15 Metre Class Nationals, so I was suggesting that we should take a winter break to some distant gliding centre with the objective of trying to fly a 1000km together, probably in my ASH. A dream I guess I have shared with most cross-country orientated glider pilots.

Although agreeing with the suggestion, he stated that it had always been his goal to fly 1000km in this country and preferably be the first. Realising how unlikely this was, we settled for a detailed discussion as to the best possible locations for our winter expedition.

I was back running a course at Bicester three weeks later when the RAF Met men started to confirm the prospects for good soaring conditions during the coming weekend. A telephone call to Chris got us planning possible tasks up and down the country. On the Friday night we left the glider all ready to go promising to call each other at 7am the following morning.

"The colour blue looked good" is the best Chris could say as he peered out of the bedcovers the next morning, but we decided to go to Bicester as soon as possible.

At 8am the glider was rolled out of the hangar and the declaration made, starting with a track south to make use of the surprisingly fresh tailwind.

At 8.30am we were at the launch point looking at a clear blue sky to the south, but cumulus to the north. Out with the pen and a change to task B. More photographs, then a launch at 8.49am to 1000m over the airfield.

At 8.56am we were on our way to York.

In front was wall to wall cumulus with a cloudbase at 2500ft. With the MacCready set on one, we glided out at about 70kt finding reduced sink as we flew beside a cloud street bang on track We pushed on making excellent progress only stopping for 2kt or better. After about one hour we reached the southern edge of East Midlands' airspace. A simple call on the radio was all that was needed to obtain clearance straight through! I confess I found it difficult to believe that our clearance had been so easy, especially as the main runway was just in front of us. A second call to air traffic confirmed our permission, so there we were, right over the main runway!

Then things began to go wrong. The cumulus stopped and the sky went dark with a big black band of cloud to the west and another to the east. There was nothing where we were in the middle. With nowhere else to go we set off over the middle of Nottingham just within gliding range of Syerston, when the dark band to the east started to work. We concluded it was some sort of convergence zone and having wasted about 15min we were off again, running under this band giving the occasional 3kt. Up went the MacCready and consequently the inter-thermal speeds and our progress northwards.

The convergence changed back into good thermals north of Doncaster, so we pushed on rejecting anything less than 4kt to York Minster. Round the TP and straight back south, we retraced our steps through the good weather. Another very co-operative air traffic controller allowed us straight through East Midlands again and back past Bicester *en route* for Chieveley. As the day warmed up, so did we. Inter-thermal speeds of over 100kt were now the norm, pulling up hard when we saw 6kt and diving out when it dropped to 4kt. It was just like a fun-fair ride but much more fun!

Rounding TP2 just before 2.20pm it was a fast 500km, but it made us realise that we were only half way. We were getting to know the route by now as we passed Bicester heading back north. Things continued to go well until we met the river Trent around Newark. Here the thermals were being influenced by Pennine wave setting up in the north-westerly wind. Unfortunately the good looking wave was much too far to our west for us to use, but it was mucking up our cumulus.

They now started to become unreliable and much fewer in number. This forced us to slow down and accept weaker and weaker climbs. Eventually we took a cloud climb coming out on the upwind side of the cloud and into 1kt of weak wave. Here we stayed for about 10min as we worked this wave up to 5500ft. What should we do? With no cumulus to be seen should we stay and work the wave or push on across the blue? Time was marching on, so on we went. We glided out for 20min across a clear blue sky straight into Pocklington turning the TP at 5.35pm at 1500ft. Now where?

With club gliders around us doing circuits (as you would expect at 5.30pm), we still had 225km to go. With only one cloud to the west we set off for it, fingers crossed. It worked. Straight into 3kt and back up to 4500ft. Off again, heading south and back across the same blue sky. But at least this time we knew we had flown further than Chris Garton. *(He holds the UK single-seater goal and return distance record with a flight of 801.3km in a Kestrel 19 on July 22, 1976.)*

The red wine celebration after the flight - Chris Pullen

Very weak blue wave assisted our progress as we headed for a single cloud half way to the horizon. Twenty-five minutes later we were climbing at 2kt over Doncaster, back up to 4500ft. Off again but this time towards an improving sky. Speeding back up we flew south, ticking off the possible landing sites of Gamston and Syerston as we continued our progress.

We left our last decent cloud heading for a black mass over Leicester. Nothing against Husbands Bosworth, but we didn't want to land there. So we spent 40min scratching in very weak lift trying to climb. Eventually the ½kt died and we were forced to glide it out. We left the Bruntingthorpe area with 3900ft and 65km to go. Marginal or what?

Fortunately there were very few bugs on the wing, but the S Nav said it was all down to the

..OWN

**g gliding season despite the high
r national coach, in his ASH-25E,
had been looking for. At the same
flown by Ralph Jones and his sons**

n is on the left. Photo: Iain Cottingham.

tailwind. When it registered a 3kt tailwind we should just get in, but when it dropped to 2kt we were below glide. There was nothing left to do but bite your nails and watch the fields go by. Thirty-seven minutes is a long time watching fields, especially when the one you want to see is still out of sight.

Suffice it to say that we got back. Not comfortably, but with 250ft to spare. No height for a circuit, but wheel down and a landing in front of a large crowd that had fallen out of the bar to watch us. Clutching a glass of red wine we were prized out of the glider and forced to pose for the photos (and drink the wine).

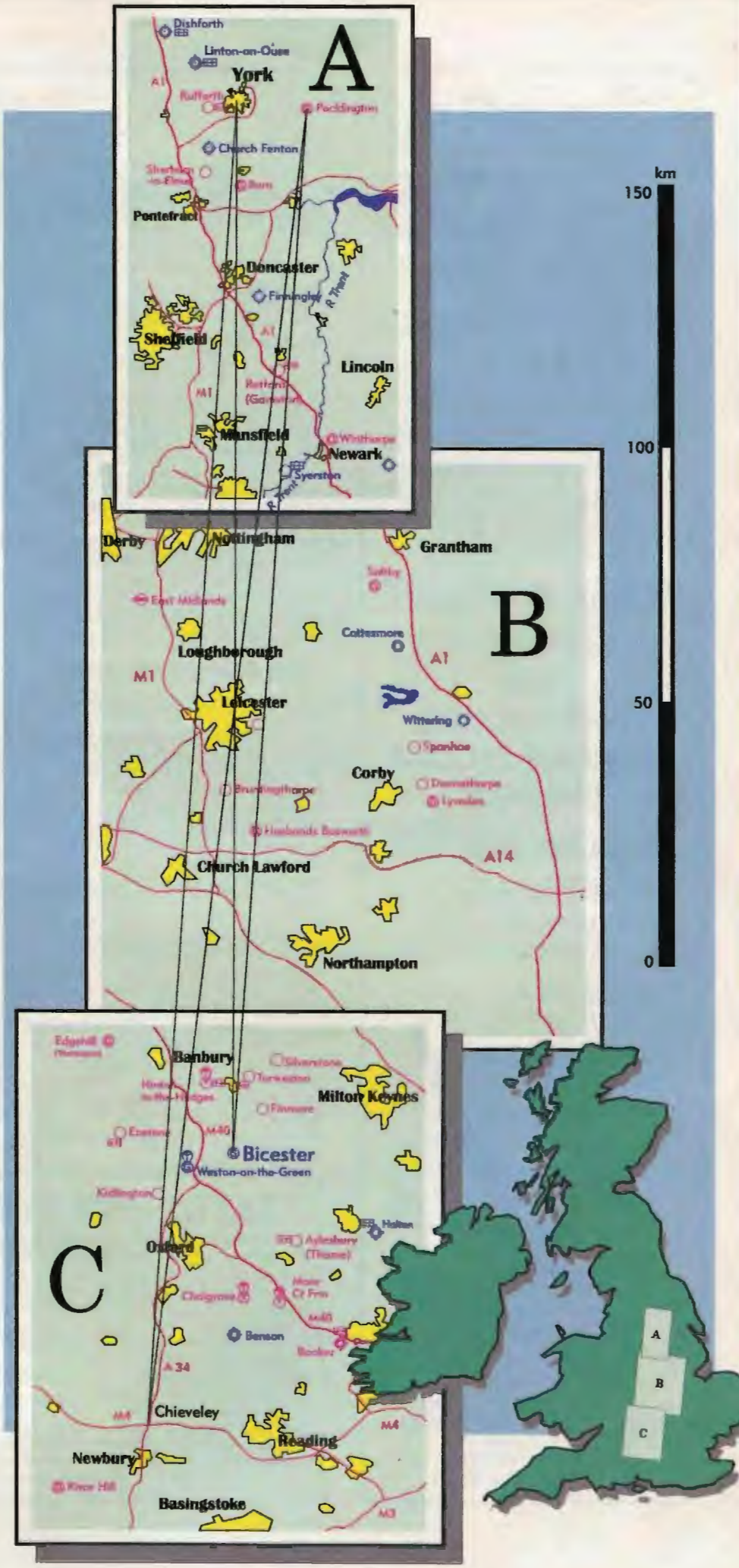
It was now 8.40pm.

So how did we do it?

The weather, the glider, the team.

The weather was without doubt the best I have ever seen. Although the lift was good, I have certainly seen better, but not for the length of day that occurred on this Saturday in July. ➡

The map on the right showing the route was drawn by Steve Longland.



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There's no substitute for span. My ASH-25 (FLG) has a performance that makes this possible.

The team not only consisted of Chris and myself, but a great deal of help and support from the members at Bicester to get us launched on time, and for their help washing and putting the glider away at the end (whilst we went and bought the champagne).

A 12hr flight at the speeds required to get round demands a huge work load, both physically and mentally. We tended to take it hour on, hour off. One of us flying the glider, whilst the other navigated, picked the cloud route, advised when to leave thermals and worked the radio. This left the pilot flying the glider to concentrate on getting the maximum rate of climb from the thermals and generally fly as accurately as possible.

You also have to get on together and believe in each others decisions and ability.

OK so it wasn't all that fast, but after all it wasn't a race - it was a dream come true!!

Would we do it again? Of course we would - hopefully this winter.

Chris Rollings comments:

Tuesday, July 18. Hot and sticky under a layer of stratus in a warm sector.Might be some breaks later. The forecast for the rest of the week - similar. Cooler and fresher with plenty of sunshine on Saturday which could be a very good day, but if you believe a four day forecast, there is a card game I'd like to teach you.

Friday morning, the same forecast. Twenty-four hour forecasts I do believe. Chris Pullen does too and suggested a long task together in his ASH-25. The 1000km was his idea - not that I needed any persuading. We considered the forecast and regretfully (at least on my part) rejected the possibility of an FAI triangle (too much risk of blue in the SW and sea air in the Cheshire gap) or an O/R (too much cloud and possible rain in Scotland).

The only remaining possibility that could work was a double O/R on the east side of the country. Amazingly Chris's computer said my first guess of TPs added up to 1009km. It must have been an omen. (Plan B, Petersfield, Durham, Andover came out at 1008km. I think my subconscious had already planned the tasks.)

Came the day and the advantages of being in a two-seater on a really long flight became apparent. We took turn and turn about at the handling, generally about an hour at a time. The change was usually called by the non-handling pilot saying "May I have a go now please, you have a rest." This is actually polite "coach speak" for "Your flying is deteriorating noticeably - for goodness sake take a break and pull yourself together." We both has occasion to say that two or three times in the 12hrs.

Decisions as to which cloud to choose and which route to follow were always discussed, with the handling pilot having the casting vote on the (rare) event of a disagreement.

High points of the flight? Reaching Leicester before 10am and realising that for once it really was on. Passing the half-way mark before 2.30pm. Taking all the safety margin out of the final glide computer at the top of the last thermal and finding that we might just make it after all.

Critical point in the flight? The small wave climb to 5500ft (about 1300ft above cloudbase) near Doncaster which enabled us to glide straight across the long gap to Pocklington. With hindsight even 10min lost there in going the long way round would have cost us the flight.

Would I do it again? Damn right! But next time hopefully either as a FAI triangle or O/R.

PS. For the curious the ASH's engine was rendered inoperative by the removal of the battery that erects the engine and starts the engine: so it was a glider not a motor glider flight.

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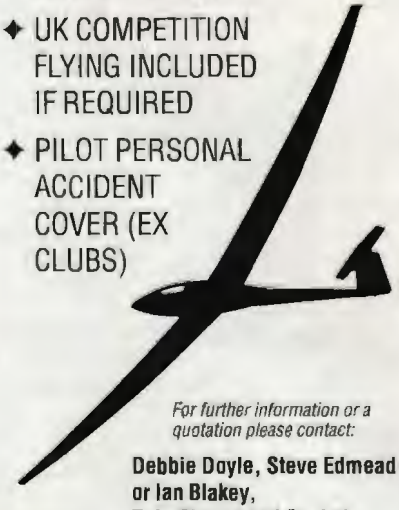

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Michael Wood (left) with Mike Brook.

Chris Simpson (left) with John Large in their ASH-25.

COMPETITION ENTERPRISE

Sutton Bank - July 1-8

Or, as CHRIS RIDDELL calls it, "Enterpise in the land of dark horses"

In July Competition Enterprise came to Yorkshire GC for the third time. Those assembling for the meet would have noticed that this was the year in which the White Horse of Kilburn was being freshened up with the application of chalk on to the soil surface of the monument on the southern face of the site.

But this was the only dark horse hereabouts. We were very pleased to see Gillian and Justin Wills at Sutton again. Justin was to fly with us following his success in the Worlds in New Zealand. We also welcomed regular Enterprise contestants Bill Longstaff, Ron Davidson, John Cadman, Chris Simpson, Chris Nicholas, Gerry Martin and Tony Smallwood.

Yorkshire GC was fielding a formidable challenge with pilots Jim Hill (club chairman), Michael Brooks, Michael Wood, Jon Hart, Jim Grainger, Howard Dale and Enterpise director Nick Gaunt, last year's winner at Colmar. John Fielden was the task setter and scorer.

The first day, July 1, was convective and a running in task was set, listing certain TPs to be covered in any order. The winner was the one who flew the furthest. There was no time penalty but a bonus of 50pts for each TP rounded. Justin Wills (LS-6) went the furthest, 242km; Peter Turner (Kestrel 19) was 2nd with 217km and Jon Hart (Vega) 3rd, covering 180km. Jim Hill did well in his first Enterprise, flying 160km in his K-6E for 4th place. A total of 3788km were flown by 31 entrants. Not a bad day's start.

Sunday gave improved conditions. The task was the same but with different TPs and 4211km were flown. Justin again led with 383km; Mike Brook (SHK) was 2nd with 257km and Jon Hart 3rd with 276km, but he lost to Mike on handicap. The weather deteriorated on Monday and only 1502km were flown by 29 pilots. The task was a choice of two 95km triangles. Justin was the fastest at 1hr 18min; Mike Brook 2nd at 1hr 49min with Chris Simpson (ASH-25) 3rd.

Tuesday brought a reduction in convection but with a chance of wave off the Pennines in the westerly flow. The TPs were Derwent Water reservoir and Menwith Hill radio station between Skipton and Harrogate, Those without GPS received a 20% bonus but even so nine chose not to fly in the very modest conditions.

Local knowledge and GPS paid off for Mike Brook who gained 1st place with 207km, Jon Hart was 2nd with 170km while John Cadman from Coventry and a frequent visitor to Sutton Bank came 3rd with 98km in his Libelle.

Day 5, Wednesday, gave a prospect of improved convection and a 200km O/R was set to Gainsborough. This was the day when a number of dark horses came up on the lists. Justin Wills was first back but most landed out. Les Bradley (K-6CR) flew 132km, Mick Wells (Kestrel 19) 160km; Alistair Robertson (ASW-20L) 147km, Mike Brook 57km and Jon Hart 5km. Twenty-seven pilots flew 1608km.

Tuesday, Day 6, July 6, will long be remembered. The waves of yesterday had strengthened to give those lovely rolling acres in the northern sky. The TPs were Sheffield, Menwith Hill, Barnard Castle and Derwent reservoir. Heights were good. Chris Simpson went to 21 000ft in a 6hr flight because he said he liked the view and was 7th for the day with 400km flown. Many flew long distances. Ron Davidson (SB-5) - 16 000ft and 417km in 5hrs 35min; Gerry Martin (Vega) 420km in 5hrs 56min; Mike Wood (K-6E) 318km in 4hrs 25min; Don Puttock (Zügvogel) 12 000ft, 278km in 7hrs 5min; Nick Gaunt (LS-7) 10 500ft, 318km in 5hrs 15min and Bill Longstaff (Dart 17) 17 000ft and 225km.

The leaders were conspicuous by their absence as the evening drew in. Jon Hart came back after 372km in 7hrs 37min. Justin Wills flew 683km in 6hrs 40min and 13 500ft. But where was Mike Brook in the SHK? Ugly rumours circulated about miscalculation and out landing, but as dusk approached the SHK came in after 10hrs 28min for 718km. It was a club distance record for Mike and a total of 5064km were flown by 18 pilots.

This was the day when GPS paid off. I was impressed by the number of pilots who had the equipment. Jon Hart said it gave him confidence when in wave above cloud and he was able to concentrate on his track and groundspeed. John Cadman was unlucky in that his T&S let him down and he was unwilling to fly in wave without full instrumentation.

On Friday the task was a 264km O/R in wave to Winthorpe and a 316km triangle, Newark, Horncastle. Jon Hart won the day from Justin with a faster O/R. The triangle seemed to have been over set. Mike Brook landed after 299km; Ron Davidson after 259km; Bill Longstaff after 241 and Chris Nicholas (K-6E) after 230km.

The 153km task on Saturday, the last day, was flown in thermal and sea breeze. Justin was round in 1hr 45min, Stuart.Thackeray (ASW-20) was 2nd in 2hrs 10min and John Cadman 3rd in 2hrs 33min. Twelve completed and in a total of 81hrs 41min 3709km were flown.

The prizes were presented at the barbecue that evening. Justin Wills won the Enterprise plate with 4643pts; Mike Brook was 2nd with 4330pts, Jon Hart 3rd with 2975pts and with Jim Hill and Mike Wood sharing 5th place, Yorkshire GC pilots took three of the top five places.

It had been a memorable Enterprise with eight soaring days and the 32 competitors covering 26 146km in 438.28hrs. The dark horses in the form of Mike Brook, Jon Hart, Ron Davidson, Jim Hill, Mike Wood and Gerry Martin had flown well to give Justin a run for his money while he showed us what could be done in the Yorkshire sky. Mike's 718km is unlikely to be broken as a club distance record for a considerable time. But there is still the 1000km to fly from the site. Next year perhaps...

Michael Wood in a K-6E.

John Gilbert (Skylark 3F) checking his route. Photos by Chris.

DIAMOND GOAL IN THE Me 7

Nick, whose Ventus was being flown by another syndicate partner on a promising day, was offered an alternative

All week, Friday, April 21, looked like being a good day. From Sunday on the forecast had been for 4° of frost on most nights, with Friday being the only day that might not suffer from violent storms - day time temperatures in the south were predicted at 14 to 16°C.

So out came all last year's notes on big tasks and I spent the week day-dreaming about perfect flying weather. I knew I was going to be a 100 miles from the Long Mynd on Friday morning so would have to set the alarm early. It didn't go off and I didn't get away until 8am.

As I drove over the Brecons from Rhigos the view was breathtaking, not a cloud in the sky and visibility that seemed to go on for ever. When I got to the Mynd at 0945 the rigging was done and the briefing in progress. And shock, horror, my Ventus was rigged! I say mine, there are four of us but I do get to fly it rather more than the others, so my possessiveness and consequent shock was only natural. When I joined the syndicate I was told that there was only one golden rule - when Roger wants it, he has it, and there he was in the middle of the crowd.

Wondering what I could find to do for the day, I wandered over. The briefing was breaking up and what a bunch of friends - condolences all round. I even heard someone say something about a bottom lip quivering.

Roger Andrews and John Stuart had obviously been plotting. John said "You could always fly the Me 7." Now the Ventus is 17.6 metres and there in the hangar, up against the wall, was the Me 7, all 12.7 metres of it; and before I had quite realised what was happening I was helping Roger rig it - for me!

It weighs next to nothing (125kg) and he had already got one wing on while I was standing there with the other under my arm. What with the self connecting controls, it is no exaggeration to say that it was rigged and ready to DI in less than five minutes. By then I was thinking that I had better make sure nobody else got hold of it as there wasn't anything left to fly.

My original task had Lasham as the first TP. As I had already studied that route and the day was progressing (gliders were already soaring), I decided on an O/R to Hungerford as it lay on track. If it wasn't on I could turn back at Cheltenham or even land at Nympsfield. I organised the retrieve crew, with some difficulty, I might add. They were convinced I'd be landing out a long way off.

I winch launched at 1120 to 1600ft above the Mynd (3000ft QNH) and set off on track. The first thermal was only 5km away and took me straight up to 4500ft. I remember thinking how easy and normal it all was and setting off again at great pace. It wasn't until I felt I was dropping away from the next thermal that it began to dawn on me that I was not in the Ventus!

Between Ludlow and Malvern the thermals were weaker and broken and I had to stay with what I had because I simply couldn't reach the next ones without a climb. This was where Roger caught up with me, airbraking down flamboyantly from above just to bid me hail and farewell as he shot away to the south-west, notching through the flaps I had grown used to.

The conditions were beginning to improve again as I passed Ledbury. Cloudbase was at 5000ft with reliable 4kt climbs. The Me 7 has a large trim lever against the fuselage on the left, in exactly the same place as the flaps on the Ventus. The climbs and spacing of the thermals were such that I was beginning to use the trim as a flap control. I passed Gloucester and over the high ground thermals were giving 6kt climbs and more, with the cloudbase now at 6000ft.

Nick, who started gliding in 1988 and has a Gold badge, with the Me 7. Photo: Paul Stanley.

The thermals were further apart here but I was loving it. I was flying at 70kt between thermals at a cost of 3000ft and gaining what seemed like 500ft in the pull ups, putting in ten turns and leaving again with the 3000ft back on the clock. With her short wings and lack of weight, centring was easier than being in a K-8 and unlike the wooden ships she's fast in the glide for her size.

I turned Hungerford at 1430hrs having taken 3hrs, and set off on the return journey with cloud streets laid out before me. It took only four climbs and just over 1hr to reach the Malverns and 20min from there to Leominster. One last climb took me back to cloudbase, still at 6000ft, and 20min later I was back over the Mynd having lost only 500ft. I spent the next 20min flying north to use up the height and turn the task into 336km.

Maybe I would have flown further in the Ventus, but for me this flight was not only fun, it shows the potential there is for this new breed of glider.

(The agent, Roger Ellis of Kenilworth International, says this was the Me 7's first 300km.)

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BGA & GENERAL NEWS

DEVELOPMENT NEWS

Cornish Club Wins Planning Appeal

The Cornish Gliding and Flying Club and the airfield owners have won their appeal against the Notice of Enforcement, issued by Carrick District Council to restrict operations at Trevellas Airfield, Perranporth in North Cornwall.

Following a three day public inquiry at Truro in June the inspector upheld the club's appeal on all counts, claiming that Carrick District Council had not only acted beyond its powers in issuing the notice but had also acted unfairly and unreasonably in imposing additional planning conditions on the club.

The inspector, who had carefully studied the past history of the airfield, concluded that a lawful use for aviation had existed before the 1948 Planning Act and that changes in the amount and type of flying that has recently taken place did not amount to a material change of use, as alleged in the notice which he then formally quashed.

The club were represented by David Morris (Battens Solicitors), Louis Chicot (planning consultant) and Peter Hepworth (noise consultant). An interesting side issue was the importance of retaining old records, which provided invaluable evidence in this case (but more about that in a later issue).

Carrick District Council was ordered by the inspector to pay all costs, including those incurred by the gliding club.

The Enforcement Notice had created an atmosphere of uncertainty about the future of the Cornish Gliding and Flying Club and its removal provides a climate in which the club can develop once again, and make long term plans for its future at Perranporth.

Barnstorming brainstormers

The Cornish Gliding and Flying Club invited the BGA Development team to Cornwall to discuss the club's plans for the future.

Early on Saturday, August 5, Max Bacon, chairman, and I took off in the BGA Motor Falke from Gransden Lodge in bright sunshine and a following wind. Two hours later we were hugging the north Cornish coastline in poor visibility and under lowering cloud before eventually landing at Perranporth.

We toured the site and held a five hour "brainstorming" session with the club committee before the barbecue and champagne celebration for the club's victory at the appeal.

By Sunday lunch time the Motor Falke was back on duty with the Cambridge University GC.

Roger Coote, *BGA development officer*

NATIONAL LADDER

Whilst we like to pretend that the thermal cross-country season lasts from March until September, we all understand that in reality it never properly gets going until mid-July and then it only lasts six weeks.

Bang on cue we had the day of the decade on July 22 producing one 1000km, several 750kms and too many 500km and 300km flights to count, although only some of these have found their way on to the ladder. I feel unable to comment in any great detail on the current ladder placings except to say that the boys from Gransden Lodge appear, at the time of writing, to be doing remarkably well (or can it possibly be that scores from other clubs are still in the post?).

Open Ladder

Pilot	*Club*	*Pts*	*Flts*
1. J.L.Bridge	Cambridge Univ	9153	4
2. M.Young	Cambidge Univ	8597	4
3. D.S.Watt	Booker	8005	4
4. P.Baker	Cambridge Univ	7966	4

Weekend Ladder

Pilot	*Club*	*Pts*	*Flts*
1.J.L.Bridge	Cambridge Univ	8647	4
2. R. Baker	Cambrige Univ	6403	3
3. P. Baker	Cambridge Univ	5884	4
4. D. Reilly	Devon & Somerset	5381	4

John Bridge, *National Ladder steward*

OPEN CLASS NATIONALS

Two brothers, Phil and Steve Jones, took the top places in the Open Class Nationals, held at Lasham from August 5-13. Phil (Nimbus 3DT) is the new Champion with 8487pts, Steve (Nimbus 4) 2nd with 8434pts and Russell Cheetham (ASH-25WL) 3rd, gaining 8331pts.

It was a nine day, 9000pts, competition with large tasks and 28 finishing on the 600km day.

A report will be in the next issue.

S&G PRICE INCREASE

Having held the price of S&G at £2.25 for three full years it will be increased by 15p to £2.40 from the December/January issue, making the annual subscription £16.50.

BGA 1000 CLUB LOTTERY

The results of the **July** draw are:- First prize - C.Simpson (£53.50) with the runners up - A.W.Doughty, R.H.Dixon, H.Maddams, A.C.Dukelow and S.Duerden - each winning £10.70.

August. First prize - F.L.Whiteley (£53.25) with the runners-up - M.Blackburn, D.Ratcliffe, J.Gorringe, P.V.Perry and D.I.H.Johnstone - each winning £10.65.

GLIDER PILOTS ARE INDIVIDUALISTS

Everyone recognises that glider pilots are different. They don't follow the crowd, they do their own thing, take their own decisions and like to stand out from the rest.

It comes as a surprise and a disappointment that the income from the BGA 1000 Club Lottery has slumped and a lot of people did not renew last month. Surely it could not be that glider pilots of all people should have followed like sheep and joined in the general madness of the National Lottery? Pilots are intelligent people, they may like a flutter but must know that the odds against winning the lottery are millions to one. Perhaps the sudden drop in subscribers to the 1000 Club is just a summer aberration - after all the chance of winning is vastly greater. There are no administrative costs, half the subscriptions are distributed as prize-money and the remainder goes to the Philip Wills Trust to provide low cost loans to developing gliding clubs.

It costs less than the price of one aerotow for 12 chances to win and half the money goes to a splendid cause. If you have never joined please do so. If you have not renewed, please, please think again. The fund desperately needs your contribution to continue its invaluable work helping to secure the future of gliding in the UK.

When we get back to 500 members, I will personally give £100 to the 500th person to join! There are good odds for you. Fill in your application today - **it might be you!**

Humfrey Chamberlain

TO: Barry Rolfe, British Gliding Association, Kimberley House, Vaughan Way, Leicester LE1 4SE

Please issue me with a/renew my lottery ticket in the BGA 1000 Club and I enclose £12 (payable to the BGA) for 12 months.

Name.....

Signed.....

Address.....

.....

NEW INSTRUCTORS' CHAIRMAN

Chris Pullen has taken over as chairman of the BGA Instructors' Committee from Dick Dixon, who is now vice-chairman of the BGA Executive Committee.

FATALITY

There was a fatal accident at the RSRE Flying Club at Pershore on July 8. Donald Rodway, aged 48, was being launched in a Carman JP when the cable parachute failed at 150-200ft. Although there was sufficient runway for a straight ahead landing, the pilot made a 180° turn and the glider continued downwind for a short distance before spinning in.

TECHNICAL CONSULTANT

Peter Hearne, who retired as chairman of GEC Avionics in 1994 and was president of the Royal Aeronautical Society in 1980/81, has joined Joint Aviation Services as a technical consultant. He has a lifetime of experience in operational, design and engineering aspects of aviation.

Peter learned to glide and fly during World War 11 and has 3600 gliding and power hours. He flies a DG-400 and a Nimbus 3T.

SAFETY FIRST

BGA inspectors must check on C of A renewal inspections that L'Hotellier locking devices can be applied. In the recent Cirrus incident, the locking pins could not be inserted when the connector was correctly assembled. Thereafter, it is the responsibility of the pilot to ensure correct assembly of his glider in all respects. Duplicate inspections by competent people

should be encouraged and entered in the DI book. This requirement has been sent to all club technical officers and BGA inspectors.
Dick Stratton, *BGA chief technical officer*

RIKA HARWOOD

On going to press we had the sad news that Rika Harwood died on Friday, August 18. She was assistant editor and production manager of *S&G* for many years, working with Doc Slater, and later consultant editor until 1993.

There will be an appreciation in the next issue.

OBITUARY

ALFRED WARMINGER

It is with great sadness that I report the death of Alfred Warminger after a short illness.

Alf started flying almost 60 years ago at Mousehold Airfield, Norwich, where he became a power pilot and a member of the Mousehold Group Air Guard. With the outbreak of war he joined the RAF, flying Hurricanes and seeing service in the UK and Africa.

On discharge in 1945, he took over Norwich Squadron ATC and in 1947 joined 231 Gliding School at Horsham St Faith's, becoming CO in 1948. He moved with the squadron to Swanton Morley in 1953.

In 1949 Alf bought his first glider, an Olympia, and became seriously involved in cross-country flying. With a flight from Swanton Morley to Perranporth, he became the fourth in the country to complete a flight of more than 500km. A flight from Swanton to Troyes, France, was spent mostly over the sea from Clacton onwards, some 400km. With primitive instruments, he made a cu-nim climb of almost 30 000ft, at that time the British record.

In 1958 he left the ATC and formed the Norfolk and Norwich Soaring Group at Swanton Morley, encouraging cross-country flying. Although involved with the formation of Norfolk GC, he did not join until the mid 1970s when the Soaring Group disbanded. He was a benefactor to the club when we bought the runways and later the land, to give the club its lasting security, and was its president until his resignation last year.

Alf was always competitive, getting the best out of his Kestrel and later the Ventus, flying in Nationals until the early 1980s and in Regionals until this year when he withdrew following a thrombosis. He attended League weekends and club expeditions to other sites in the UK, France and Germany. He enjoyed his autumn wave flying at Aboyne, remaining for hours above 8 oktas while the rest of us dived through the cloud gaps.

To the end he held a PPL and flew his beloved blue and silver Tiger Moth, Odette. He gained many British records in his life and still holds three: the 200km, 300km and 400km goals, gained at the ages of 64, 56 and 70 respectively. He had planned the 500km and never gave up hope of the right north-easterly. He was an inspiration to the young up-and-coming glider pilots, to whom he regularly lent equipment and gave every encouragement and advice. He was proud his 16 year-old grandson James went solo ten days before his death.

He died peacefully sitting in the sun in his garden with his wife and family, a north-easterly wind stirring the trees and his old flying boots standing beside him getting an airing.

The gliding world will miss the call "44 entering cloud" or "Chakka - 44: I may be landing out" (though he very rarely did). The club's condolences go to his wife and family.
ROY WOODHOUSE

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	Name	Club	1995
454	Wray, A.J.	Heron	15.4
455	Brownlow, R.J.	Fulmar	25.5
456	Leaton, N.J.	Kent	8.3
457	Ell, S.R.	Yorkshire	21.6
458	Nicholson, J.B.	Cambridge Univ	5.1
459	Carr, M.T.	Lasham	17.11.94
460	Frank, L.E.	USA	5.3
461	Hyett, A.R.	Lasham	21.4

DIAMOND DISTANCE

No.	Name	Club	1995
1/679	Leaton, N.J.	Kent (in Australia)	8.3
1/680	Bunn, G.F.	Norfolk (in Australia)	1.1
1/681	Ell, S.R.	Yorkshire	21.6
1/682	Nicholson, J.B.	Cambridge Univ (in South Africa)	5.1
1/683	Williams, D.	Lasham (in South Africa)	7.1
1/684	Turner, P.H.	Dukeries (in South Africa)	2.12.94
1/685	Carr, M.T.	Lasham (in South Africa)	17.11.94
1/686	Hyett, A.R.	Lasham	21.4

DIAMOND GOAL

No.	Name	Club	1995
2/2325	Kelly, D.	Chilterns	19.5
2/2326	Ley, D.R.	Fenland	19.5
2/2327	Shaw, J.S.	Cornish (in France)	14.5
2/2328	Leaton, N.J.	Kent (in Australia)	5.3
2/2329	Hook, M.A.	ESC (in France)	26.5
2/2330	Ell, S.R.	Yorkshire	21.6
2/2331	Bottomley, R.	Talgarth (in France)	28.6
2/2332	Jerman, M.	Yorkshire	21.6

DIAMOND HEIGHT

No.	Name	Club	1995
3/1237	Wallis, K.	Clevelands	2.4
3/1238	Wray, A.J.	Heron (in Spain)	15.4
3/1239	Schylsma, D.	ESC (in Spain)	15.4
3/1240	Brownlow, R.J.	Fulmar	25.5
3/1241	Hodgson, M.	Lasham (in Spain)	15.4
3/1242	Perley, A.I.	Booker (in Spain)	28.3
3/1243	Frank, L.E.	USA	5.3
3/1244	Fraser, G.N.	SGU	8.6

GOLD BADGE

No.	Name	Club	1995
1816	Ley, D.R.	Fenland	19.5
1817	Shaw, J.S.	Cornish	14.5
1818	Ell, S.R.	Yorkshire	21.6
1819	Bottomley, R.	Talgarth	28.6
1820	Fraser, G.N.	SGU	15.4

GOLD HEIGHT

Name	Club	1995
Banks, T.J.	East Sussex	2.4
Hodgson, M.	Lasham (in Spain)	15.4
Hanna, R.H.	Ulster	1.4
Evans, J.A.	Bowland Forest	8.5
Mancini, E.	Lakes	8.5
Chappell, A.R.	Herefordshire	1.4
Armitage, H.D.	South Wales	16.4
Matthews, J.	Highland	19.6
Fraser, G.N.	SGU	15.4
Stewart, D.I.	Clevelands	18.6

GOLD DISTANCE

Name	Club	1995
Kelly, D.	Chilterns	19.5
Ley, D.R.	Fenland	19.5
Shaw, J.S.	Cornish (in France)	14.5
Hook, M.A.	ESC (in France)	26.5
Ell, S.R.	Yorkshire	21.6
Bottomley, R.	Talgarth (in France)	28.6
Jerman, M.	Yorkshire	21.6

SILVER BADGE

No.	Name	Club	1995
9718	Tietma, R.	Soaring Centre	13.5
9719	Good, P.A.	Bicester	18.5
9720	Warren, J.R.	East Sussex	13.5
9721	Luckhurst, P.J.	Fenland	14.5
9722	Hawkins, M.S.	Bath & Wilts	31.5
9723	Clegg, J.	Phoenix	14.5
9724	Crawford, G.D.H.	Oxford	9.6
9725	Goldsworthy, D.	Newark & Notts	19.5
9726	Rommen, T.A.	Two Rivers	30.4
9727	Goult, C.P.	Wrekin	13.5
9728	Cultram, N.G.	Staffordshire	18.6
9729	Stephenson, D.	North Wales	18.6
9730	Knight, D.D.	Chilterns	21.6
9731	Wilson, A.P.	Essex & Suffolk	18.6
9732	Ainsworth, M.	Soaring Centre	21.6
9733	Freehold, D.R.	ESC	1.6
9734	Procter, S.	Devon & Somerset	13.5
9735	Raistrick, P.A.	Bannerdown	13.5
9736	Noxon, M.W.	Stratford	22.6
9737	Chalk, E.A.J.	Aquila	18.6
9738	Candler, P.D.	London	21.5
9739	Rhys-Jones, D.	Southdown	14.5
9740	Tagg, D.R.	Wolds	19.5
9741	Lang, I.	Stratford	13.5
9742	Arkle, R.	Deeside	29.4
9743	Harris, R.	Booker	2.8.89
9744	Palmer, W.J.	Lasham	6.5
9745	Scrutton, N.C.	London	22.6
9746	Macro, I.D.	Rattlesden	21.6
9747	Francis, J.V.	Essex & Suffolk	18.6
9748	Hicks, B.	Deeside	10.12.94
9749	Wilson, D.J.	Lasham	22.6
9750	Hawkins, G.A.	Soaring Centre	22.6
9751	Marshall, G.A.	SGU	4.7
9752	Gilbert, C.G.	Lasham	9.6
9753	Shine, W.	ESC	1.6
9754	Thompson, S.C.	Southdown	4.7
9755	Jerman, M.	Yorkshire	21.6
9756	Ockleton, D.R.	Wyvern	18.6
9757	Wheway, I.	Lasham	8.7

9758	Burgess, A.	Highland	8.7
9759	Henson, D.R.	Chilterns	12.7
9760	Herring, J.	Norfolk	12.7
9761	Stone, J.B.	Air Cadets	18.5
9762	Johnson, M.	in USA	22.6
9763	Summerell, G.P.	Hullavington	30.6
9764	Booth, P.	London	22.6
9765	Gijrath, J.W.M.	Two Rivers	8.7
9766	O'Sullivan, T.	Enstone	18.6
9767	Hodgson, M.	Lasham	20.7
9768	Smith, B.R.	Essex & Suffolk	5.7
9769	Onn, P.	Booker	22.6

CROSS-COUNTRY DIPLOMA

Part 1

Name	Club	1995
Hughes, O.	Aquila	13.8.94
Leeson, S.C.	Devon & Somerset	13.8.94
Croker, R.W.	Portsmouth Naval	14.8.94
Smith, R.L.	Booker	15.8.94
Baker, E.	Cambridge Univ	22.5
Good, P.A.	Bicester	22.6
Mornin, T.J.	Cambridge Univ	14.5
Hood, R.S.	Four Counties	18.6
Brand, A.	East Sussex	26.6
Bates, J.R.	Lasham	30.6

Part 2

Name	Club	1995
Croker, R.W.	Portsmouth Naval	14.8
Good, P.A.	Bicester	22.6

Mike Beach is photographed by Ted Hull with the Scud replica he has just finished building to commemorate the pioneering days of British gliding. It has taken him in excess of 1500hrs but is as much a work of art as a flying machine and a great compliment to Mike's skills. The Scud was the first British glider to fly for one hour and Mike hopes to manage a similar flight. When the Scud was introduced in 1931 it was a revolutionary concept with its size and weight reduced to an absolute minimum. Edward Mole, writing at the time having test flown it on February 3, 1931 at the request of L.E.Baynes, its designer, said it weighed 40lbs less than himself. "After a few bungy launched ground hops at Dunstable" he wrote "I took a launch from the top of the ridge and made a slope soaring flight of one hour, so proving its capability as a glider. It handled beautifully." Mike also spent 2500hrs rebuilding a Scud 2 which was flown in 1991 and is now restoring to airworthy condition the Manuel Willow Wren (BGA No.162). He says that this is England's oldest glider and shares with the Scud 2 the honour of being the only genuine survivors of early gliding history in the UK.

SAILPLANE & GLIDING

You can buy the magazine from most Gliding Clubs in Gt. Britain, alternatively send **£16.50**, postage included, for an annual subscription to the British Gliding Association, Kimberley House, Vaughan Way, Leicester. Red leather-cloth binders specially designed to take copies of the magazine and gold-blocked with the title on the spine are only available from the BGA.

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THE CLUB IS OPEN TO EVERYONE

BGA 1996 ANNUAL GENERAL MEETING

Saturday 24th February

STAKIS HOTEL, NORTHAMPTON (JUST OFF THE M1)

All members are urged to attend and to contribute to the meeting and the open seminars. Lunch will be available. Booking forms and full details available from the BGA office shortly.

BGA 1996 DINNER will be held the same evening at the Stakis. A promise of excellent food, wines and company. Accommodation at a special rate for BGA members of £31 each bed and breakfast.

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BGA ACCIDENT SUMMARY Compiled by DAVID WRIGHT

Ref No.	Glider Type	BGA No.	Damage	Date Time	Place	Age	Pilot/Crew Injury	Hrs
143	DG-100	4055	Minor	27.9.94 1500	Nr Talgarth	53	None	60

The pilot had a briefing and local check flight before flying solo. After returning from wave soaring the pilot – encountered heavy sink which caused him to undershoot. The glider hit a hedge which initiated a groundloop.

144	K-13	–	None	–.9.94 100	Incident Report	38 P2 0	None None	460 0

At 1500ft P2 was allowed to attempt the aerotow for the first time. He flew high, realised this, and lowered the nose to recover. P1 prompted "check back" as the normal position was reached and P2 responded by pulling back hard. P1 took over and released as the glider climbed well above the tug whose pilot on reaching full back stick also released.

145	Me 7	–	Minor	14.9.94 1910	Parham	54	None	1900

The demonstrator was evaluated by several experienced pilots who noted that the canopy mechanism was rather stiff and needed checking fully locked. This pilot, who had not been informed of this, satisfied himself that the canopy was secure but it flew open at speed. It is possible that the front hinge was not correctly located during rigging.

146	K-13	2944	Minor	14.8.94 1500	Gransden Lodge	38 P2 38	Minor Minor	432 0

The early student was using the stick and P1 was controlling the airbrakes when, at 100ft on finals, P1 prompted "watch your speed" as they were entering the wind gradient. P2 responded by pushing the stick forward and the glider pitched down steeply. P1 closed the brakes but was unable to grab the stick in time to prevent a heavy, short landing.

1	Nimbus 2c	3806	Minor	24.10.94 1200	Aboyne	63	None	2668

The pilot had soared in wave nearly 20 000ft. All appeared normal apart from a sharp knock felt through the airframe at about 3-2000ft on the descent. Minutes after landing there was a cracking sound as the wing leading edge collapsed due to a partial vacuum in the ballast tanks. At some time the tank vents had been sealed closed.

2	Astir CS77	2480	Minor	26.10.94 1600	Rufforth	?	None	29

On his second flight on type the pilot had to land into sun. He landed to one side of the grass runway in a patch of rough ground that would normally have been obvious but for the glare. After a normal landing the glider hit a concrete slab and the undercarriage collapsed.

3	K-13	3550	Subst	15.10.94 –	North Hill	58 P2 –	None None	1721 0

The student was briefed on a spiral dive exercise that would result in a loss of height, then a change in landing direction for a hangar landing. This was carried out well but the glider ran on after landing and P1 was unable to stop it before it hit the hangar. The glider had a nosewheel and he discovered the wheelbrake was not working.

4	Me 7	4060	Minor	28.10.94 1205	Long Mynd	58	None?	

On his fourth flight on type the pilot tested the glider in stalls, tight turns and spins. The final spin, to the right, resulted in the canopy coming unlatched and shattering as it hit the wing. A normal spin recovery and circuit were flown, albeit with some buffeting. A weak locking spring mechanism may have caused the inadvertant opening.

5	T-61 Venture	M/G G-BUFP	Minor	9.10.94 1605	Currock Hill	70 P2 56	None None	539+ 1082pwr 39

After a normal approach, with the throttle closed, the motor glider's tail wheel touched before the mainwheel causing the aircraft to pitch forward, hitting the propeller on the ground.

6	Astir CS77	2318	Minor	06.10.94	Aboyne	56	None	333

The pilot descended into the circuit with the brakes out and did not notice the (quiet) gear warning buzzer. During the turbulent circuit he failed to carry out his downwind check list. A ground radio call was made to him early in the circuit, with no reponse, so no further distracting calls were made and the glider landed with the wheel up.

7	Ventus BT Self/S 3568		Minor	11.10.94 1600	Aboyne	52	None	1000

The pilot was looking for wave and appears to have forgotten to raise the wheel. In the circuit he put the wheel up and did not carry out thorough downwind checks which may have alerted him and so landed with the wheel up.

8	ASW-19B	2760	Minor	08.10.94 1118	Aboyne	51	None	204

The pilot made a normal touch down and landing on a smooth tarmac runway but after 50 yards the undercarriage collapsed. The gear lever was found to move easily out of the locked position and it was considered that an inadvertant touch of the handle or a firm landing could overcome the overcentre lock.

9	SZD Puchacz	3510	Subst	23.10.94 1035	Saltby	– P2 47	None Minor	720 466

After a series of aerobatic manoeuvres P1 was demonstrating spin recovery when the canopy opened but remained attached. The pilot eased carefully out of the recovery dive and was able to partially close the canopy before landing safely. It was considered that either the canopy catch had been knocked or had worked loose.

10	PIK 20e	?	Minor	15.11.94 1500	Talgarth	32	None	113

The pilot was instructed to tow to a particular ridge but elected to release at 800ft before reaching the main ridge in what he thought was good lift. He found no lift and couldn't reach the airfield so chose a pasture field and landed crosswind, hitting a sheep and a fence.

11	LS-4	–	Subst	–.10.94 1630	Incident Report	21	None	380

The glider was being towed back to the trailers in failing light. Contrary to airfield rules the driver cut across the line of the winch launch cables. The glider was suddenly wrenched around as the cable was wound in and the wing smashed into the car.

12	MS893 Rallye Tug	G-AVTV	W/O	27.10.94 1200	Feshiebridge	57	None	–

The pilot started the tug's engine ready for a ferry flight as soon as the weather cleared. The engine started and the aircraft moved forward despite the brakes being on. The pilot taxyed but soon noticed that the wet brakes were not working and the visibility was bad. The wing caught a tree and the aircraft rolled down a steep bank into trees.

13	Bocian 1E	–	None	–.12.94 1122	Incident Report	52	None	1300

The first winch launch of the day was taken in light wind conditions. At 1200ft the cable broke as the glider encountered a stronger crosswind and the short length of cable with the 'chute attached landed across power lines causing a short circuit. A smaller 'chute, normally used in stronger winds, will now always be used.

14	Bocian	2242	Minor	27.11.94 1151	Portmoak	40	None	551

The glider was being winch launched when, at about 400ft, there was a bang and a loss of airspeed. The pilot landed ahead safely. The hook mechanism had broken out of the aircraft keel, triggering the release. The left edge of the mounting plate indicated that the rotten wood had been present for some time.

15	K-8	3722	W/O	1.1.95 1430	Upwood	60	None	200

Prior to the winch launch the normal "airbrakes closed and locked" check was missed and they were open all the way up. The pilot failed to notice this and despite a landable field ahead tried to turn back to the airfield. He could not pull up over a 10ft fence and wrote off the glider.

16	K-13	1611	Subst	24.12.94 1448	Lleweni Parc	42	None	280

The visiting pilot flew solo in wave after a good check flight and briefing. Too late he realised that he could get back to the airfield so selected a landing field. On finals he noticed that there were power cables across the boundary, so pulled up to avoid them and landed long. The field sloped downhill and the glider ran into the far hedge.

17	SZD Puchacz	–	None	–.12.94 1100	Incident Report	38	None	78

At 2000ft the pilot pulled the cable release and turned back towards the airfield without checking the rope had gone. The tug's tail was pulled up until the nose was pointing straight down. At this stage the tug pilot pulled the release and recovered to normal flight. The hook was found to be worn but would not reproduce a hang up fault.

18	SZD Puchacz	–	None	–.1.95 1438	Incident Report	16	None	34

At about 800ft on the aerotow the pilot heard a loud bang from the empty rear cockpit so radioed to be released over the airfield. The ASI appeared to be misreading but the glider was landed safely. The rigging tool was found laying on the rudder cables having fallen off the rear shelf and the ASI failure was the result of a loose connection.

19	T-21	–	Minor	3.1.95 1300	Connel	– P2 –	None None	– –

When the winch went from "take-up slack" to "all out" the engine hesitated, due to water in the carburettor. The glider overran the cable and back released. As the wing dropped the drogue parachute jerked forward catching and damaging the left aileron.

20	SZD Junior	4070	Minor	6.1.95 1130	Pocklington	67	None	22

After normal canopy checks, pushing up, the pilot started the winch launch. At about 1000ft the canopy flew open and shattered. Holding the canopy frame shut, the pilot continued to 1700ft and confirmed the handling was normal before making a safe landing. The club felt that it was possible the catch had been inadvertantly knocked open.

21	SZD Puchacz	3658	None	24.11.95 1400	Husbands Bosworth	34 P2 –	None None	800 0

During a spin recovery P2 opened the airbrakes at about 80kt to avoid any overspeed. Regaining a climbing attitude, P2 found he could not close the brakes which were about a quarter open and not connected to the lever. Turning back to the airfield the brakes came fully open but a safe landing was made. The cross-fuselage tube joint had broken.

22	SZD Junior	3951	Minor	3.1.95 1400	Camphill	66	None	134

The pilot released from the winch launch at 700ft due to low cloud. He turned downwind but lost sight of the airfield and found he had overshot by about 200 yards. He landed heavily in a steeply up-sloping field and groundlooped.

23	Std Libelle	1678	Subst?	8.1.95 1515	Camphill	46	None	1338

After the glider had climbed to about 30ft the winch suffered a power failure and so the pilot landed straight ahead. The winch driver carried on winding in the cable after the glider had stopped with the result that the cable 'chute caught on the tailplane. The glider was sharply pulled around, breaking the fuselage.

24	Nimbus 2B	4121	Minor	9.2.95 1500	Burn	45	None	550

The initial acceleration on the winch launch was rather slow but the pilot held on until at 48kt he rotated and became airborne. The speed immediately began to fall and at about 30ft he released. In error he opened the brakes before recognising the already high rate of descent and closed them too late to prevent a very heavy landing.

25	Bocian 1D	–	None	–.2.95 1620	Incident Report	– P2 –	None None	– –

On the third flight of the day the visiting pilot was carrying out his pre-take-off checks with the airbrakes when the lever broke off in his hand. The lever had failed at the weld connecting it to the actuating crank. Fatigue brought on by overstraining over a period of time resulted in the failure which was not visible in the normal DI.

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CLUB NEWS

Phil Pickett of Stratford on Avon GC photographed the Dart 17 he and his syndicate partner Mark Parsons (with his back to the camera) spent around 400hrs reburbishing, giving it a finish described as "like glass."

Above: Heather Tucker enjoying her flight in the Bath, Wilts & North Dorset GC's Bocian. Below: Jane Brodie of the Highland GC after going solo with instructor Robert Tait. Photo: Angela Veitch.

Copy and photographs for the December-January issue of S&G should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 01223 247725, fax 01223 413793 to arrive not later than October 10 and for the February-March issue to arrive not later than November 28.

GILLIAN BRYCE-SMITH *August 16*

AQUILA (Hinton in the Hedges)
Tony Limb (LS-4) is the first member to fly Diamond distance from Aquila. Bob Johnston has his 300km and John Batch part I of the 100km diploma. Ed Chalk, Mike Oggelsby, Richard Collings and Len Wray have Silver badges, Ed with a distance, Mike 5hrs and heights for Richard and Len. Silver heights were also flown by Bob Broome, Colin Allender, John Culley, Ian Hammonds and Andrew Preston who, with John Perry, has both Bronze legs with one for Neil Lamberton.

Andy Saunders went solo in 23 flights and flew both Bronze legs and Silver height within the next three flights. Iver Hansen and Gauthier Dubois have gone solo and Gauthier has a Bronze leg.

Cranfield University's Pirat and Bocian is on site which members may fly. We have hosted two Inter-Club Leagues with some good results.
S.K.

BATH, WILTS AND NORTH DORSET (The Park)
We have sold our K-7/13 to Perranporth and a second Bocian is going to Poland for refurbishment. For the third year running we ran a successful three day course for schoolchildren from Trowbridge. We now have several junior members.

There has been a large expedition to Le Blanc with another to the Mynd in October. Jean Whyte, Peter Field, Paul Salter and George Kamp have Silver badges; Bill Niblett, Kath Jeffery and Simon Northway Bronze badges and Mike Barter (Bath University) has gone solo.

Heather Tucker, who is blind, was taken for a flight in our recently overhauled Bocian. She enjoyed it so much that she didn't want to land and even tried the controls.
J.L.

BICESTER (RAFGSA Centre)
We continue to move forward with plenty of safe, fun and progressive gliding, with all aspects of the weekend operation now run and maintained by the members.

Notable flights were the first UK 1000km, flown by Chris Rollings and Chris Pullen (see p280), and a 750km by Pete Stratten. Numerous tasks as well as a crop of Silver legs and solos are filling the club ladder.

Our 1996 midweek flying programme has been produced and we look forward to the mutual benefits of flying alongside various BGA courses for part of the year.
P.S.

BLACK MOUNTAINS (Talgarth)
Derek Sims has gone solo and John Clarke is our new AEI. We have had wave to over 10 000ft (not bad for the summer) and a steady progression of visitors have enjoyed some fine soaring.
D.U.

BOOKER (Wycombe Air Park)
We have much to celebrate from first solos to the fantastic 1000km by Chris Pullen and our own Chris Rollings (see p280). Also on July 22 Dave Caunt (Nimbus 2) flew 750km - his fourth flight to exceed 700km - and Phil Ennis (BBC Pegasus) and Ian Lingham (Astir CS) flew Diamond distance with Diamond goals for Derek

Below left: York GC's Tony Lee after his 5hrs and Silver height in the club K-8. Below right: James Warren of Devon & Somerset GC after his first solo.

Maureen and Barry Meeks with the French Revolution bicentenary plate presented to them by the Mayor of Chauvigny at the annual dinner during their tenth gliding camp in France. Photo: Bernard Smyth.

Jeff Homan after his solo at Newark & Notts GC with his instructor Danny Goldsworthy.

Clare Smith, aged 17, with her instructor Jim Tyler after soloing at Stratford on Avon.

Above: Burn GC's K-13 fitted with a "light" intercom. From left to right the inventor Andrew Jackson, pilot Ken Chatburn and instructor Austin Craw. Photo: Paul Newmark. Below: Ian Teugh, one of Deeside GC's youth scholarship pupils, photographed with resident instructor Mike Law after going solo.

Above: Anna Sheldon (Wolds GC) after Silver distance in the club Junior. Photo: Dave Tagg. Below: Clive Brain (left) with his instructor, Joe Acreman after going solo at Mendip GC.

Staff (K-6), Hilary Luxton, Jane Moore, Mike Richardson and Guy Sutherland.

Allan Birchmore, Dawn Darling, Colin Green, Alun Jenkins, Steve Payne and Bob Sinden have Silver badges. Richard Garner (16 year-old cadet) flew 5hrs and after four first solo flights BBC bursary student, 17 year-old Nick Gilbert, separately gained Bronze legs and Silver height.

Trial lessons and launches are up on last year and the South African expedition is virtually full.
R.N.

BORDERS (Galewood)
Some of our recent solo pilots are doing well, with Bronze badges, Silver heights and 5hrs.

Mike Charlton flew Silver distance in his Dart after re-soloing recently.

Our negotiations with the Gas Board are gathering momentum and it looks almost certain that we will be moving back to the site of the old wartime aerodrome.

The new site should offer us more take-off/landing runs, as there will be more into wind options. We still have a long way to go in negotiating compensation options for the move but at least we are starting to talk.
R.C.

BRISTOL & GLOUCESTERSHIRE (Nympsfield)
The last two months have seen notable achievements by members at all levels. There have been a dozen solos and Jackie Lemin has progressed from first solo to Silver badge this summer.

There were nine badge claims during the successful early August task week.

The Macfadyens flew a combined 1300km on Saturday July 22, Tim (ASW-20) completing his second 750km (this time with photographs) and Geralyn (Sport Vega) claiming the women's UK triangular distance record with 525km.
J.F.B.

BURN (Burn Airfield)
Visitors will be pleased we have carried out further runway repairs and brushing operations.

Roger Idle, Alan Jenkins and Andrew Jackson have Silver badges, Alan and Andrew completing theirs during the August task week.

Ken Chatburn, in his 80s, is our oldest member flying solo. As he is hard of hearing and to allow him to continue to fly, Andrew Jackson devised a lights system for the K-13 so the instructor can communicate with Ken during check flights. (See photo on p293.)

Our experiment, for the sake of standardisation, using Avgas for the Tost winches was unsatisfactory so we have reverted to four star.
P.N.

CAMBRIDGE UNIVERSITY (Gransden Lodge)
Mike Young won the Standard Class Nationals with Phil Jeffrey 2nd. Phil (LS-7) is claiming the UK 100km triangle record in all three Classes (15 Metre, Standard and Single-seater) with a speed of 134km/h on August 8.

Geoff Glazebrook, Steve Cooke, Richard Maisonpierre, Andy Walford, Alistair Murray and Rob Bryce-Smith have flown 500kms. Penny Longland flew an admirable 300km in her K-6E. Cloudbases up to 9500ft have contributed to many other successful badge flights.
K.B-S.

CHILTERNS (RAF Halton)
Michelle Davidson, Colin Barton, Kerry Mulvey and Ian Patrick have Bronze legs; July Pead, Anthony Bailey, Don Knight, Kerry Mulvey and Peter Walton Silver heights; Dave Sale his 5hrs and Dave Henson and Don Knight Silver distances. Don has also become a BGA inspector.

A T-21B is being refurbished and we have had many hours soaring the T-31, Prefect and the replica Falcon.
I.P.

CLEVELANDS (RAF Dishforth)
We have been enjoying the good weather with increased flying - two dawn starts instead of the usual one, and many other early days and a very successful season of evening visits.

With wave and sea breeze fronts as well as thermals we have been spoilt. Bod Blanchard and Carl Halford have Silver height; Harry Birch and Doug Stewart Gold height and Robin Sinton Diamond height. Dick Cole did 550km in the Ventus, then Derek Smith took it to 4th place in the Northerns.
J.P.

CONNEL (North Connel Airfield)
So far the high point has been the visit in May by Fulmar GC with four gliders, their Super Munk tug and a Motor Falke. Angie Veitch (Highland) came with her Astir, and David Brown (Feshiebridge) with his Cirrus. The 16 visitors and 15 of our members had 174 launches and the 11 gliders and motor glider flew for 221hrs.

Badge legs included Bob Brownlow's Diamond height of 19 200ft which demonstrated the true potential of our site. We must not forget the dawn to dusk catering by Fulmar's Julie and Karen and the organisation by John Hall (Fulmar) and our chairman Bill Miller.
R.W.

CORNISH (Perranporth)
The perseverance of some course members has paid off with Roger Townley, Martin Kelly Nigel Golding going solo, Nigel on his first course.

Club member Alan Redington has soloed and Alan Kingsbury has a Bronze badge.

The weather was unusually good on both days of our open weekend in July when we also celebrated winning our appeal for the airfield at the public inquiry. (See BGA News.)
S.S.

COTSWOLD (Aston Down)
Solos have been flown by Martin Chudley, Kate Hunter and Keith Simmonds. David Briggs and Frank Birlison have flown Gold distance/Diamond goals and Mike Oliver and Gary Fryer have Diamond distance.

During one week's course, instructed by Howard Johns, every student soloed. Cotswold have won the Rockpolishers again, securing a place in the Inter-Club League final at Aston Down on the August Bank Holiday weekend.

The first phase of the building programme has given us gents' toilets and showers that will be the envy of every UK gliding club. Work is in hand for the ladies' facilities as soon as possible.
M.S.

CRANWELL (RAF Cranwell)
After poor weather July's upturn has resulted in quite a few achievements. Theresa Browne, Mark Heselwood and Dempster Hamilton have Silver badges; Gareth Ferguson, Stephen Langford, Mike Jackson and Belle Cummings Silver height and Bronze legs; Pete Clarke 5hrs; Phil Nix resoloed after a 12 year lay off and Guy Phelps went solo.

In an effort to increase Service membership we recently offered RAF personnel the opportunity to sample gliding during the annual sports day at RAF Cottesmore, combining operations with Four Counties GC for the day.
L.F.

DEESIDE (Aboyne Airfield)
Ian Teuch, one of our first youth scholarship pupils, has gone solo, as has Grant Williams who also got 5hrs and Gold height. Duncan McKay has a Bronze badge; Bill Watson a Silver; Susan Waring has Gold height and Ian Henderson Gold distance/ Diamond goal.

June saw us at 21 000ft.
G.D.

DERBY & LANCS (Camphill)
Arran Wheeler flew Gold distance/Diamond goal; Andrew Hawton, Mark Lowey, Julian Patrick and Graham Barlow have gone solo; Dave Hines has a Bronze badge and Bryan Hamlet an AEI rating.

The courses, evening groups and the open weekend have been successful with new members recruited.

We celebrated our 60th anniversary in style with friends from Darmstadt, Germany, and Troyes, France, having a barbecue, brass band and dancing in the hangar - a memorable occasion. We have enjoyed good cross-country days and wave flights to 17 000ft. We have two new gliders on site, a Cirrus and ASW-19.
W.T.

DEVON & SOMERSET (North Hill)
Excellent weather has produced a host of new solo pilots - Julie Minson, Gilly Hodds, Luke Roberts, Dave Edwards and James Warren.

Our first air experience weekend in June went well with over 100 flights on the second day with the T-21 much in demand. It produced a number of new members as have the very successful summer courses. Marion Dean has her 5hrs and Mike Sloggett his 50km.
S.C.L.

DUKERIES (Gamston Airport)
David Clarke, Peter Uden and David Urpeth have AEI ratings and Paul Etherington has joined us as an assistant instructor. Geoff Birks and Lance Swannack have both Bronze legs.

The weekend of July 29-30 was one of the most successful in the club's history with Mark Etherington, Craig Hobson, Peter Storey and Lance Swannack achieving 5hrs; Glenn Barratt and David Prosolek Gold distance/Diamond goal and David Clarke a 100km triangle.
J.C.P.

Obituary - Dennis Barratt
We record with sadness the death of Dennis Barratt, one of our instructors, who died in July

after a long and brave struggle against cancer.

Dennis joined us in 1989, having previously flown with the Doncaster GC. He quickly became an assistant rated instructor and could always be relied upon to turn up on his duty days regardless of the weather.

In his quiet and unassuming way he inspired confidence and everyone enjoyed flying with him. He was a man with wide interests who played an important part in the success of the club's flying. We shall miss him and convey our deepest sympathy to his widow Pamela and their two daughters.

Tim Bowles

EAST SUSSEX (Ringmer)

The hot weather, the new winch and new hangar are giving us more flying time for less effort. We have just completed our annual flying week and our evening flying continues to introduce visitors to gliding.

Steve Jarvis, Geoff Reeves and Granville Davies have Bronze badges; Steve Smithers Silver distance and Andrew Willig and Mike Macefield have gone solo.

J.W.

ENSTONE EAGLES (Enstone Airfield)

Robin Pearce-Boby, a long standing member, has been awarded the John Hands trophy for services to competition gliding. For many years Robin has successfully co-ordinated various Enstone competitions, in particular running the finish line ground to air radio operation.

John Nicholson has a Bronze badge and Turan Turan his Silver. Tim O'Sullivan flew 50km and Andrew Tristram Silver height and duration.

The Brennan family have imported a newly refurbished K-6cR from Belgium.

We held a barbecue in August and many members helped run the 15 Metre Class Nationals in July.

L.B.

ESSEX & SUFFOLK (Wormingford)

Some said it was impossible to have a winch launched Inter-Club League competition but we had a truly excellent weekend with even 1000pts on the Sunday for the Intermediates.

We have converted our winch from petrol to LPG, making it cleaner and more economical.

We are awaiting the outcome of our planning application for additional flying on one day and two evenings a week and some extra flying weeks throughout the year.

Stan Stanage and Alan de Tourtonlone have resoloed after a long break; Ralph Miller has gone solo and Bryan Smith, Victor Francis, John Friend, Andrew Wilson and Mike Benson have Silver badges. Our flying week was a huge success with several distance flights and 300km for Andy Sanderson in the club Pilatus B-4.

We always welcome visitors any weekend.

C.B.

FENLAND (RAF Marham)

May gave us some excellent soaring and produced the highest ever number of hours flown in a month. Caroline Mayo and Chrissy Thomson have Silver heights and Stew McQuillan a Bronze badge. Alex Lascelles-Hadwen has an AEI rating and Del Ley has flown a Diamond goal to complete his Gold badge. DCFI's Al Raffan and Al Thomson are holding the fort while CFI Rhod Evans is away for a few months.

A.R.M.

FOUR COUNTIES (RAF Syerston)

We have had several 300kms including Steve Walker's Gold distance/Diamond goal. Mark Paddock, Mark Sheppard, Steve King and Kirt Oliver have gone solo; Steve Mason has a Bronze leg and Sam Heys completed his Silver badge with 5hrs.

RAF Cottesmore's open day was a great succes and with the help of Cranwell we achieved over 80 aerotows for the day.

On July 29 the Janus flew four 105km tasks, Al Garrity and Nick Aram at 90km/h.

D.M.R.

FULMAR (RAF Kinloss)

The season started well with excellent gliding during our expediton to Connel. Bob Brownlow flew Diamond height and Otter Smith his 5hrs.

Jacky Pratt, Ian Murray, Marty Keenam and Michael Townsend have gone solo with Angie Veich (from our sister club, Highland) soloing in the motor glider. Eddie Pratt and Iain Keylock have AEI ratings - we wish Iain a speedy recovery from a rock climbing accident.

Our AEI evenings are very successful.

J.P.

GLYNDWR (Lleweni Parc)

There were Diamond heights on different days in July for Jim Lynchehaun (19 000ft) and Dave Osborne (19 700ft). Mike George and Derek Heaton have soloed as have North West Students' GC members Andy Prangley, Walter Baumann and Mark Wheatley. Neil Kye completed his Silver with 50km and Rob Vaughan flew 148km. After only 14 solo flights Joss Pennant flew 5hrs and Gold height; Alan Smith has a Bronze leg and Ian Skinner an AEI rating.

Visiting clubs - don't forget to 'phone us on 01745 813774 to book for autumn wave flying.

B.L.

HIGHLAND (Easterton Airfield)

This is a "ladies year" at HGC. Jane Brodie has joined Vicki and Helen Chalmers by going solo, Vicki and Helen also gaining Bronze legs. Anne Burgess and Jill Matthews completed Silver badges with distance flights, Jill also gaining Gold height in June.

John Maclean has Silver height. Steve Young's Ventus turbo joins the private fleet. Our next "ASH week" is the first week of October.

A.G.V.

ISLANDERS (Hall Caine Airfield, Isle of Man)

Although Jurby airfield remains available to us, a massive 260% rent increase for our corner of the government owned hangar has forced us to move to a new site. Since January the usual crew have been preparing the former, pre-war, Hall Caine Airport at Close Lake Farm, two miles from Ramsey.

A small building is being erected to house the trailered aircraft and we now have to rig before flying. Unfortunately the tug will still have to be hangared at Jurby until we can make other arrangements. Intending visitors please ring the secretary on 01624 816550.

July 4 saw our first launches from the new site, which included a first solo by Mark Lees. Mark bought a flight we donated to a charity auction and liked it so much he promply joined us. He is our first solo pilot with no previous flying experience whatsoever.

B.G.

LAKES (Walney Airfield)

We recently celebrated the 30th birthday of our Capstan with a party in its honour. A K-8 has been added to the club fleet bringing the total to three two-seaters, three single-seaters and six private gliders.

During the expedition to Thouars, France, in June Peter Redshaw out flew everybody, completing 3000km in 13 flights. Peter Lewis had the farthest land out, 200km, with an 8hr retrieve.

Dave Bull, Alan Dennis and Martin Lewis have AEI ratings; Roger Copley a Silver badge and Mark Johnson and David Poole have gone solo.

A.D.

LASHAM (Lasham Airfield)

On July 22 750km was flown by Alan Purnell, Chris Starkey (Surrey & Hants GC) and the Jones family, father Ralph and sons Phil (taking off from Norfolk) and Steve. Ray Whittaker flew 300km in a Swallow and his son David went solo on his 16th birthday.

When our manager, Phil Phillips, married Kathie Burton in July there was a fly past of a Cub, Pawnee, RF-4 and Phil's own home-built Sirocco in box formation.

The fixed doors at the Western end of the main hangar are being replaced.

A.M.S.

LINCOLNSHIRE (Strubby Airfield)

John Kitchen has taken over as CFI from Dick Hannigan. John is the first person in the club to have progressed from first solo to CFI. He has been replaced as secretary by Angie Hearney.

Alan Scoffin has resoloed after a break of eight years. Mike Collier has also gone solo. Diane Skerry, Dave Fenn, Dave Draby, Paul James and Kath James have two Bronze legs and Derek Woodforth and Diane Skerry have Silver heights. Angie Hearey completed her Silver badge with a 5hrs having flown 4hrs 50min the week before.

R.G.S.

LONDON (Dunstable)

The excellent weather in July compensated for a modest June, with a great increase in cross-country flying. Last year's surge in membership has fed through to produce a similar demand for the club single-seaters and at least six new syndicates are being formed.

To some annoyance, the clubhouse has been listed as an Historic Building, Grade Two. This may allow us to obtain grants for repairs, but ties our hands with any modifications.

Our beautifully restored Robin tug has been towing in competitions and has toured as far afield as Dublin.

There are autumn expeditons to Aboyne and Talgarth.

R.C. ➡

Left: Derek Piggott (centre) takes time off from lectures at Norfolk GC to start a land yacht race, a sport taking off fast with sailing when there isn't any flying at Tibenham. Right: Some of the pilots who joined the aerobatic course run at Sackville GC by Chris Pollard and Ray Stoward.

Above: David Randall (centre) with CFI Derek Sear (left) and instructor Rod Ward after going solo at London GC.

MARCHINGTON (Tatenhill)

While June was disappointing July was nothing short of outstanding with a clutch of badge claims. Phil Derbyshire has gone solo; Andy Walsh, Bill Ulytt and Bill Mac completed Silver badges; Nigel Duke flew 5hrs and Grant Williams has his Bronze. The cross-country pilots started to bash the club triangle with the longest flight on the club ladder so far being a 280km by Gareth Lawley (Mosquito).

We have had two very successful flying weeks and numerous weekday evening courses. We are a friendly club with a modern fleet and plenty of flying with a warm welcome to visitors on Wednesdays and weekends.

I.N.R.

MENDIP (Halesland Airfield)

Clive Brain has gone solo and Mike Ponting has resoloed. Dan Lodge has a Bronze leg, Stuart Mills and Keith Simmons Bronze badges (Stuart also his Silver height) and Paul Croote flew the season's first 500km from Halesland.

The Vale of White Horse GC won the South Western Inter-Club League.

P.J.R.H.

Above: Paul Fritche of Southdown GC, with his wife Caroline, celebrating after winning two Regionals.

Below: The start of the day at Nene Valley GC, RAF Upwood, with gliders queuing up to be launched.

Below: Early morning activity at East Sussex GC, Ringmer, in front of the new hangar and winch.

Below left, Devon & Somerset GC's air experience weekend with, l to r, Simon Jordy, Joe Acreman, Mike Fitzgerald, Dick Wolfe and John Street. Centre and right, two Strathclyde GC pilots - Jane Nally about to fly a Bronze leg and Andy Shearer after going solo.

MIDLAND (Long Mynd)
Our courses are well booked, members enjoying good flying during the week. The weekend weather improved dramatically on Saturday, July 22, with 2600km flown, including one 500km and several 300kms. We have added a Discus to the club fleet.

David Moore has soloed. Andy Holmes and Howard Whittaker have Bronze badges; Eric Alston, Steve Male, Alan Meyhew and S. Weitzel have 5hrs and Brian Connaughton, Roger Copley and George Crawford Silver distances.
A.R.P.

NENE VALLEY (RAF Upwood)
We had hot weather for the annual task week with numerous solo and dual cross-countries. More than 2600kms were flown during the first six days with many badge claims.

John Young, DCFI, achieved what we believe to be a site record with 12 000ft in the club Junior, the last 4500ft in cloud. Other achievements were Diamond goal for Dave Bourne; 100km diplomas for Nigel Perry and Martin Reynolds; 5hrs for Ted Dickerson and Frank Lock; Silver badges for Steve Codd, Dave Mansfield and "Taff" Turner and 50km flights for Tony Gardiner and Brian Palmer. Many flew Bronze legs and Silver heights and had aerotow experience when a tug was brought in for a day.

We are progressing well with an enthusiasm for cross-country flying.
R.T.

NORFOLK (Tibenham Airfield)
We made the most of the excellent weather on July 22 with three Diamond goals (Terry Cooper, Dave Munro and Bonnie Wade), two 500kms (Norman Clowes and Brendan Sargeant) and a 750km by Phil Jones, the first from Norfolk. David Blyth flew Silver distance, Billy Middleton 5hrs and there have been several Bronze legs.

Two 16 year-olds, Giles Fowler and James Harrowven, have gone solo, as has the somewhat older Dudley Seymour.

We were all saddened by the death of our own Alfred Warminger, who has been an inspiration to many of us here at Tibenham. We send our deep sympathy to his family. (See BGA News.)
B.W.

NORTHUMBRIA (Currock Hill)
We have been given the opportunity to buy the site from the Coal Board. In response we have made a bid to the National Lottery for funds and also hope to gain a new winch in the process.

After a gliding promotion at the Metrocentre, we had a successful open day and flew over 100, gaining ten new members.

Andy Herbert, Norman Parry and Neil Abrahams have gone solo and the usual good June wave made a Silver height possible for Paul Stafford and gave many climbs in excess of 15 000ft.
P.S.D.R.

NORTH WALES (Bryn Gwyn Bach Farm)
We have had some good wave days despite the prevailing easterlies. Course and visitor numbers are on target.

The Inter-Club League has given our cross-country pilots good experience with many tasks completed and some badge claims.
P.C.

PETERBOROUGH & SPALDING (Crowland Airfield)
The good weather has given many achievements from 300kms to Silver legs. Everyone has just enjoyed the annual flying fortnight culminating in us successfully hosting the Inter-Club League with a barbecue on the Saturday night.

We are missing Snoopy. He was whisked back to Tibenham by DG-500, rescued and then recaptured.

Patrick Sim and Nick White went solo on the club's first course week in July. More courses will be run as demand dictates.
S.C.F.

SACKVILLE (Riseley, Beds)
We hired the BGA Puchacz for a week of cross-country flying and further spin training and combined this with an aerobatic course run by Chris Pollard (Tibenham) and Ray Stoward (Dunstable). These two instructors, who not only showed us some things that we did not think could be done in gliders but also by their enthusiasm and good humour, gave us a most enjoyable long weekend.

The CFI has just returned from six weeks of working and flying in New Zealand. The long awaited Lak-12 has joined the privately owned fleet. Visitors may now fly our entire club fleet for a modest £10 per day plus launches.
D.C.W.

SCOTTISH GLIDING UNION (Portmoak)
The summer has produced some magnificent days. Philip Johnston, a cadet, went solo on his 16th birthday; Ronan Murphy and Gerry Marshall have Silver distances and Ian Trotter and George Ross have AEI ratings.

Courses have been very successful with numbers well up on last year. A new custom-built launch van is on site complete with CAA approved radio equipment to provide better communications. We are planning to have a new two-seater, hopefully next year.
G.S.G.

SHENINGTON (Shenington Airfield)
Robert Goodger, Julian Harman, Jim Evason, Chris Delahunt, Sid Glazzard, Chris Palmer, Mike Daborn and Michelle Pennington have Bronze legs. Jacqui Miles has Silver height; Stuart Meier Silver distance; Bob Playle Silver distance and height and Sean Badby a Silver badge. John Whiting and Steve Bradford achieved Gold distance/Diamond goal.

Terry Herbert has an assistant instructor rating. We now have a professional caterer, Lou Kennington.
T.G.W.

SOUTHDOWN (Parham)
The hot summer has led to an upsurge in cross-countries with Paul Hampshire flying a splendid Gold distance in his K-6e; Paul Marriott (Discus) Diamond distance with 525km; Michel Carnet flew 514km and Brian Bateson and Les Beale 502km in the Duo Discus.

Mo Davis has Gold height; Mike Allen the 100km diploma and a Silver badge with solos by Matthew Brown, Richard Denyer and Kevin Elliott. Paul Ray has a Bronze badge; Steve Thompson his Silver; Ian Ferguson a 5hrs and Andrew Jarvis, on his first cross-country, flew 200km and gained all three Silver badge legs.

Paul Fritchie won the Eastern Regionals and Lasham Regionals' Group B with Sue Hill, 4th, Michel Carnet, 5th and Guy Westgate 6th.

We ran our first public courses with planning and organisation by Chris Hancock.
P.J.H.

STAFFORDSHIRE (Seighford)
We have had a lot of unserviceable aircraft and equipment this season. Without the help from junior members and our much put upon technical officer, our operation could have been badly affected.

John May flew 100km; Andrew Kirkland, Geoff Oultram and Jon Taylor have Silver badges and Alice May, James Fisher and Jon Richards gained Silver distances. Simon Watson, our newest instructor, is the first to achieve Diamond goal from Seighford.

The *ab-initio* week was well attended with Don Craven and Derek Tildsley going solo.
J.R.

STRATFORD ON AVON (Snitterfield Airfield)
Derek Bennett has an AEI rating and we have the longest list of solos for many years including Tim Duckett, Derek Batchelor, Lee Ingram, John Lowe, Paul Simmons and Clare Smith. Clare (17 years-old) now has two Bronze legs and Lee (18 years-old) a 5hrs and Bronze badge. Bill Tromans has 5hrs and Silver height in the club K-8 which Alan Wright flew in very adverse conditions to the Long Mynd.

Phil Pickett flew Gold distance/Diamond goal in his beautiful Dart-17 and Barry Monslow, Maurice Noxon and Nigel Spedding have Silver badges.

The club open trailer has been completely refurbished with a new floor and fittings thanks to Derek Phillips, Chris Wooller, Vernon Brown and Colin Bushell.
H.G.W.

STRATHCLYDE (Strathaven Airfield)
Andrew Shearer has gone solo and Jane Nally is our first female Bronze badge pilot.

Expeditions to Lithuania and the Long Mynd produced some good flying. The open weekend was a great success, with many visitors flown.

After 14 years as CFI Des Tait, who is leaving for Derby, has handed over to Nigel Jennings.
M.R.

SURREY HILLS (Kenley Airfield)
Dennis Henley, who has been gliding for some 23 years, has been made a life member in recognition of his hard and unselfish dedication to the club. He has been our winch master for several years and has recently built a winch.

Chris Fletcher and Vic Walker have gone solo, Vic with a 23min flight. Peter Poole is handing over as CFI to Steve Dawes.

We are looking for a double decker bus as a launch point control. If you can help please call us on 0181 7630091.
D.W.

THE SOARING CENTRE (Husbands Bosworth)
Our Regionals were a great success with eight contest days and 46 gliders. We have been well represented in Regionals and Nationals with our pilots doing notably well in the 15 Metre Class Nationals and the Eastern Regionals.

First solos include Paul Treadaway and Linsey Devey with Silver distances by Martin Lee, Anthony Hawkins and Carol Steadman amongst others, and first 300kms by Carl Buzzard, Richard Johnson and Chris Glover.

We have bought the BGA's well instrumented Puchacz and we have a Duo Discus and ASW-24E on site. Despite not getting a grant, we are improving the new caravan park behind the club-house on land we have recently bought, with proper roads, electricity and water.
T.W.

THRUXTON (Thruxton Airfield)
After a poor spring the fine summer has brought an increase in launches. Martin Jones and Patrick Thorne have soloed; Patrick, who soloed shortly after his 16th birthday, gained a Bronze leg at Le Blanc. The expedition also resulted in many enjoyable flights with several hundred kilometres flown.

Mark Lomas has made his Swallow available for club use. The private fleet has been joined by a PIK 20B owned by Mel Ireland, Steve Lambourne and Paul Mayle.
P.J.C.

TWO RIVERS (RAF Laarbruch)
Good August weather has given some claims. Tim Dickinson (Ventus) nearly caught Al McNammara (Astir) during their 300km goal flights.

Poor weather earlier reduced the "mini Comp" to the status of a social event. We held a "tiny Comp" mid August which was more successful, producing tasks up to 400km. Our Dutchman, Hans Gijrath, flew Silver distance in the K-8, landing in the field behind his home.
R.M.G.

ULSTER (Bellarena)
Jim Lamb gained Gold distance/Diamond goal in his Astir at Le Blanc. A small UGC contingent took part in the Irish Nationals at Kilkenny, in generally poor high pressure conditions but one good wave day when Joe Taggart (K-6) reached 10 000ft.

Latest soloists are Norman Moorhead, Peter Holmes and Patricia Majury.

NI's phenomenal tourist boom this year has been reflected in the numbers and cosmopolitan make-up of people having air experience flights. Justin Wills dropped by on a visit to Ulster relatives and disappeared down-country on an O/R in a borrowed aircraft, to add to what will certainly be a record number of launches, and hours, this year.
R.R.R.

VALE OF WHITE HORSE (Sandhill Farm)
Tony McNicholas has soloed; Jonathan Huband has a Silver badge and Richard Chapman and Graham Turner AEI ratings.

Despite the International Air Tattoo at RAF Fairford attempting to ground us on one of the best soaring days this year, we flew several hundred kilometres, Shalbourne playing host to club gliders to beat airspace restrictions.

We are through to the finals of our Inter-Club League. One of our two-seaters flew in Competition Enterprise.
A.J.W.

Obituary - Len Morris
It is with sadness and fond memories that we report the death of Len Morris on June 14 aged 86 years.

Len was one of the pioneer members of the then Swindon GC (now Vale of White Horse) joining at the inaugural meeting in 1959. Len, who had gained much experience on war-time aircraft such as the Spitfire and Miles Magister, soon became the mainstay of glider inspection and repair from those early days at South Marston Airfield. Although he seldom flew, he was always working behind the scenes to ensure that the club fleet remained airworthy, often working late into the night when accidental damage threatened operations.

He was a senior BGA inspector and continued to maintain the club fleet after we moved to Sandhill Farm, but mounting years meant that he gradually had to take a back seat. In spite of this, in recent days, he continued to oversee the construction and repair of a number of aircraft projects including Clive Ducros's replica Mk1 Spitfire.

Len was a quiet chap who never married - he was very kind, very generous with his time, a well-respected life member of the gliding club and a true gentleman.
Sue Foggin

VECTIS (Isle of Wight, Bembridge)
Chris Waghorn completed his Silver badge with a distance flight on the mainland and his height leg over the island.

Paul Bateman has gone solo and Andy Nockter has regained his assistant instructor rating after a lay off. There is an expedition now to Thouars, France and the June open days were very popular and brought several new members.
M.J.H.

WELLAND (Lyveden)
Ken Martin, Bill Burgess, Geoff Copeman, Gerald Dexter, Tony Challis, Marian Gonzalez, Jane Cooper and Peter Francon-Smith have gone solo. Gary Clipston has a Bronze badge with Silver badges for Mick Nunley, Owen Smith, Roger Gray and Godfrey Pratt. Godon Cree and Alan Jackson have flown 5hrs; Ken Wells has the UK 100km diploma and Chris Hatton and Bob Roland have AEI ratings.

Thanks to Bill Burgess and Peter Willock we now have a wind generator powered battery charging system in the hangar.
R.H.S.

WOLDS (Pocklington)
We have enjoyed many evening north-easterly wave flights, easily reachable from the winch, as well as the usual excellent wave from the Pennines, with Bill Young climbing to 16 500ft and many others reaching 10 000ft and above.

John Simpson has gone solo. Bob Fox came 2nd in the Northern Regionals Sport Class, 18pts short of winning.

The French expedition was enjoyable despite mediocre sticky weather. Four young bursary winners are being taught to fly free of charge and we have our second Junior for cross-country flying.
M.F.

WREKIN (RAF Cosford)
Michele White, David Copeland and Dave Briggs have gone solo and Steve Judd has a Bronze badge, Silver height and 5hrs

In an extremely successful soaring week Bob Willey completed his Silver badge with a distance flight to Bidford and later in the week his height. Steve Fulcher, Steve Wright and Chris Enmarsh have gained their 5hrs.

Terry Moyes has a full rating, Bob Willey an assistant rating and John Sproat an AEI rating.

We have run very successful air experience evenings and, thanks to Ian and Yvonne Gallagher, have excellent barbecues.
T.R.

YORK (Rufforth Airfield)
Soon after going solo Tony Lee gained two Bronze legs, 5hrs and Silver height. Jay Smith has Gold height. We had wave in early July and thermals to 6000ft at the end.
S.R.L.

YORKSHIRE (Sutton Bank)
Malcolm Winter has his 5hrs; Steve Ricketts a Silver badge; Mark Irving and Gary Settery have flown Silver distances and Kelly Janski has gone solo.

Mark Jerman started a week long soaring course with a Bronze badge and returned with a Silver badge and Gold distance/Diamond goal. Steve Ell flew Diamond distance the same week.

We hosted a successful Competition Enterprise with nine days, the most notable flight being Mike Brook's 700km in wave. (see p284). The Northern's Open Class was won by John Spencer with Bob Fox 2nd. Mike Brook won the Sports Class, closely followed by Pete Coward.
C.L.

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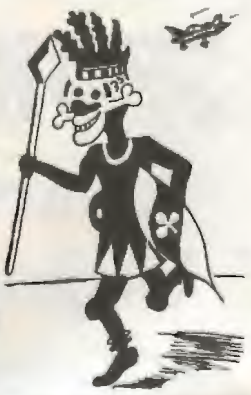

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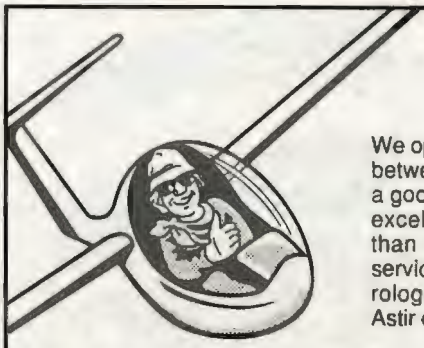

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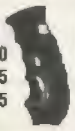

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JOHN WRIGHT

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CTG is based on a map of Finland around Räyskala. Eight fixed cross-country tasks, one blue day and a POST task are available to race round. Task selection is from a menu and the thermals are shown as circles, colour coded according to strength.

Choose changing conditions and all thermals are marked green, their strength only revealed when you arrive. Seeing all the thermals at once, you can route plan more efficiently than in real life. I'd have preferred to see only those within 30km of the current position.

You can choose weak, medium, strong or racing, with changeable (see above) or random conditions. Random gives a different thermal distribution every time, otherwise each task had its own individual pattern. Thus you can fly identical tasks to investigate different tactics. The wind can be user defined, random or nil.

Your glider is selected from five Standard Class (SZD-55, LS-4, LS-7, DG-300 and Discus), three 15 Metre Class (ASW-20, ASW-20c and Ventus C) and one Open Class glider (Nimbus 3). Polar curves for each are built in and do produce different performances. I'd have liked a couple of lower performance gliders as well. Waterballast can be carried and dumped in flight.

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gives the distance to go. Enter the speed-to-fly, and the height you reach the thermal is displayed along with its strength and the option to pull up or climb to any height (the maximum is 2500m). Thermals decrease in strength above 2000m. Trying to climb higher gets you only half the excess desired, and takes much longer to reach as if you've hung around in weakening lift, then given up and left.

Carefully timed climbs established CTG's realism. Ballasted gliders climbed more slowly than empty ones. Flying fast, heavily ballasted gliders lost less height than light ones. At best glide for dry aircraft, the heavy gliders lost out being the wrong side of the drag curve.

More subtly, the achieved rate of climb is less than expected. Arrive high and more time is spent centring than climbing, giving a low rate of climb (ROC). Arrive lower to spend more time actually climbing gives a higher achieved ROC. Arriving much too slow also gives a low achieved ROC. Trouble centring? Weak lift lower down? The best ROC results from arriving around 1000m - *ie* work the correct height band! A barograph trace can be examined, saved or printed with the route taken for further analysis.

CTG can be treated as a game, so what benefit is it to pilots? Instructors can show the inexperienced cross-country pilots exactly what happens on taking every single thermal rather than the strongest, the error of always climbing to the maximum height and the correct speed-to-fly. The problem of using weak thermals going into wind, the advantages of dolphining, approaching downwind TPs high and carrying waterballast are easy to illustrate. As is choosing the route - follow the energy, the track line, or rush to the nearest thermal?

All software can be improved and CTG is no exception. It needs built in metric electronic glide calculators. A thermal label should indicate the likely strength, the actual ROC varying slightly at random for more realistic decision making. I got mixed responses to CTG. Games-playing pilots liked it but those who rarely played computer games were not quite as pleased.

System requirements - 386sx or greater, Windows 3.1, mouse, 4Mb of RAM, 3Mb of free disc space and an SVGA monitor (or VGA). The price of £54 is rather high but the demo is free. ModelSoft Oy, who intend to continue developing CTG, can be contacted on tel +358 54 4363 933, fax +358 (9) 54 436 3931.

SPAIN

Manuel Carmona tells us about the potential of his gliding club in central Spain

We are a small club in central Spain flying from two sites, Campolara, 120km north-west of Madrid, and La Iglesuela in the Sierra de Gredos, 110km west of Madrid. The area is rightly called the Diamond mine of Spain. We fly throughout the year and are looking for pilots to come and join us and enjoy the strong thermals.

There are few Spanish glider pilots now that the government have stopped the subsidy and private clubs have put up their prices, not that we aren't reasonable compared to UK charges.

Campolara is a flat, field site from where there have been several 1000km flights. La Iglesuela is our winter site where we combine wave and occasional thermal soaring, moving there for October through to mid-June. We have a seven day operation. Due to the unstable conditions flying training is often left until later in the day.

Everyone is welcome and the site is ideal for experienced pilots with at least a Bronze badge. It is possible to claim a Silver badge in one flight with plenty of fields for landing. Those looking for more precious metals, or even Diamonds, should have no trouble in finding them here.

Our fleet, which is in very good condition, consists of a Grob Acro, Blanik, Astir CS and a Speed Astir. We have a Tost winch and a Pawnee, plus a Dimona. All gliders are fully instrumented and with parachutes and radio.

There is plenty of good, cheap accommodation in the nearby villages and towns but if you plan to visit in high summer give us a ring and we will book you in. Visitors are welcome with or without gliders. We have a friendly atmosphere and it is an interesting sightseeing area.

For more details contact ENAIRE C/Fernandez de la Hoz, 62, Madrid, Spain 28010, Tel +34 1399 1322, fax +34 1399 4768.

FRANCE

Gunther Burkert recommends a gliding site in the South of France

Having flown in Aosta and Sondrio in Italy and soared to great heights in Cerdanya in the southern Pyrenees, the wish to fly in the southern French Alps had never been fulfilled. I had been deterred by my lack of French and tales that I must be able to communicate well in French. However, an advertisement in *S&G* (April issue, p123) for gliding in France with briefing in English encouraged me to visit Serres Le Batie Montsaleon at the end of May. The site is eight miles south of Apres sur Buéch, a well known gliding site, but the difference is in Serres it is possible to fly in any wind direction.

My wife and I also booked a pleasant chalet on the airfield which was well equipped. All we needed to provide was the bedding.

After a thorough briefing and a 46min check flight in a Calif with the CFI, Klaus Ohlmann, I was free to fly an LS-4. With Klaus in the Calif, four gliders were taken on a 4½hr lead and follow flight over the mountains, Klaus giving guid-

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was the oldest pilot I was invited to navigate in the Calif which gave me a chance to see more of the mountains and countryside.

Over the next few days we had some spectacular flights and I logged nearly 19hrs.

AUSTRALIA

John Stockwell reports on Sunstate Soaring at Dalby, Queensland

Dalby is a very flat site on the Darling Downs about 225km west of Brisbane and is an easy 3hr drive. The airfield is on the outskirts and accommodation ranges from cheap to reasonable.

The weather is superb. A subtropical climate ensures dry sunny days for most of the year with 500kms being flown throughout the year. While I was there in December cloudbases were typically 8000ft at midday rising to 9000ft. The large surrounding fields make for safe outlandings and easy aerotow retrieves.

Sunstate Soaring was started by Stephen Smith, who was previously at Lake Keepit, with Mark Laird and Andrew Ward, who are both Nationals pilots. They have a Puchatek KR-03A two-seater and an LS-4, Ventus B, ASW-20A, PIK 20D, SZD-55 and a Hornet, all well instrumented and fully equipped. Launching is by a Pawnee. It is an extremely efficient operation with ground handling kept to a minimum.

I had a check flight in the Puchatek followed the next morning by a local familiarisation ride before being let loose on the LS-4 for the week. During that time the best lift I found was 13.2kt, the highest I reached was 9500ft agl and in six days I flew some 31hrs and approximately 1800km, including 300km for Diamond goal.

Phil Jarvis visited Lake Keepit Soaring Centre in New South Wales - both these clubs advertise in S&G

Keepit is about 6hrs north-east from Sydney and the obvious route is *via* the Hunter Valley wine region. Keepit dam is the biggest man made lake in Australia and although miles from anywhere is a national park with its own infrastructure for tourists - sailing, windsurfing and swimming mainly. We rented a luxury air-conditioned mobile home with room for four and at around $45 a day it was excellent value.

The airfield is at one end of the lake and has a vast rambling clubhouse plus hangarage, all powered by batteries and solar cells with the occasional top-up by generator.

Briefing by Ian MacPhee, the CFI/boss, was thorough, but very laid back. Flying started without urgency at around noon in clear air with the Cus popping.

After a site check flight in a Twin Astir I settled into my rented LS-7. Cloudbase throughout the week was about 6500ft above the site but they all fly QNH so the altimeter was reading 1200ft more. This is a point to watch on final glides!

My longest flight was 320km.

The people are very friendly, the conditions excellent and the wildlife fascinating. Kangaroos grazing on the strip in the late afternoon can be difficult to spot from the air. My thanks go out to a voice on the radio that advised me after I had called finals on my last day that I was flying straight towards a herd of kangaroos and should deviate 50m to my right.

For 500kms and above the time to go is summer, but the autumn (March/April) is less scorching with fewer flies.

I shall return to Keepit and recommend it without reservation. My wife, Wendy, who is not noted for her love of gliding sites, thoroughly enjoyed her stay as well.

USA

Sandy Harrup has visited two gliding sites in America

The Mid Georgia Soaring Association is based at Monroe Airfield, about 20 miles east of Atlanta. They fly at weekends from "noon till sundown" and on weekdays if arranged in advance.

It is an extremely friendly club and visitors can fly as guest members. They have a Grob 103, Blanik and a Sweizer 1-34 and Pawnee tug.

It was so nice to fly something that was so noiseless again - I was in the States on a disabled flying scholarship.

The Atlanta Soaring Club is at Etowah Bend Airport, Kingston, north-west of Atlanta. It is open at weekends and on major holidays. Weekday flying can be arranged. Like the Mid Georgia, it is a private club which means the gliders are privately rather than club owned, but they do offer training.

They have a Blanik and Grob 103, with the solo flying in the Blanik, and a Pawnee and Super Cub. It has a 3800ft grass runway and a comfortable air-conditioned clubhouse. Thermal and wave are the usual source of lift.

There is another gliding site at the foot of Stone Mountain which is near to Atlanta, but this mainly caters for tourists wanting to see the mountain from the air. They appear to tow you around the mountain, only letting you off tow to land.

For more details, contact the Soaring Society of America, Box E. Hobbs, New Mexico, 88240 1308, Tel 001 505 392 1177.

To make sure of getting your copy of S&G take out a subscription with the BGA. See details on p288.

I LEARNED ABOUT GLIDING FROM THAT

John hasn't mentioned the name of his club to avoid potential embarrassment. He soloed in late June and the incident he describes happened in early August in a T-21

The club flies from an E/W grass strip surrounded largely by farm land but with a small number of houses and a caravan park close to our eastern perimeter. There is a small town within three miles as the crow flies. Prevailing winds are south-westerly.

It was a blustery day with a south-west wind. Sy told me to do a right hand circuit, so that I would be doing the base leg into wind, and to stay close to the airfield.

I got 1200ft off the launch, right into a thermal. I was going up at a fine rate of knots, the green lift indicator trying to burst through the top of the vario tube. At about 3100ft it was very turbulent and to be honest I was getting a bit nervous - 3100ft is a long way up or down!

But what a terrific view. I could see a whole circle of the sea right up the coast and also into the glens. As I climbed I was being blown north-easterly away from the airfield over the sawmill and towards a town. As I was getting a bit anxious I decided to head back towards the airfield.

As I still had plenty of height I went and had a look at my house some two miles south-west of the airfield, but by then I was beginning to lose height. I had been in the air for nearly 20min and began to wonder whether I could stay airborne for another 10min for a Bronze leg.

I began looking for another thermal without luck and as I was fast approaching 1000ft it was time to make decisions.

I was back over the sawmill at about 900ft and had been flying for 21min. Although it is constantly emphasised by instructors that in deciding the high key point etc the prevailing conditions are of paramount importance, it is often the case, in light winds, that I start circuits at around 900ft and arrive over the threshold too high and land safely, but quite far down the field.

Since I was in a position from where a final approach might be made, although much further out than normal, I made the mistake of thinking I had plenty of height and did a 360° turn away from the airfield, again looking for a thermal.

As I continued the turn I could hear my instructor's voice: "Once you've made your decision, even if you are too high, land. Don't circle

to lose height and especially don't turn away from the field."

That brought me down to about 700ft and I decided to glide straight in from there. But due to my lack of experience I hadn't considered the wind strength. The glider virtually sat still in the wind and as I neared the field I encountered the most horrendous sink.

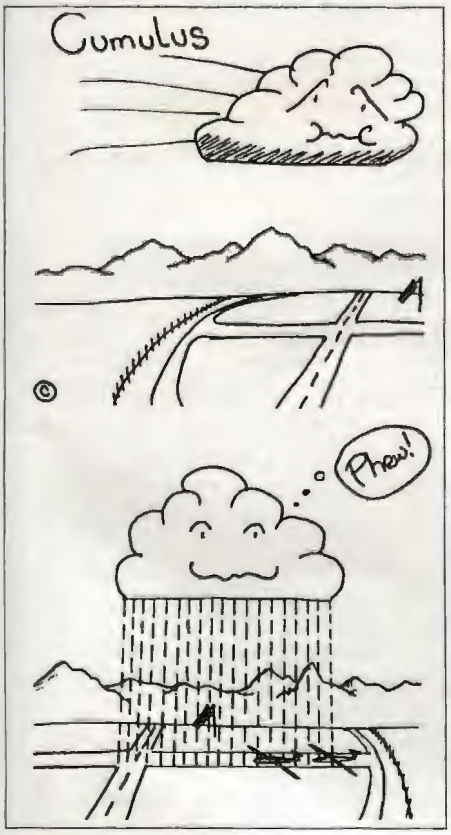
It became increasingly clear I wasn't going to get in. I'm glad to say I didn't panic. I knew that if I kept my present heading I would undershoot into a field which was very short and run into the barbed wire fence. So I chose the next acceptable field which was a good bit longer and had just been harvested. Although there were young trees at the end I brought the glider down without damage to me or it and stopped well before the tree line.

In my defence I can say that shortly after I landed two experienced pilots in single-seaters were caught out in the same way and had to porpoise their machines to clear the perimeter fence and get into the field.

Fortunately the field I landed in was long enough, the trees at the end low enough and there was a gap in the fence to get the cable in, so the DCFI was able to fly the glider out and so recovery was relatively easy.

Shortly afterwards it was decided that conditions were too rough and the T-21 was put to bed. So that was my flying over for the day. I can't say I was sorry.

I think I have learned some valuable lessons from my experience. Above all to think about current conditions and adjust accordingly - no tablets of stone for me.



THE FIRST GLIDING CLUB...a fable*

***[*fa'ble* n story not founded on fact; false statement; lie; short story, esp with animals as characters, conveying a moral]**
Oxford English Dictionary

Long, long ago, before Pontius had his first air experience flight, the face of the world was inhabited by great animals who ruled the unknown Universe - as *they* knew it. These animals called themselves dinosaurs. They knew everything worth knowing, and ignored everything else. Their success by merely existing for hundreds of million years **proved** they were **right**.

One day a gathering of vast and ancient dinosaurs were standing about in a wrinkled group telling each other long, disjointed tales of things which may have happened millions of years previously. Suddenly a stranger arrived on the scene. This tiny newcomer introduced himself as The First Mammal. The dinosaurs turned their broad backs on the intruder and continued their tales of long ago.

The little mammal noticed that although all the dinosaurs were talking away merrily, none of them seemed to be listening. The mammal wondered if all dinosaurs were deaf and, unwisely, decided to test this theory by standing behind one of these vast reptiles and yelling his hugest yell. The dinosaur gave a slight start (disproving the theory) and stepped backwards, squashing the mammal flat. This delayed evolution (and Charles Darwin) by another several hundred million years.

When, after a few million years, the next tiny mammal came to the area the dinosaurs were still telling the same old tales of long ago. In fact, this may have been exactly the same group of dinosaurs. As the little mammal approached the chattering giants he noticed a vast dinosaur FLYING overhead. The tiny mammal trotted along below the airborne Pterosaur until the gigantic thing flopped to the ground in a flurry of dust and tussocks.

The breathless Pterosaur was soon surrounded by various other dinosaurs who pulled the Pterosaur to the brink of a high sea cliff, attached a liana to his beak and heaved him over the edge. After a rather unsteady start, he soared away for yet another circuit and landing.

The little mammal was very excited by this new experience and decided that it looked like great fun. He scampered over to the nearest dinosaur and said, "Hello, Mr Dinosaur, sir, do you think I could have a go at this flying business, please?"

Total silence fell on the group. Dinosaurs looked carefully in every direction except at the little mammal. The mammal spoke again...and was ignored again. The Pterosaur was so distracted by the sudden silence from the ground party that he forgot all about airspeed and wind shear and spun off his final turn - thus providing an early supper for a passing Tyrannosaurus Rex. The remaining dinosaurs lumbered off under some very tall trees to have **a very serious discussion.**

They were all very confused and upset by the thought of an outsider, particularly a mere mammal, wanting to join in with their group. After just a few decades of discussion they decided to form an exclusive club. This would keep outsiders away for good and all. First they formed a club committee composed of the oldest and most wrinkled dinosaurs.

At their first committee meeting they all elected each other to honorary life membership of the club. Then they thought about a name for the club, and decided on "The Dinosaur Gliding Club." That should keep non-dinosaurs at bay! The Pteranodon smiled because he was a glider but, after a slight pause of about 25 years, the Pterodactyl stood to address the Chairosaur.

He requested that the club name be changed to "The Dinosaur Gliding and Flying Club", as he occasionally flapped his wings. The Chairosaur thought about this for only a split-month or so and snapped back, "Why?".

The Pterodactyl, whose short-term memory wasn't as good as his hindsight, replied, "Why what?" The Bracyasaurus, whose hearing wasn't as good as it had been, sat up, opened one eye and said, "Why not, indeed?" The ensuing vote was unanimous and thus the name of the club was changed - although brackets were added later, by a passing Carpenterodon.

The little mammal returned again because he was really keen on the idea of flying. He found all the club members back in their best chattering form, reminding each other how much better the world had been in the good old Palaeocene days before mammals were invented. The dinosaurs were in a good mood because they had just taken delivery of a new two-seater Pterosaur to replace the single-seater devoured by Tyrannosaurus Rex, so they actually spoke to the little mammal.

The mammal begged to join the club because he **really** wanted to fly. The dinosaurs stood about in their usual wrinkled groups and told the mammal (and each other) many more tales of the long long ago. The mammal finally piped up and said, "Yes, that's all very interesting, but

what about tomorrow?"

Another sudden silence, and a carelessly placed foot (some 4.875sq metres in area) ended the life of another mammal and delayed evolution once again.

The dinosaurs looked at each other while one member scraped at the sole of this foot in an off-handed manner. One member developed an extra wrinkle on his receding brow and asked, "Tomorrow? Tomorrow? What's this thing about tomorrow?"

The club committee gathered around to console him. "Don't worry, old boy. Dinosaurs will last forever. We have been unchanged for millions of years and will remain so forever. Remember our proud motto of 'Status Quo'. Don't worry about 'tomorrow'. Whatever it is, it never comes."

They were, of course, absolutely right.

REVIEW

Accidents To Gliders - 1994, published by the BGA and from the office at £2.25 including p&p.

As usual this makes grim reading but it is vital to have a copy handy for all club members if we are to become more aware of the dangers and pitfalls of the sport and how they can be avoided. But sadly the message seems slow in getting through.

Yet again there is death and serious injury from the failure to rig correctly - and this usually means an elevator that isn't connected. As Bill Scull points out in the accident analysis at the front, it is less of a problem in other countries "simply because they require duplicate and 'positive' control checks.'Positive' means having someone holding the control surface so that the connection can be felt by the reaction when the control column (or other control) is moved."

He adds that clubs will adopt this method when they have had a serious accident but others will not, some even refusing to. "Such attitudes" he adds "stem from attitudes of complacency and invulnerability."

Apparently there is a similar reluctance to use the safety pins in L'Hotellier connections because they are difficult to put in place, whereas in Germany it is mandatory.

Two fatal accidents were due to the perennial cause - spinning. Both pilots were very experienced which is an indication that experience isn't a guarantee of immunity.

"All pilots" Bill stresses "should recognise that the chances of recovering from a spin low down are minimal. The only protection is accurate speed control and balanced flight."

The crumb of comfort is that there was a slight fall in the accident rate compared with the year before - 146 in 1994 and 163 in 1993

CLASSIFIED SECTION

TO PLACE AN ADVERTISEMENT IN THE CLASSIFIED SECTION, please send your remittance together with a copy of your wording to Tiffany Rolfe, BGA, Kimberley House, Vaughan Way, Leicester LE1 4SE (Tel 0116 2531051 or Fax 0116 2515939), before November 3 for next publication. Any advertisements received after this date will be carried forward to the next edition of S&G. Rates 70p per word with a minimum of £14.00. Black & White photographs accepted £6.00 extra. Box No. £3.00 extra. Prices include VAT.

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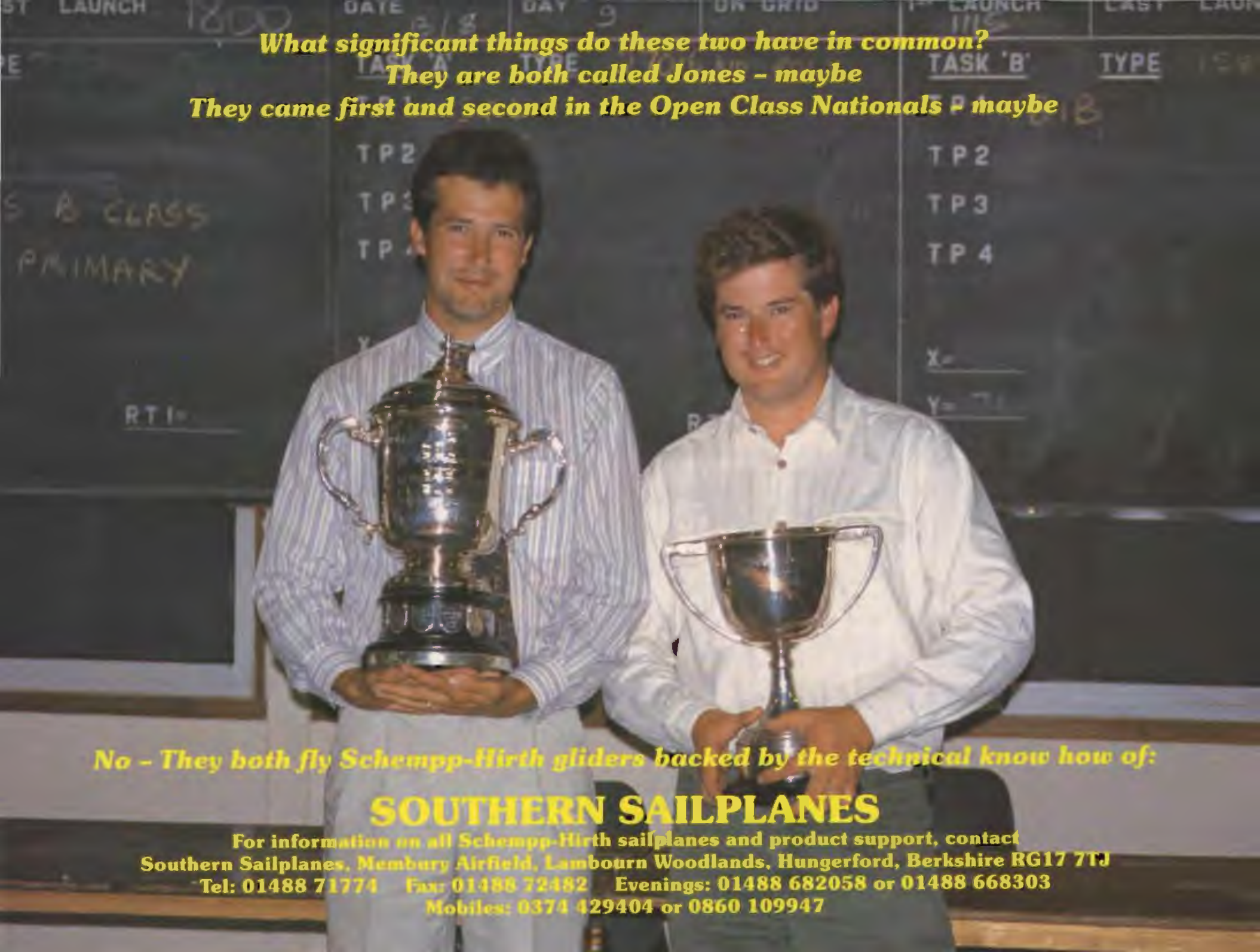
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