SAILPLANE & GLIDING

December 1970 — January 1971 5s

Christmas Greetings




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SAILPLANE & GLIDING

OFFICIAL ORGAN OF THE BRITISH GLIDING ASSOCIATION

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Cover photograph: "Doc" Slater at the World Championships at Marfa, Texas. (Started gliding 1930: started editing S & G 1933). *Photo by John Serafin.*

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Vol. XXI No. 6

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Christmas 1970



HARDLY has there been time to settle in the Chairman's cockpit—perhaps time to throw a tentative circle or two—before Rika is reminding me that a Chairman's message is due.

This apparent swift passage of time is not due to an unusually eventful year in the gliding world; indeed people have been saying that things have been rather calm and unexciting this year—no great drama or cataclysmic event. If this is so, there will probably be many who, like myself, will be happy to see things continue that way. What could be better than that the normal round of events in the gliding calendar should unfold, and that we are free to devote our energies to the enjoyment of our sport, leaving the drama to the finish line rather than the committee room? If air battles there must be, may they arise through the tussle with gravity to which we commit ourselves when we step into our sailplanes—or the invigorating rivalry of flying competitions—rather than a fight for the airspace we fly in.

But over the future hangs the brooding menace of the Roskill Commission and we must face the facts that in a few years' time either we or the Brent geese are going to have a great deal of trouble. When that time comes our Airspace Committee is going to be very busy indeed, but just for this season we can perhaps allow ourselves some fleeting moment of peace and goodwill.

Not that the year has been devoid of event—far from it. It has after all been the year of the World Championships at Marfa. Moreover, by prodigious effort from all concerned, we raised the money and equipped and sent an excellent team, and a very good show they put up too.

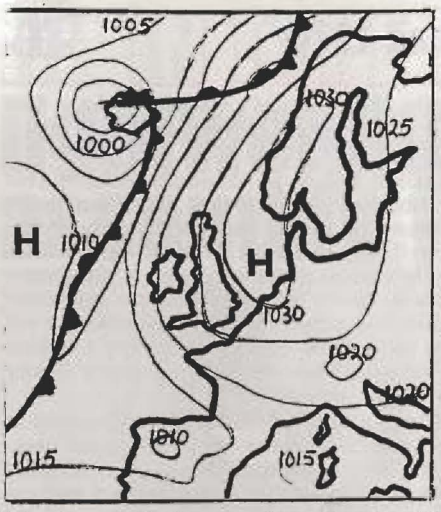
We have seen the first glass-fibre ship from Slingsby win the Open Class (after applying the right factors) in a year when imported glass-fibre ships have become commonplace. And although we haven't, at the time of writing, seen Sigma airborne, this eagerly awaited event may well have occurred before the year is out.

Talking of eagerly-awaited events, of course some events can be eagerly awaited by some people and not by others. One such forthcoming event, of which I thought I would slip in a brief fore-warning, concerns the price of SAILPLANE & GLIDING which, unfortunately, will have to go up by a 1s. per copy in 1971 (still worth every penny of it!) to meet rising costs due to all the things that you are nowadays only too familiar with.

Having skated over this thin ice, I shall now hasten back to the more comfortable past of 1970, which was also sadly the year when Inge left us. I am glad to say that we have found in Barry Rolfe, our new General Secretary, who joined us on 1st November, someone who will surely sustain the excellent service the Association has had from past holders of this onerous office. Which brings me to the point with deep obeisance to all those who, like Inge, worked so hard during the year to keep the gliders gliding, I wish all readers of SAILPLANE & GLIDING a fabulous Christmas and a fantastically thermally (or wavy, according to choice) New Year.

KEN WILKINSON, *Chairman BGA.*





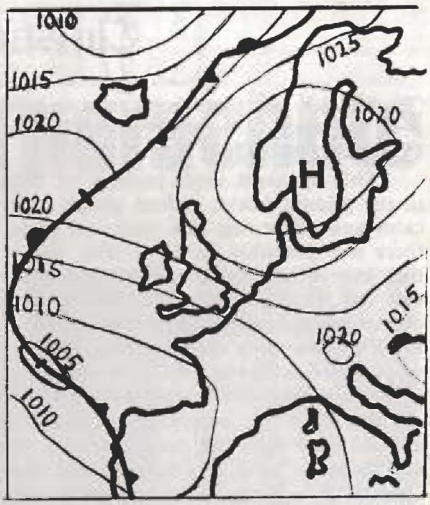


Fig. 1 *Surface weather charts for* 13.00 *hrs. on June 3rd and 4th* *Fig.* 2

METEOROLOGICAL REPORT ON 4th JUNE

AS already mentioned in the last two issues of S & G, Hans-Werner Grosse, Germany, broke the single-seater World Goal Record on the 4th June last with a flight from Lübeck, Germany, to Angers, France, a total distance of approximately 1,060 km., subject to homologation and a height correction giving a distance of approximately 1,035 km.

As this is the first flight in Europe covering more than 1,000 km., it is felt that many of our European readers may be interested in the meteorological conditions which led Hans-Werner to attempt this flight.

The following is a free translation from details supplied via Hans-Werner Grosse, from meteorologist H. Graafen of the Hamburg Weather Bureau.

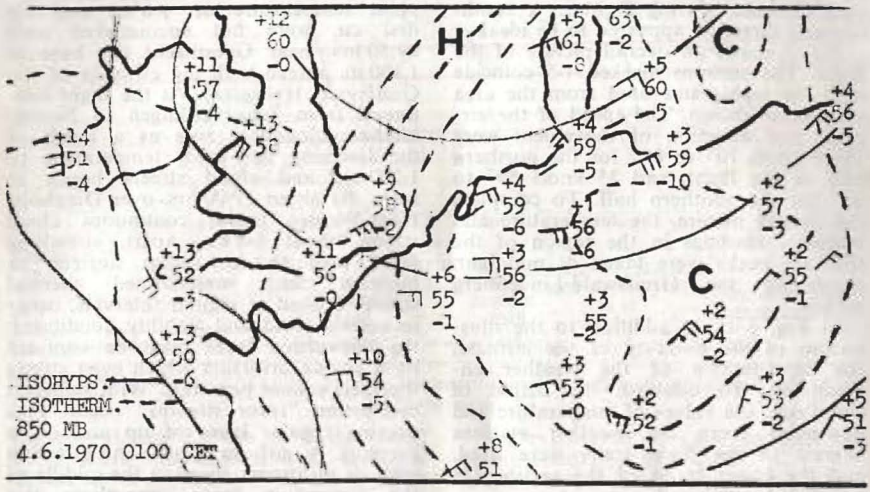
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Development of the weather conditions

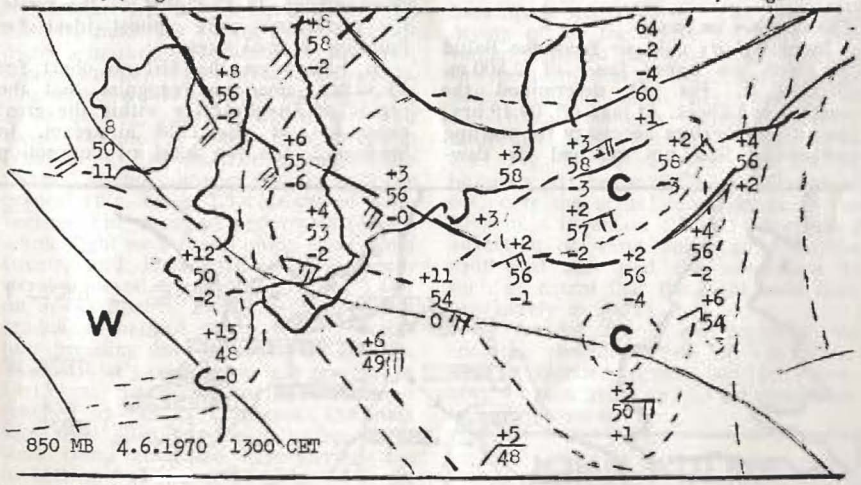
For the successful achievement of a flight of this nature, particular meteorological conditions are necessary. By scrutiny of the data from the German Weather Bureau and from the flight report of Hans-Werner Grosse, the development of the weather situation on the days prior to the attempt and the *en route* weather on 4th June are discussed.

On the 2nd June, a High with its centre lying SW of England intensified and moved its core to the southern part of the North Sea (Fig. 1). A strong warm airstream stretched on its west side as far as Greenland, and helped to build up a wedge of high pressure extending from Scandinavia as far as the Arctic island of Nova Zembla. Because of this, from the 2nd to 3rd June, the east side of the Scandinavian high-pressure wedge produced a NNE flow bringing in cold air from the Arctic to the Baltic. During the night of the 3rd June, the centre of the west European High shifted towards central Scandinavia. On the southerly side over central Europe the lower winds of the troposphere accordingly veered from north-east to east (Fig. 2).

During the 3rd June, warm air from the Black Sea area was drawn in towards the Baltic, resulting in a constriction of the cold airstream over Poland and East Germany. The warm airstream associated with the drop in pressure



▲ *Fig. 3*



▼ *Fig. 4*

made it likely that the centre of high pressure now lying more over lower Scandinavia was swinging slowly south-eastwards, and consequently the upper winds of the lower level over central Europe maintained their easterly flow. This is borne out by the 850-mb chart of 4th June between 01:00 and 13:00 hrs. (all times Central European Time). (Figs. 3 and 4.)

As a result of an increase in the pressure drop setting in over France, the winds of the lower troposphere over central Europe freshened to 20-30 knots (Fig. 4).

By the morning of the 4th June, the front edge of the cold airstream had passed over Holland in the direction of England as a result of the anti-cyclonic inflow. The core with its largest area was lying over north Germany (Fig. 4). The conditions requisite for a "trouble-free"

long distance soaring flight in a south-westerly direction appeared to be ideal.

Fig. 5 shows an overall picture of the flight. The sections marked 1-5 coincide with the tephigrams used from the area stations as shown. The speed of the air-mass and direction of movement were 15-20 knots 70° to 80° for the northern half of the flight, and 25 knots 50° to 90° for the southern half. To complete the overall picture, the temperature and humidity readings in the region of the cold air peaks were taken at midnight, combining the Greifswald-Lindenberg section.

In Fig. 6 is, in addition to the illustration of the build-up of the airmass, the cross-section of the weather encountered. To establish the height of cloudbase, the values of temperature and dew-point from the weather stations nearest to the flight route were used, and the lower levels of the section inserted to correspond.

The weather en route

Incoming dry cold air from the Baltic Sea with an upper limit of 2,800 m. (Section 1, Fig. 6) determined the weather at Lübeck. At take-off, 09:19 hrs., the air temperature necessary for starting convection had not reached its dew-point temperature of +8°C, and the first cu. were not encountered until 09:50 hrs. near Geesthacht. Its base at 1,100 m. agreed with the estimate of the Greifswald tephigram. As the flight continued from Schneverdingen to Neuenkirchen, cloudbase rose as a result of the lowering dew-point temperature to 1,300 m., and cloud streets began to form. By about 11:00 hrs. over Diepholz, Hans-Werner found continuous cloud streets about 6-8 km. apart, stretching from west to east from horizon to horizon. Such well-formed thermal streets, spaced at regular intervals, occur in certain wind and stability conditions: the convection layer must be confined by a strong inversion which even strong thermals cannot penetrate. With sufficient convection "rotor streams" occur, thus causing regular lanes of up and down currents. A uniform upper wind direction with its maximum speed in the middle of the convection layer strengthens this development. In this part of the route, the conditions were almost ideal for building thermal streets.

In Fig. 4 on the 850-mb chart for 13:30 hrs., one can recognise that the region of Diepholz lay within the great expansion of the cold airstream. In Section 2, the top level of convection

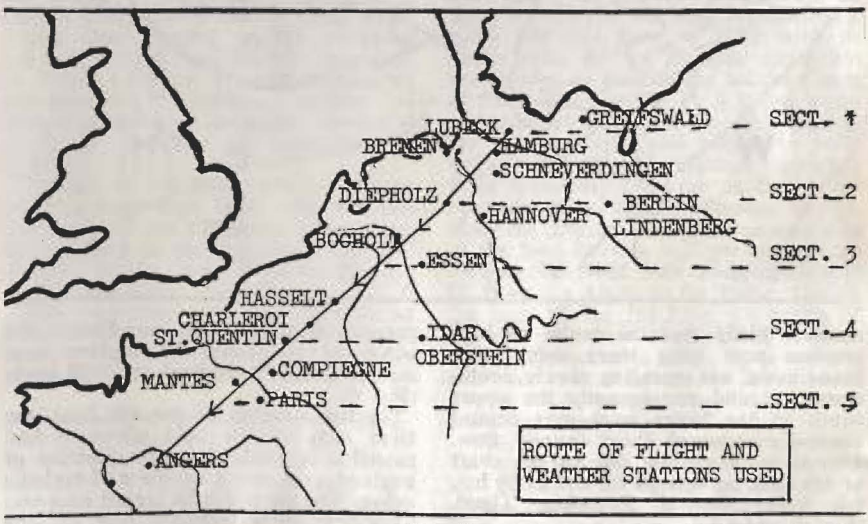


Fig. 5

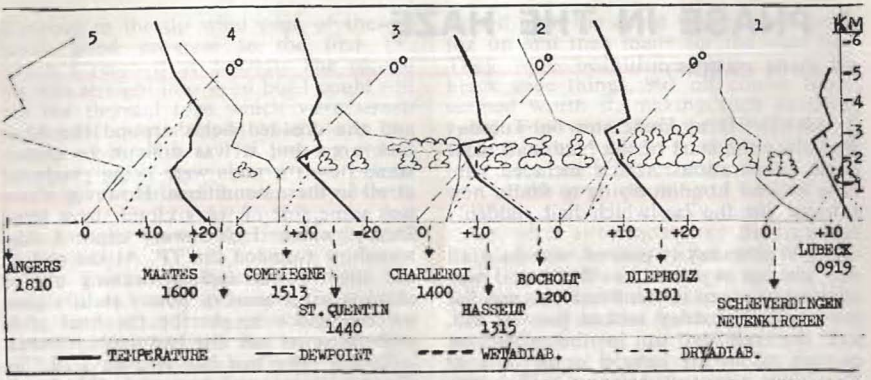


Fig. 6 shows a cross-section of the meteorological conditions obtaining along the flight path

reached almost 3,000 m. The dew-point temperature was around 4°C, giving a cloudbase of 1,900 m.; this corresponded with Hans-Werner's observations.

Adequate humidity between 1,900 and 3,000 m. made for strong cloud development; a marked inversion layer, however, limited the depth of convection upwards. The upper winds at 07:00 hrs. registered at Schleswig, Berlin, Hannover and Essen, revealed a similar flow direction from 80° at 3,000 m. The spacing of the thermal streets complies exactly with the general rule, being 2.5 × Height of Convection. The strongest upcurrents for the whole flight were found along these cloud streets, and high cross-country speeds were achieved along this stretch. Later on in the Bocholt area, the cloud streets gradually changed into a row of cumulus, spreading out into layers at 2,400 m. When Hasselt in Belgium was reached at 13:15 hrs., the spread-out increased and reached as far as Charleroi. Thermals were now difficult to locate, as not many were being generated. Considering this in Section 5 (Essen at 13:00 hrs., Fig. 6), it shows clearly the drying out of the upper layers with a drop in the inversion level at 2,500 m. Below the temperature change level, the humidity reached saturation point, giving favourable conditions for the formation of spread-out.

Overflying St. Quentin at 14:40 hrs., he again met with smaller short-lived cumulus with scarce lift—their life span when he reached Compiegne was 1-2 minutes. Section 4 (Idar-Oberstein 07:00 hrs., Fig. 6) gives the characteristics of the conditions met with.

The inversion barrier came down further, with a dew-point of 6°C cloudbase sank to 1,700 m. The increased drying off of the convection layer prevented sufficient humidity to get through for the formation of cloud. In the latter period of the flight near Mantes at 16:00 hrs., cumulus clouds ceased altogether. From Section 5 (Paris 13:00 hrs., Fig. 6) we see that the line of humidity at the prevailing dew-point of 6°C cuts the actual temperature at the 1,800 m. inversion level. Increasing advection of warm upper air from the south-east stabilised the conditions to such an extent that the flight level sank predictably to 300 m.

By careful flying and utilising the sporadic remaining bits of lift, Hans-Werner reached Angers at 18:10 hrs.; after 9 hours flying he had achieved what he had set out to do.

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A PHASE IN THE HAZE

By JOHN CARDIFF

I ARRIVED at Doncaster on Tuesday before the start of the Nationals after panic preparations, which included running around London trying to find a new exhaust for the car which had suddenly fallen apart.

On Wednesday it poured with rain all day and, as my tent was floating, I was allowed to sleep in the Press caravan for the night. Thursday looked just as bad, but the rain let up in the afternoon enough to let me have a quick look at Doncaster power station and to do some cloud flying practice. Friday was spent fettling the instruments and it rained most of the day.

DAY 1 — The weather was the sort where you had to rely on a good climb in cloud in order to get anywhere—but we were in for a big scrape. I had to land just short of the TP. As I was getting out, Ralph Jones came over at 500 ft. and asked me if the field was OK and had I been round the turning point? With an affirmative and negative to his question, he told me he would join me shortly, so I watched his antics trying to take photographs of the village, and a few minutes later he landed happily beside the ASW-12—he only found out later that he had photographed the wrong village.

Luckily I was in the company of almost everyone else wtih 250 points, David Ince being the only one to complete the task.

DAY 2—With the low cloudbase and poor visibility I chickened out shortly after starting and came back for a relight. By the time I was launched again, cloudbase had risen to 2,000 ft., but I was getting a bit twitched up darting from cloud to cloud, sinking rapidly, and was only saved when at 500 ft. I saw a K-6 circling under a "nothing cloud". Further along I could also see a Dart extracting itself from almost ground-level in a column of smoke (Tony Burton, I think). I met George Burton when I was back at 1,500 ft. The vis. got worse and gliders loomed out of the mist and disappeared again. I kept to the east of track so as to avoid the higher ground and the dreaded fields around the Matlock area, but it was difficult to understand how thermals were being produced at all in these conditions. However, there was some sort of weak cloud street from Derby which I followed, after I had somehow rounded the TP. At the end of the street I was rapidly running out of ideas when a smokey power station gave me too much height for the final glide and—glee, no one else had made it home.

DAY 3—We had had two days of "indoostrial 'aze" and moved to Husbands Bosworth in case we had a third. The weather looked good and I thought here was a day to suit the ASW-12, but I was too cautious and also wandered off track and my time wasn't very fast.

DAY 4—After the fog had cleared at Doncaster, there were weak, blue thermals, which I couldn't get my teeth into. After setting off and coming back for a relight we set off into the murk. Progress was terribly slow; I couldn't make anything work properly and had to join gaggles which weren't in thermals anyway! Near the first TP I got low after chasing puffs of cu. and rounded together with Len Woods in the SHK. From the TP it was a straight glide-out but, gribble, Len got home. George was now well in the lead and would be difficult to catch.

DAY 5—Another misty day, and no start line, but the weather looked better to the west over the hilly ground, where one could see the tops of big clouds when near cloudbase. I was all happy at 4,500 ft. while others were scraping at 1,000. I beat the Kestrel by a couple of minutes. Mike Smith in the Dart put up a tremendous show and was the only other pilot to get back—he had also kept to the west.

DAY 6—The wind was now from the SW, 20 knots, and you could see at least five miles! I wasn't seen across the start line and spent another 30 minutes getting enough height to cross again. It was a blue thermal day but with the help of Polaroid glasses I could see the tops in the inversion and the thermals seemed to be lying across wind along the first leg.

Keeping to the up wind edge of these I made good progress to the first TP, which I reached at 2,500 ft. The second leg was straight into wind but I could still see the thermal tops which were streeting and I only stopped to circle in the stronger bits of lift. The last leg was a bit worrying as the sun was now behind me until I realised it was stupid with such a tailwind to do anything else but glide straight home. I arrived with 1,500 ft. to spare!

DAY 7—George Burton was still 230 points ahead and it seemed impossible to catch up, but I was quite happy to be second and avoid all the paraphernalia of being first. So I wasn't too unhappy if the task had to be cancelled because of the high wind. However, after a lot of go, no, go, it was decided that the task was on.

Release height was 2,500 ft. upwind today and I planned to forget the start line, climb to cloud base at 5,000 ft. and try to contact wave and then do a straight glide to the goal. However, I wasted too much time trying to sort the wave, and as I had been launched just after George (who left straight away) I had to try and do something different. I waited until the cloud streets were building up and then made for the start line. They were beautiful streets, great big black wide things, 90° off course but it seemed worth it, making such excellent speed into wind. From the end of the second cloud street I stepped straight into the smooth lift of wave in the direction of the goal, climbing to 6,000 ft.

What a lovely deadly hush on the radio, after announcing my final glide—only about 10 min. after crossing the start line. With 35 miles to go my calculator said I should make it at 80 knots. Ten miles from the finish I used another bit of cloud street just to make sure. This turned out to be the correct decision as the ASW-12 ended up over the finish line at ground level, still at 80 knots—what a beautiful day!

We raced back to the scorers biting our nails, and they thought we would still be about 100 points short, so that was it—never mind. Later on I passed a sweating scorer standing outside his office and he told me they were final checking but he had his money on me. And so it turned out, by a narrow margin, I had won.

Thank you, all!

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GLIDER TRAINING ON MOTOR GLIDERS

By ANN WELCH

"The amount of time spent in the air is not necessarily a measure of the effectiveness of instruction."—SCULL

ONE-THOUSAND hours of glider pilot and instructor training have now been carried out on two-seat motor gliders in Britain, all on the Scheibe side-by-side Falke. This is enough flying to enable some assessment to be made of both short and longer term results; so what have we learnt?

Whether one is training *ab-initios* or instructors, the ability to get in and go without waiting for helpers to arrive, or queueing for a launch, is as great as everyone expected and hoped that it would be. A club with a Falke can quickly reduce its backlog of frustrated pre-soloites, and do more flying with fewer instructors. Because the aircraft is better utilised (and earns more money) it may even be possible to reduce the number of two-seaters in a club.

The Falke itself is straightforward and pleasant to fly; it is a substantially safe aircraft, with very reasonable maintenance demands. It handles and behaves like a glider, and both beginners and instructors like flying it. Fuel consumption is a negligible item; a day's instructing being possible on the 6½ gallon tankful.

As a training tool, there is no problem in teaching all the usual exercises with sufficient glider realism, and there are certain essential lessons which can be taught better on the Falke than a glider. It is, for example, especially good in "failed launch" and "too low approach" situations.

With a glider, the instructor has to stop the action before the aircraft is hazarded, and this is often before the danger has become apparent to the eye of the inexperienced pilot. With the engine of the Falke quietly idling, it is possible to let the student proceed with his ill-judged low turn until the error of attempting to turn at such a height becomes obvious even to him. *Realising* that he does not have enough height to complete the turn, and *seeing* the risk with his own eyes is worth years of verbal warnings.

An understanding of how to fly straight near the ground in a cross wind, and correcting drift, can also be taught more effectively in a motor glider, since it can be flown at 20 feet or so the full length of the field, giving the student time to sort out where he has gone wrong, what is happening, and what to do.

Advanced training possibilities—navigation, field selection and cross-country flying—are excellent because the motor glider can retrieve itself. Because of the short time involved, more field selection training can be done in the Falke in one hour than the glider-only pilot may ever get.

Before the two-seat motor glider came into use, there was a fear that it would change gliding into pseudo-aeroplane flying, with pilots losing interest in pure gliding. This has not happened, and I do not think that it is likely, because soaring is so much more interesting and attractive a way of flying. The main value of the motor glider is for training, with a secondary use for the soaring pilot who lives too far from a club.

So now we have an efficient teaching tool, with which we can better utilise the aircraft, the weather, and the time of both the student and the instructor. It seems the perfect answer to all the operational difficulties that have been an integral part of gliding since it began. But; the motor glider can only produce competent glider pilots if it is used with great intelligence. Superficially there appear to be no problems, but in real life there are—simply because the Falke is easy, safe and efficient to use.

The National Coach, Bill Scull, has now done over 250 hours, teaching instructors, in the Falke, and has given a lot of thought to the long term results which could arise from using a motor glider for glider pilot training. He sees the problem mainly as a psychological one—which starts even before the shiny new machine arrives at the club.

Since three times as much flying can be done with a motor glider in any given

period as with a conventionally launched school glider, should three times as many people be trained to solo standard, or should a similar number of students as previously be trained to, say, Silver C? Before this question can be answered, the club has to study such matters as new member availability, instructor skill and experience, and the performance and quantity of solo aircraft. But whichever way the decision is taken, and however experienced the instructors, there will be fundamental changes in the training pattern with far-reaching implications. Bill compares the two learning situations like this:

Gliders

The student is at the club and out on the field all day, absorbing what goes on and learning by the experiences of others.

His flying will probably consist of a lot of launches, without much time in the air.

Motor gliders

The student works more on an arrive-fly-go home régime, and has little time to learn about ground-handling, theory, or safety on the field.

He will have more time in the air, probably over a shorter period, giving better consolidation, but fewer landings.

Although there are advantages in the rate of learning, and in the increased comprehensiveness of what can be taught, there is likely to be a considerable reduction in the acquisition of airmanship—that indefinable ability to take the right action at the right time, whether it be keeping a good look out, or making the correct field landing decision.

Only an awareness by instructors of the factors which are unfavourable will give any chance of maintaining standards, let alone raising them. But already Bill has found that poor airmanship is being displayed in motor glider operations: because the motor glider is so flexible, this is too often used in a way which makes the most of this flexibility.

Examples include taking off from the middle of the field, expedient climb out patterns, operating from separate, private "launch points", operating out of gliding range of the airfield, and using the engine to avoid coming in with other gliders. These things teach poor airmanship, since they prevent the student learning the disciplines involved in flying the less flexible glider.

If the student does a large proportion of his basic training on a motor glider which is used in a way which gives maximum convenience to his flight, he will probably have to learn the disciplines the hard way—when he is solo in a glider.

The other problem inherent in the motor glider results from the fact that it efficiently utilises the instructor in the air—where he cannot teach ground subjects. With glider operations, although few clubs have class-rooms, there is time to teach the essential theory during the frequent waits to be launched.

To summarise:

If the two-seat motor glider is to be successful as a means of training glider pilots, and for the economic future of the sport it needs to be successful, then it is essential to:—

1. Operate the motor glider with due regard to the disciplines demanded by a glider, and
2. Find ways* of teaching the student the ground subjects—with the chance to ask questions and have them answered—which he now gets from his gliding instructor while waiting to be launched, and also those airmanship basics that he at present absorbs from his days out on the field working among gliders.

*The National Coach has done a lot of work on programmed learning and talking books, which are proving to be extremely effective in teaching ground subjects.

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THE DRUG SCENE

By RHODA PARTRIDGE

> My number three daughter reckons that the gliding movement has a small way-out place in the current drug scene. I have written it up and there is no doubt about it: the girl is right.

THE Gliding People whom I have studied hold their meetings on a bleak mountain top in the Welsh border country. It is there that they keep their cult objects and the mechanical devices necessary to achieve a trip. They are prepared to travel long distances to the site even in the most bitter weather. They wear a ritual one-piece garment, ornamented by many zip fasteners, only one of which appears to serve a useful purpose. Their emblem is a trio of seagulls on badges of different metals. The most successful addicts actually wear gold, studded with diamonds. Novices are instructed in various skills, including the secret language in which they practise their incantations. These incantations culminate in a question-answer pattern which ends with the person about to take a trip saying "All out" and gazing fixedly ahead; he may then actually take off, though this does not always occur.

When they come down off the mountain they are noticeably more pleasant to live with, provided they have had a trip. This beneficial effect can last up to two weeks or more if the addict has succeeded in getting really high, but after an average trip the addict's behaviour will only be improved for a few days; if he (or, let's face it, she) is kept from the mountain for long, severe withdrawal symptoms may appear. These include extreme irritability and a tendency, when outdoors, to stand with the head strained back.

In severe cases, as with other forms of addiction, a marked deterioration in the addict's social behaviour may be observed, particularly in the family context, and his financial position may become untenable.

★ ★ ★

SO I TOOK BROOMSTICK TO PORTMOAK

SOUNDS simple enough, doesn't it? But it took me three years to get there. As Jimmy said, "the SGU was growing fat and sleek on my cancelled deposits". In 1968, Broomstick ("the most beautiful K-6E the Schleicher works ever turned out") was snowed up on the Mynd. In 1969, I had to go to hospital. But on September 28th, 1970, I made it at last.

I arrived at Portmoak on a beautiful evening after a beautiful drive, and within a very short time I was being flown round in a Tiger Moth and a beautiful sunset. It's quite a site. Better than I expected. There's so much scale and variety. Ridges facing so many winds. Estuaries, sea, hills, reservoirs and the loch. The loch is a gift. It's really big (wish I'd asked for dimensions, I'm not going to guess), and it has a lot of islands on it. It shows up for miles and miles and you can tell by looking at it from the air exactly what the wind direction is because it gets striped by the wind into lines. Line up on the lines and you're into wind, if you see what I mean. You can tell wind speeds too. White horses near the edge mean 15 to 20 knots. White horses further out 20 to 35 knots. White horses all over and heaven help you! The Bishop Hill was the one we used while I was there. You can reach it from a winch launch, or you can release against it from aerotow, usually pull-off is around 500 ft. and up you go like a lift. Short beats first, then, when you've got about 1,000 ft. round the corner to the bowl and along to the gully. If there's north in the wind you go

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round the corner and then the hill is called the Lomands. It struck me as very easy, pleasant hill soaring. The flat expanse of the loch up wind gives plenty of impetus and the lift is strong and mostly smooth (one or two flights were really turbulent, but that was in south-westerlies).

To my consternation, I coincided with the "Lash-em" mob. Nineteen visiting gliders, heaven knows how many pilots, Jim Mellor and the tug. "Consternation" because I've always had the typical provincial club member's reaction to Lasham. Huge, the fount of all knowledge, peopled by clued-up, toffee-nosed experts. In the event I'm really glad I met them. They were kind and helpful and fun. Human (some more human than others!). There were a few young genuine brass-bound pundits and one could learn a lot from listening to their gossip (about gliding!).

Kind Dennis lent me his radio. I'd never used one before and I'm agin' them. Spoil the magic. Ridiculous too. Sitting under a cloud and making noises like Barlow. I'm emotionally incapable of saying "Roger" unless I mean that very man. I could see, though, that at Portmoak it would be a great help. You could find out who was getting what and where. You could receive useful information like cloudbase being at 500 ft. and the wind gusting up to 50 knots. It didn't seem to work very well. Dennis's radio. Sort of muffled. Then someone told me what "LS" meant. I'd tucked away the mike in the glider's pocket among my sweets, apples, DI book and oxygen helmet.

Flying. I had a lot of really lovely flights, many in wave to around 8,000 ft. Thirty hours in the fortnight. Two I specially remember. One took me to 14,000 ft. and was memorable because slots were inclined to close and, when over 12,000, you needed 70 knots to keep station. Also because I hadn't a clue where I was. I came down as my slot started to close and beastly cloud started to form around me. Murky dark cloud and there in the distance the blessed loch. I'd come down just south-west of Perth and I made it home, picking up height on the Bishop. Five gliders landed out, south of Edinburgh. At Gleneagles. All over the place. The other flight I'll remember fairly caught me out. I was riding high, wide and handsome at

4,000 ft. I'd come up fast in wave and then it died a bit, only one knot. Then 10 knots down, sometimes 6 down, and in a matter of minutes (about two, I suspect). I was chosen by a stubble field at the foot of the Lomonds. The kind farmer lent me a tractor and a driver and Ray and Philip came with the trailer and the tractor dragged the trailer through a potato field and foot-deep in creamy mud. Just as we were putting the fuselage into the trailer, the tractor driver said "Och! here comes another of them", and there was the Phoebus, and out got Mick Giles looking hang-dog but relieved. Exactly the same thing had happened to him.

I met the SGU members at weekends and they were really nice. Helpful and clued-up and remarkably polite. (They said the politeness was because I was a woman, but I find that most remarkable.)

Prices seemed very reasonable. £5 temporary membership, 16s. 6d. daily board. Aerotows around 12s. (only 500 ft. or so). I stayed with a delightful farming couple and my bedroom had an electric blanket and I had a bath every night and it cost me 12s. 6d. When one has had two weeks of good flying, it's not easy to find anything to criticise. But one thing really infuriated me. They charge a 2s. 6d. landing fee. It's so sneaky. You have to land and as your wheel touches it costs you 2s. 6d. My blood boiled every evening as I paid up.

On the way home I stayed with friends just south of Edinburgh. They had never seen a glider or trailer before and were astonished. My host suggested I should paint a fine border of black round the trailer and write "Multiple Funerals Inc." on each side. It would be a change, but rather tempting providence. I left them at 7 a.m. and steamed down the M6 sucking barley sugar and listening to the radio. I arrived at the Mynd at 4 p.m. and the air was rent by my dreadful curses. Some something visiting pilot had left his trailer on my very own hitch (which has my name on it, and for which I pay £25 a year. Sock the private owner), and then gone home. That's the third time it's happened and I hereby give notice. Any trailer which is left on my hitch will have steps taken against it which will absolutely amaze it. And with the edge of the ridge so close it wouldn't even be difficult.

USK WAVE EXPLORATION WEEK— 13th-19th September

By IVOR SHATTOCK

FLYING at our new site at Usk, Monmouthshire from March 1970, we had experienced some wave flying during the summer soaring season. As a result we decided to hold a wave exploration week; we hoped that a week of intensive flying from aerotows would push our wave flying experience forward. The main problem was a tug. At the eleventh hour Tony Gaze of the Bristol & Gloucester Club promised to tow on all fine days of the week. Tony pointed out that from his base at Ross-on-Wye, his experience was that tows higher than a nominal 2,000 ft. would be required to reach the wave conditions.

Monday started with cu. forming and gliders growing until with a hired K-7 we had six in all. Tony arrived with his resplendent Rallye Commodore 180, but with zero wind we could hardly expect wave. Thermal flying to the Welsh mountains, I experienced some very strange areas of lift—an omen of things to come? With six hours' flying, I managed to turn at the Mynd and outland ten miles short of Usk base.

Tuesday, with only light winds again, was mainly concerned with thermal flying, and this produced a total of 15 hours.

Wednesday found us looking at stationary cu. in the light south-westerly wind. Tony, with the experience of the ferry flight from Ross, said that this was a result of wave starting at about 3,500 ft. I was soon climbing in the K-6E at 4 knots in wave starting as reported at 3.500 ft.

Whilst blundering forward into air

clear of cloud, I was reminded of the ever-present danger by seeing the K-7 with Lyn Ballard on board at 6,000 ft. We flew together for some time until he departed earthwards to load up with a new P2. This continued throughout the day. Casting off from tow too early resulted in missing contact with the wave and an out-landing for the Skylark 3 and Swallow.

By mid-afternoon the thermal activity died, leaving the wave systems more defined. I took over as P1 in the K-7 at most probably the best part of the day. Two trips resulted, to 8,000 ft., with Les Churnside and Bill Smart as P2s. This raised the club two-seat record. The last flight was terminated still climbing with the lights of Usk coming on. Steve Thomas did well in the Swallow, climbing to 8,000 ft. with a switched-off barograph. "Never mind," said he, "I'll do it again tomorrow," and he did! Adrian Thomas in a Skylark 3 was brought down from 8,000 ft. by a prolonged slot closure, muttering about 2,000 ft. hills and 2,500 ft. cloudbase not mixing—the hills are about ten miles away.

Thursday was similar to Wednesday but with possibly more south in the light wind. At lunch time, when I arrived, Chris Lovell only had managed to contact and was now in the Dart 17 at 12,200 ft. After an age of putting the K-6E together, I was eventually dropped at Abergavenny at 3,500 ft. On the downwind edge of a large hole was 4 kts. Hearing Chris return from "quite a nice climb", I was left alone in the sky except for the chatter of the Midland Club gliders, also at 12,000 ft. Cloudbase was at 3,500 ft., tops 5,000, and clear air above. At 10,000 ft., facing into the 20-kt. westerly wind, it was *hot*! The skyscape was breath-taking, rolling on and on into the west and north. One very distant "pile of plates" over central Wales must have gone up to 20,000 feet.

Although in three hours' flying I never saw another glider, Eric Fitzgerald managed 11,600 ft. in the Skylark 3 and the K-7, 8,000 ft. Chris Lovell, after returning for lunch from 12,200, had another go and reached 12,600 ft.—a new club record. Steve Thomas did as he predicted—8,000 ft. in the Swallow for his Silver height.

Friday, with light southerly winds, was barely soarable, and the wave week was over. Tony Gaze, after a week's total of 76 tows above and beyond the normal call of duty, was awarded a bottle of Scotch and an original oil painting of a Skylark and K-6 wave-soaring.

With two days' wave flying out of five, the following climbs were achieved:—

Sailplane	*Feet*	
Swallow	2 to 8,000	
K-7	5 to 7,000	2 to 8,000
Skylark 3	1 to 8,000	1 to 11,600
K-6E	1 to 8,500	1 to 10,200
Dart 17R	1 to 12,200	1 to 12,600

Observations indicate that the conditions we experienced during the week were by no means the best we can expect. It also successfully demonstrated the potential of the area.

Two questions raised at the end of the week, one by a visitor, and the other by a member: "When is the next week?" "When do we get a tug?"

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A NEW NOZZLE FOR TOTAL ENERGY COMPENSATION

By D. ALTHAUS (Institut für Aerodynamik & Gasdynamik der Universitat Stuttgart)

This paper was presented at the XII OSTIV Congress, Alpine, USA, 1970

MODERN high performance sailplanes with a wide speed range require good instrumentation. Top speeds of 150 km/h. and more are customary. As these sailplanes have very little drag they can gain a lot of height by reducing flight velocity. Kinetic energy is then transformed into potential energy. The total energy, which is the sum of kinetic and potential energy, remains constant if there is no vertical motion of air. A variometer which is not compensated would indicate a high rate of climb owing to the gain of height. A vario compensated correctly for total energy only indicates the sinking speed resulting from the polar of the sailplane at the corresponding speed of flight. It shows another reading only if the total energy of the sailplane is changed, that is when it is raised by an upcurrent or carried down by a downcurrent. Rates of climb or sink caused by variation of flight velocity, the so-called "stick-thermals", are compensated out.

Mechanical compensation by diaphragms which provides a linear variation of volume over a wide range of flight speeds. The magnitude of variation in volume by variation of pitot pressure must be adjusted to the volume of the variometer flask. This adjustment is only correct for one particular height of flight. Apart from the difficulty in building diaphragms with the characteristics needed, these characteristics may alter by ageing.

A simpler and cheaper method of pneumatic compensation was worked out as long ago as 1948 by Irving, who even constructed a suitable nozzle, the so-called Irving Nozzle (OSTIV Publ. III).

A nozzle suited for total energy compensation must have a suction factor of -1.00; that means it has to deliver a suction which is equal to the pitot pressure but of opposite sign. It is fitted to the static side of the variometer. The volume of the flask does not matter and the compensation works correctly for all flight levels.

As the venturi constructed by Irving has considerable drag it is not very suited for use in a sailplane with low drag. (See Fig. 1.)

The new nozzle consists only of an outer tube which contains two little cylindrical protuberances; one of these is a tube carrying the suction pressure. Between the two cylinders a high suction peak is generated by the air flow. Behind them laminar separation takes place as the Reynolds Number is low. Since laminar separation conditions do not vary with Reynolds Number, the suction of the nozzle varies only with flight speed. The amount of suction generated by the nozzle depends on the distance apart of the two little cylinders. This distance was individually adjusted in a wind tunnel to obtain the suction factor -1.00.

The suction factor of the nozzle is -0.98 at 80 km/h., -1.00 at 120 km/h. and -1.02 at 200 km/h. flight speed. This small variation does not affect the compensation and is masked by variometer errors. Within an angle of yaw between $+10°$ and $-10°$ the factor remains constant. At correct adjustment of the nozzle to the sailplane this range of angles is sufficient as has been demonstrated in practice.

To get a rough idea about the drag of

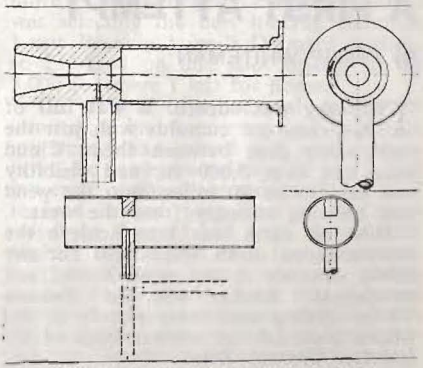
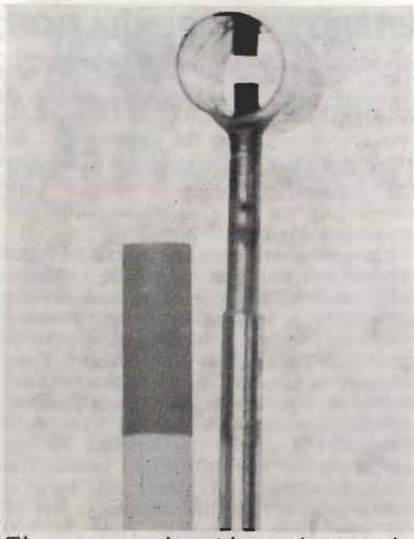


Fig. 1. At top the Irving Venturi



The new nozzle with a cigarette for comparison

the two different nozzles without shaft, one can assume a drag co-efficient of $C_D = 1$ with respect to the frontal area for the Irving Nozzle, with separating flow at its end plate. Assuming the same drag coefficient for the new nozzle, the drag will be reduced by 80% and the actual drag co-efficient is sure to be smaller than 1.

The nozzle has to be installed on the sailplane in a place where there is no interference from any part of the plane. The best location is on the upper third of the fin. The nozzle is fixed by a tube parallel to its axis. As the airflow is nearly parallel to the tubing shaft, it has only a small parasite drag. It is also possible to fix the nozzle on the upper side of the fuselage between the wing and the tailplane (say, two-thirds of the distance behind the wing). On sailplanes in which the canopy is not continuously contoured into the fuselage (K-6), the nozzle can be fixed some 10 cm. in front of the canopy.

In the latter installation the nozzle shaft is vertical to the flow direction and should have as small a diameter as possible. A shaft with a diameter of 10 mm. will produce the same drag as the airfoil drag of a part of the wing with the same span. The axis of the nozzle must be adjusted to lie within the tolerable angle of yaw of $\pm 10°$.

All tubing and especially the housing of the variometer will have to be leak proof to obtain reliable functioning of the whole installation. It is possible to fit two variometers to one nozzle and a "Sollfahrtgeber" may also be compensated. A normal poor mechanical variometer compensated with a nozzle is a cheap installation and works very well for soaring. (The nozzle is obtainable from the firm Glasflügel.)

A FIRST ATTEMPT

By PHILIP WHITEMAN

THE sky was superb. It was full of fat, clear-cut cumulus with just the right sized gaps between them. Cloud base was over 3,000 ft., and visibility was said to be 20 miles. But, the wind was blowing strongly from the west.

How on earth was I to achieve the recommended down wind dash for my Silver distance if the wind would not co-operate? Booker and the Thames Valley gliding club were plainly in the wrong place on the western edge of the London Control Zone.

Quite suddenly, in the face of all advice and in the teeth of the wind, I decided to try for Enstone airfield and my distance. After all it was only 55 km., and the day was so good!

As first on the flying list I had grabbed the one and only Skylark 4, and after obtaining permission from the CFI, I loaded all my gear plus the vital barograph into the cockpit and wedged myself in afterwards. At last it was my launch and at 1,500 ft. the tug bounced visibly in front of me and I pulled the release. The thermal was a rather weak and ill-defined one and I was gaining height so slowly that the wind would push me into the London Control Zone before I had enough height to search for the next thermal. Just as my circling was about to become very illegal, a nice

fat cumulus appeared within reach, upwind. Breaking off my struggle I scuttled beneath it and soon was at a comfortable 3,700 ft. I pushed the nose down and set out for the Post Office tower, beckoning at the edge of the Chilterns.

Progress was dreadfully slow; the wind, it seemed, had increased with height. Three good thermals were needed to get me to the western edge of the Chilterns, only seven miles upwind of Booker. However, visibility was as good as they had said and the patchwork of Oxfordshire was sharp and clear for miles ahead.

Soon I was for the first time out of gliding distance of Booker and, to my surprise, found that I enjoyed it. Free to aim for the best cumulus without thoughts of drifting away from the field, and best of all, not having to practically screw my head off trying to keep all my fellow birdmen in sight at the same time.

Thame passed slowly on the right after what seemed an age; another age later I saw Beckly Television mast beneath me and I realised that I was two-thirds of the way to my goal. I might actually reach it! Then, without warning, the unending stream of cumulus drifting down to me on the wind, dried up. What was I to do? There must be blue thermals ahead, but where? Still circling under the last cu. I looked for sources. To my delight, I saw a sailplane circling on my course. Abandoning my cu. I rushed off into the blue to join him and slid into position beneath it. Nothing on my vario, I widened my turns a little and still found nothing but reduced sink. No use at all, let alone any help on my journey. Looking at my altimeter I found that I was below 2,000 ft.; not only was my aircraft still sinking, but now my stomach developed the same symptons.

I could not understand why the chap above was circling here at all. I looked up again; as I did, he straightened out on a westerly heading and sailed off into the wind. Without local knowledge I could not follow him; besides, he had more height than I had. My altimeter was now indicating less than 1,000 ft. and I began to select the best field beneath. At least there were plenty of them. All were young corn. Hoping to find a grass field I looked a little further, and just as I was about to give up and settle for the corn I saw a flash of orange in the corner of a far field. A windsock! All the pieces of the puzzle suddenly fell into place. The field could only be Weston-on-the-Green. The Skylark which had lured me away from my last cumulus had obviously just been practising a few turns in a bit of zero sink. Weston was, by all accounts, a nice big field and it would be an easy retrieve from Booker. Putting the nose in line with the windsock, I began to creep carefully towards it, making use of every scrap of reduced sink. Nine-hundred feet and I could definitely make it. Suddenly a bump and a twitch and the vario began to climb. One turn, I felt, could do no harm so round we went and most of it was in lift. What to do now? I could not give up, even with Weston-on-the-Green within my grasp, so I set out to work the thermal for all it was worth. After a struggle, I reached 2,000 ft. and we could relax again. Looking over the side I noticed that I had lost some five miles and was back over Beckly mast. Slowly I realised that Enstone, as far as I was concerned, was on the Moon.

Could I turn north or south across the wind and complete my distance? I couldn't, for my retrieve could only wait at Booker for a limited time and that was almost up. I had been airborne for two-and-a-half hours and he would be available for only three.

With the wind on my tail, the fields beneath slid by at a tremendous rate. In what seemed no time at all I had reached Thame and was back under the billowing, comforting clouds. I needed one more thermal to get me home; while I was selecting the best looking cumulus, I saw Brennig James's Diamant circling, so I tagged on and shot briskly up to 3,000 ft. where I left for home.

The return trip had only taken 30 minutes; it had been very easy to retrace my steps I had gained with such labour. Over the long-awaited cup of tea, I told my crew of the flight, and as I did so, I realised it had been one of the most satisfying things I had done, flawed only slightly by the lack of a few kilometres.

Apart from all the obvious gliding morals to be drawn from this, I learnt one quite unexpected thing and that was that anything else, except perhaps jumping out, suddenly becomes very pedestrian, even to a rank beginner like me.

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BGA NEWS

Extraordinary General Meeting

This meeting was held on the 16th October and thirty-four people attended.

It was agreed, after discussion, that when Clubs submit the form nominating their voting representative for the AGM in accordance with Article 25(A) of the Articles of Association, they could nominate an alternative in case the first failed to attend, and also nominate the Chairman of the AGM to vote for them if neither of the others turned up.

The form on which Clubs nominated their representatives would be designed to include instructions to the Chairman as to how they wished to vote. In this way all Clubs would be making use of their votes, and their wishes would be carried out whether or not they were physically present at the AGM.

It was also agreed that a list of candidates for election as well as those already elected should be circulated to clubs with a biography of each, well before the AGM. This would enable clubs to consider the candidates before deciding for whom they wished to vote.

Details will be sent direct to clubs.

CHRISTMAS CARDS 1970

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Annual General Meeting

The Association's AGM and Dinner-Dance will take place at Imperial College on Saturday, 27th March, 1971. Details will be announced in due course.

Whitbread Bursary Award

The following pilots have received £10 each for gaining their Bronze C before their 19th birthday: G. G. Gulliver (Swindon); D. Trenchard (Swindon) and B. J. Woodley (Imperial College).

Alex Orde Award

The following women pilots have received £10 each for completing their Silver C in 1970: Sue Goldsbrough (Yorkshire); Elizabeth Kiely (Wrekin) and Barbara Deans (London).

Side Reflectors on Trailers

A brief notice was inserted in S & G for Aug.-Sept., 1970, mentioning forthcoming regulations for the fitting of side reflectors on long trailers.

This note explains the regulations so far as they apply to glider trailers:

The regulations apply to trailers whose length exceeds 5 metres (16.40 ft.), disregarding the drawbar and any fittings for the attachment thereof.

Two side-facing reflectors shall be carried on each side of every such trailer manufactured on or after 1st October, 1970. In the case of trailers manufactured before 1st October, 1970, the fitting of such reflectors is obligatory on and after 1st January, 1971.

On each side of the trailer:

(a) No part of the reflecting area of one side-facing reflector shall be more than 500 mm from the extreme rear of the trailer; and

(b) No part of the reflecting area of one side-facing reflector shall be at a distance of less than one third or more than two thirds of the length of the trailer from the extreme rear thereof. Also:

No part of the reflecting area shall be less than 400 mm or more than 1200 mm from the ground (1500 mm in the case of trailers manufactured before 1st October, 1970).

The reflecting area of all such reflectors is to be in a vertical position and facing squarely to the side of the vehicle. The reflectors are to be kept clean and plainly visible from the side of the vehicle.

The definition of a side-facing reflector is one which
(a) is not an obligatory reflector;
(b) is amber in colour;
(c) is marked with an approval mark incorporating the roman numeral I.

The above information is abstracted from "The Road Vehicles Lighting (Amendment) (No. 2) Regulations 1970" published by HMSO, price 1s. (5p). These notes are for guidance: the Statutory Instrument is the authoritative document.

I am indebted to the Royal Automobile Club for assistance in preparing this note.

F. G. IRVING, *Chairman, BGA Tech. Committee.*

1971 Nationals

As announced in last month's issue there will be two National Championships, each of equal rank, held on separate dates—Newton, 29th May—6th June, and Husbands Bosworth, 12th-20th June. Pilots may enter only one of these Championships and the closing date for entries will, as usual, be the end of January 1971. The outline of the Championships Class structure will be as follows:

A maximum of 40 pilots will be accepted for the Newton Championships, which will be subdivided into Open and Standard Classes (no fixed numbers in each). Any glider may be flown in the Open Class, and any glider complying with the current International Standard Class, may fly in the Standard Class. The principal scores used in these Championships will be unhandicapped.

In the same way a maximum of 40 pilots will be accepted for the Husbands Bosworth Championships and these will be subdivided into Sport and Club Classes. Only gliders in the handicap range 86% to 92% may enter the Sport Class, and only gliders of handicap 94% and greater may enter the Club Class; furthermore gliders of higher handicap than 102% entering the Club Class will only receive scores based on 102% handicap. This means Dart-17s, ASW-15s, etc., will fly in the Sport Class and Skylarks, K-6s, etc., will fly in the Club Class. Both Sport and Club Classes will be scored on a handicap basis.

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NATIONALS ENTRY LIST FOR 1971

SHOULD the entry lists for either of the 1971 Nationals be oversubscribed, priority of entry will be determined from the list printed below. This list has been arrived at by the application of the rules printed in SAILPLANE & GLIDING, Aug.-Sept., 1970, page 317, except that, by resolution of the BGA Executive Committee of Management, an adjustment was made to give priority between the Open and Sports Classes in 1970. The Open had 33 contestants and the Sports Class 40 and the effect of the adjustment is to make, for instance, 17th in the Open approximately equal to 21st in the Sports and so on.

Any pilot who believes his position on the list to be incorrect is asked to write to the BGA, giving details of the competitions in which he competed in 1969 and/or 1970, his competition number and his full name.

No.	*Name*
1.	Williamson, J. S.
2.	Burton, G. E.
3.	Garrod, M. P.
4.	Cardiff, J. D.
5.	Goldsbrough, J. B.
6.	Smith, M. J.
7.	Waller, R. S.
8.	Fitchett, B.
9.	Zotov, D. V.
10.	White, S. A.
11.	Ince, D. H. G.
12.	Withall, C. L.
13.	Costin, M. C.
14.	Strachan, I. W.
15.	Jones, R.
16.	Hale, R. J.
17.	Pozerskis, F.
18.	Dobson, B. F.
19.	Kahn, W. A. H.
20.	Orme, H.
21.	Greaves, C. M.
22.	Lee, D. G.
23.	Atkinson, G. B.
24.	Warminger, A. H.
25.	Gough, A. W.
26.	Goodhart, H. C. N.
27.	Smith, Angela
28.	Hood, L. S.
29.	Deane-Drummond, A. J.
30.	Zealley, T. S.
31.	Tarr, J.
32.	Foot, R. A.
33.	Watson, A. J.
34.	Stevenson, J. N.
35.	Evans, J. A.
36.	Burns, Anne
37.	Knipe, F. H.
38.	Paddick, G. R.
39.	Farmer, A. T.
40.	Grenet, P.
41.	Bridson, D. S.
42.	Manley, N. K.
43.	Greenwood, T.
44.	Wheeler, J. H.
45.	Wilkinson, K. G.
46.	Tanner, L. E. N.
47.	Hogg, A. J.
48.	Glossop, J. D. J.
49.	Saundby, R. P.
50.	Delafield, J.
51.	Wilton Jones, M.
52.	Keogh, B.
53.	Harrison, K. A.
54.	Woods, L.
55.	Newall, R. W. B.
56.	Shephard, E. G.
57.	Wilkinson, N. A.
58.	Camp, G.
59.	Marsh, C. J.
60.	Livesay, M. H.
61.	Plane, R. S.
62.	Scott, P. M.
63.	Simms, J. A.
64.	Barrett, R. Q.
65.	Bowley, D. A.
66.	Morrison, S. A. J.
67.	Burton, A. J.
68.	Plumb, F. A.
69.	Milne, A. B.
70.	Edwards, A. W. F.
71.	Spottiswood, J. D.
72.	Morison, S. M.
73.	Lilburn, D. W.
74.	Tull, V. F. G.
75.	Shipton, Pamela
76.	Wills, C. P.
77.	Barnes, L.
78.	Sandford, R. A.
79.	Ellis, C. A. P.
80.	Feakes, R.
81.	Haynes, K. W.
82.	Simpson, C. R.
83.	Redman, S. J.
84.	Smith, G. K.
85.	Harrington, T. C.
86.	Stanley, J. H.
87.	Hanson, D. F.
88.	Carrow, D. D.
89.	Malpas, W. E.
90.	Howitt, H. V.
91.	Wild, J. G.
92.	Wishart, R.
93.	St. Pierre, A. H. G.
94.	Naylor, R. G.
95.	Kelly, B. T.
96.	Gill, C. J.
97.	Sheppard, F. J.
98.	Oulds, T.
99.	Paul, I.
100.	Benoist, J. D.
101.	Innes, D. S.
102.	Brisbourne, R. P.
103.	Emmett, M. R.
104.	Smoker, J. L.
105.	Gaunt, T. R. F.
106.	Ellis, J. J.
107.	Hardon, R. A.
108.	Treadaway, P.
109.	Mead, S. B.
110.	Robertson, D. J.
111.	Foot, C. C.
112.	Krzystek, T.
113.	Waller, F. F. C.
114.	Provins, W. J.
115.	James, P. W.
116.	Vennard, D. A.
117.	Seth-Smith, M. P.
118.	Riddell, J. C.
119.	Lovell, C. D.
120.	Monteith, J. R.
121.	Riddell, D. M. R.
122.	Cousins, R.
123.	Maltby, H.
124.	Williams, P. W.
125.	Welsh, J. H.
126.	Przewlocki, J. K.
127.	Martin, J. A.
128.	Thorne, J. S.
129.	Austin, D. C.
130.	Edwards, I. D.
131.	Fay, F. W.
132.	Hart, S. N.
133.	Brownlow, B.
134.	Fox, J. A.
135.	Watson, B. B. C.
136.	McLuckie, R.
137.	Lyndon, R. J.
138.	Burne, A. G.
139.	Lombard, W. C.
140.	Watson, Patricia
141.	Smith, R. J.
142.	Lane, P. D.
143.	Bird, M.
144.	Crawshaw, G. H.
145.	McGee, T. N.
146.	Meddings, E. J.
147.	Eyers, I. L. A.
148.	Dimock, H. R.
149.	McKenna, J. M.
150.	Stenhouse, A. E.
151.	Staines, R.
152.	Stoddart, R. C.
153.	Connolly, B. C.
154.	Bellew, J. B.
155.	Ash, L. S.
156.	Belbin, E. R.
157.	Goldney, P.
158.	Shard, C. W. G.
159.	Fairman, M. C.
160.	Gee, M. I.

THE WYCOMBE REGIONALS

By MIKE FAIRMAN

IT had been my intention for the last few years to enter the Wycombe Regionals, but for various reasons I was unable to until now. None too soon, either, for within a short time of arriving I felt that here was the kind of site and atmosphere that could promise an excellent week's flying.

The caravan park just a few yards from the glider trailers, modern plumbing, showers, shops within half-a-mile, and an airfield looking like a bowling green.

A particularly interesting aspect of Wycombe Air Park to the visitor is the intensity of both gliding and powered aircraft operation. Each has its own half of the field, and a few simple local regulations concerning circuit direction and minimum heights, achieve a very harmonious operation. I should mention that all glider launching is by aerotow (no doubt imperative with so many trainee powered aircraft movements around the airfield).

Philip Wills formally declared the Contest open, and made a rather interesting suggestion in his speech—that any competitor who felt he may have broken some flying or contest rule should be able to "confess" in private to a competition official. It was a little late in the day to construct a Confessional Box in time for this meeting, so the offenders, no doubt, had to improvise. However, I don't recall any incidents of ungentlemanly or illegal flying behaviour, so perhaps Philip's suggestion had some beneficial effect.

The formalities and introductions over, we lost no time in getting into the routine of a No Contest day.

SUNDAY, 9TH AUGUST:—Task-setter, Arthur Doughty, set a 126.8-km. triangle, Calvert Railway Junction, Grove Airfield, Wycombe. The six tugs launched us all in under half-an-hour, and we were off, at last, on an interesting and well-judged task. The first few miles were rather nerve-racking, but once clear of the Chilterns, the run to Calvert was fairly straight-forward. The second leg contained a few large blue gaps which brought several people down. I personally found deviation to the west of track paid off, albeit at some sacrifice of speed. Visibility was noticeably poor around Grove, which is the writer's excuse for photographing the wrong airfield. (Moral: if you've any doubt about a turning-point, keep looking, for even if you get sunk it's better than going on!) The last leg, being downwind, required only a couple of thermals, and even the final glide was made anxiety-free by cloud streets pointing almost directly to the goal. Seven pilots completed the race, which was won easily by Joe Przewlocki at 54 km/h. Second was Bernard Keogh at 40.3, and third Angela Smith at 40.1 km/h. Vic Tull actually made the second fastest time, but his Diamant carried a heavy contest handicap.

Monday was a No Contest Day.

TUESDAY, 11TH AUGUST:—After expressing only lukewarm appreciation of our photography on the first contest day, Arthur hoped for better things in that direction in today's task, a 166 km. Out-and-return to the M1-M45 Motorway interchange near Rugby. The entire course being under Controlled Airspace, sealed barographs were to be carried. The weather conditions turned out to be rather better than forecast, and cloud, instead of increasing, gradually dissipated to practically nothing in the afternoon. Outward bound, I found thermals broken and rather difficult until Buckingham, where the clearer skies seemed to bring stronger thermals. However, for the next 45 min. any tendency to feel satisfied about my progress was firmly tempered by my inability to shake Ray Stafford Allen's Capstan off my tail. What an embarrassment that man can be!

The homeward bound journey in the clear blue was very pleasant going, the tops of the thermals being visible as murky smudges at the inversion layer. Fifteen gliders, including the Capstan, completed the race, which was won comfortably by Angela Smith at 54.5 km/h. Second was Tug Burne at 47.7, and third Paul Grenet, also at 47.7 km/h.

Angela Smith was surprised at the easy margin of her victory, and even more so at the fact that she was now in the overall lead. She assured all us men that this must be a temporary situation.

WEDNESDAY, 12TH AUGUST:—A No Contest day, although some pilots managed some local soaring in the early afternoon.

THURSDAY, 13TH AUGUST:—One of those agonising borderline days; we waited on the grid for the Free Distance task, had another briefing at 1 o'clock when it was altered to a 101.5-km. triangle, Didcot Cooling Towers, Bicester Railway Station, Wycombe. Eventually we were launched, and after many relights, gliders started to creep away from the site. With the visibility down to a couple of miles and cloudbase about 1,700 ft. above ground. Most of us managed to scrape just beyond the Chilterns but Steve White (of National Standard Class fame) found some cloud lift just beyond Benson which helped him to get to Halton on the last leg, for which remarkable effort he was awarded 100 points. Only two others scored: Vic Tull, who unfortunately damaged his Diamant just sufficiently to put him out of the contest, and Joe Przewlocki. Angela remained in the overall lead.



Arthur Doughty busy task-setting.
(Photo: H. W. Fletcher)

FRIDAY, 14TH AUGUST:—Arthur decided to stick his neck out, and set us a 303 km. Out-and-return to a railway junction about 6 miles north of Grantham. The day turned out to be one of those normally seen only from office windows, but here we happy few were sitting in gliders, at the right place, at the right time, at last. No time was wasted on thermal snifters; we streamed off and punched our way north through strong lift with sink to match. Don't bother with the weak thermals, I thought, and straightaway nearly sank near Little Horwood. Cloud increased somewhat at the northern end of the course, but a rather dead patch around the turning-point (isn't there always) had a few people in trouble. Homeward bound, the wind seemed to have backed from the forecast direction and slowed many of us down—I just couldn't seem to lose Corby from under my feet for over half-an-hour, in spite of cloudbase having by this time risen to over 6,000 ft. asl.

Another weak patch had to be crossed by the later pilots when a tongue of Cirrus spread across the track between Bletchley and Leighton Buzzard, but once back over the Chilterns the cumulus kept boiling until well after 6.30 p.m., enabling 11 out of the 19 gliders to complete the task. Truly, a memorable day—Paul Grenet won at 63.7 km/h., "Shep" Sheppard was second at 59.5, and Ron Cousins third at 58.9 km/h. Elliot Stenhouse and Philippa Buckley landed one thermal short of home, each after over 7½ hours airborne. Steve White flew *hors concours* in the Club K-7, landing at Dunstable, homeward bound. Bernard Keogh was unlucky enough to land as early as 3.30 p.m. in the grounds of Woburn Park, earning a great deal of publicity, but spoiling his chances of overtaking Angela for the lead.

SATURDAY, 15TH AUGUST:—A dull dawn and an unpromising radio weather forecast nearly caught several of us out this morning. Arthur set a 166.9-km. triangle, Edgehill, Grove, Wycombe, and there we were with our gliders still in their boxes. Nevertheless, we all streamed off at 11.30 a.m. into remarkably good soaring weather—while it lasted. At about 2 p.m. the conditions dramatically deteriorated in a strange, non-frontal



Angela Smith, who acquitted herself so well at Booker
(Photo: H. W. Fletcher)

way—the cumulus turned dark grey and dropped their bases by perhaps a thousand feet, and light drizzle fell from the stratified spread-out of their tops. Just about everybody had landed by 3.30 p.m., most of them along the second leg of the triangle.

Steve White managed to reach Grove, winning the day. Bernard Keogh was second and Paul Grenet third, 7½ and 9 km. short of Grove respectively. Ray Stafford Allen had the misfortune to hit a sheep on landing in a field, killing the former and damaging the glider's nose. "Oh, that's all right," said the farmer, when Ray apologised profusely and compensated him, "they all have to go sometime." And there, still first, was Angela.

SUNDAY, 16TH AUGUST:—Gale force winds put paid to any chances of flying today, and so this most successful meeting came to an end, officially closed by Ken Wilkinson, Chairman of the BGA. Angela Smith was a most worthy winner, her consistent flying backing up her fine win on the Tuesday. Paul Grenet was second, and Bernard Keogh third. The BAC Trophy for the highest placed Team Entry went to Alasdair and Alan Milne, who came fourth overall. The "Best Effort" Prize (for a "first competition" entry) went to Adrian Wagenaar.

The organisers should be congratulated on an extremely well-run competition, managed so quietly by a mere handful of people. (I particularly liked the way most of them turned into tug pilots when it was time to get us airborne.)

At the risk of leaving somebody out, I would like to thank you all.

The final results were published in the October-November, 1970 issue, page 410.

MORE ON AGRICULTURAL THERMALS

By HAROLD DREW

IN his article in the Aug.-Sept. S & G, page 289, Wilfred Harper sets down some of his thoughts on straw fire thermals, with, he says, the intention to "provoke comment". Here is some comment.

Wilfred writes as if he has found it possible to climb in a column of smoke rising steadily from the fire. I believe that this is only possible in an absolute calm. The "English Channel Pilot" remarks that "Calms are rare and of short duration", and this is certainly true of Lasham where I do most of my flying. A ten-knot wind introduces a completely different environment.

I imagine that a straw fire in a twenty-acre field releases only a puny amount of energy compared to the energy of a respectable thermal. I think that we must regard the fire only as a trigger, as Wilfred suggests when he says that the strength of the resulting thermal depends on the lapse rate.

In my experience straw fires do not burn at a steady rate. They flare up and die down at intervals of several minutes. With simple natural draught, the

fire is somewhat lethargic, because the radial inward flow of air is leisurely, particularly from the down wind side where the unburnt straw is awaiting the advance of the flame front.

If the air mass drifting down on the fire is unstable, then the fire will from time to time trigger a thermal. Sometimes, even, an embryonic thermal may drift down over the fire. The conditions are immediately changed. A vigorous inward flow of air is initiated and the increased availability of oxygen causes the fire to flare.

As with all thermals, the column is inclined down wind and the inclination increases with altitude due to the effect of wind gradient and diminishing vertical velocity. It is clear that this process cannot continue for very long. The thermal breaks loose and the whole shebang drifts away down wind. The fire is now being fed with less unstable air, some of which may have come in from a higher level. Another thermal will probably not be stimulated for a short time.

The whole process may be watched from a cross wind observation point. The drifting thermals are revealed by more nearly vertical columns of denser smoke. If the line of this column is extended in one's imagination until it meets the ground, this contact will be seen to drift down wind.

My own technique for flying straw fires is to approach from down wind and hold in the smoke with S turns and circles until the fire flares. As soon as this happens watch the vario and kick the ship into a turn as soon as lift is indicated. Then circle as for any thermal and centre by the use of conventional techniques, helped to some extent by smoke indications. One will not, of course, climb as quickly as the smoke, because even the most sophisticated glider will have a higher rate of sink than the minute carbon particles.

I usually work the thermal for a few minutes only, unless it is very strong and persistent. Then I return to the fire for more. Often one meets a thermal which has drifted down from the fire well before one reaches the fire.

As Wilfred says, some of these thermals are exceedingly rough and they seem to be stronger than natural thermals in the vicinity. I have touched down with a wheat straw complete with threshed out ear wrapped round my leading edge. This was unscorched and certainly came from a point down wind of the fire. It may have been carried aloft after the base of the thermal drifted away from the fire.

* * *

MILES COVERDALE FROM NEW YORK, USA, ALSO COMMENTED ON THE SAME ARTICLE:—

On a sunny day it is generally the smoke itself which is of more benefit in causing lift than any heat which may come from the advancing flames. This is true, because while the flames are heating a relatively small parcel of air at the ground, the billions of smoke particles suspended in the air are intercepting the sun's rays and being heated directly, thus warming the entire smokey column of air.

This seems to be proven by the fact that there can be tremendous lift in the smoke over a barely smouldering garbage dump (which is so cool that seagulls are wandering around upon it), and the process can be seen in the occasional columns of smoke which move horizontally across the ground for a little way down wind of such a source before suddenly rising vertically as the thermals form.

Therefore, a pilot approaching such an area in hopes of finding lift, would do well to examine the smoke column carefully to see if it rises directly over the burning field or blows a way down wind before suddenly rising, for, of course, it is in the rising column that a possible thermal will be found.

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ME AND MY OLD KITE

By D. H. ASHMAN

CONTRARY to the general impression to be gained from reading too many recent editions of S & G, and from visiting certain soaring establishments in this and other countries, gliding can still be enjoyed as the wonderful sport it is by persons other than Pundits and the Jones's.

Admittedly, one's philosophy may need certain adjustments. If you just can't afford to get up and keep up with the glass-fibre fraternity, with all their talk of 500 km. triangles, exquisite polar curves, comps., and champs., you just can't. You're simply in another group. The Scrubbers group. Me and my old Kite's group.

My old Kite, "Blue Moon", is a much loved Slingsby T-6, which, complete with sundry bits and bobs and trailer, cost me the same sum of ready cash three years ago as the machine itself was purchased for when new in 1937. Fred Slingsby first designed the Kite Mk. 1 in 1935, and before the outbreak of war in 1939 built 24 of them.

Naturally enough, after thirty-three years of bangs and prangs, mods. here and mods. there, she no longer appeals to the penetration-conscious elite of the seventies. Scrubber's machine or not, with her gulled wings and short, shapely fuselage she looks much more beautiful and bird-like than most: especially in flight.

Having decided you just can't compete in the top end of the game, because wife/mortgages/family/house/mother-in-law/cash (delete as applicable) won't allow, you either pack up or glide in what you can afford and be happy. You join the Scrubbers. This, however, does not mean you cease to have aims, ideals or achievements. Far from it. Your standards simply change. They aren't lowered—let's get that straight— they are different.

Blue Moon goes up like a rocket, turning tightly at 35 knots in the core of a decent thermal. We just watch the altimeter wind its way up as we outclimb everyone else. But up at the top everyone else has what they call penetration and they wave us goodbye as we fight to get to the next thermal a mile-and-a-half away. Still, you can't have it both ways.

Then again, when thermals are weak and choosey, its nice to discover that your three hours waffling around the neighbourhood was the longest flight of the day. And a fifty-mile cross-country flight really was a fight to stay up and get there.

Blue Moon has lots of secret assets too. Of the "they don't make 'em like that nowadays" sort. For instance, she weighs less than 350 lbs. So rigging and de-rigging is not a life or death struggle, staggering out of the trailer with parts which seem to weigh at least a ton. Two of us—and one only thirteen years old—can rig the Kite with ease. Together we can carry the fuselage if necessary. This means we can go for an occasional expedition into remote parts of the Kingdom, rig easily, autotow behind the family saloon or bungey launch with the help of a very few friends.

On aerotow, me and my Kite are usually airborne after a ground run of 2 to 5 feet—she lifts off in the slipstream from the tug's propeller.

Of course aerobatics are out: so is cloud flying, because we haven't full airbrakes. We do have spoilers though, a modification dating from a few years ago, and they are very effective. Especially for landing. Talking of landings, we reckon that with only a skid (the wheel hadn't been invented in 1935) we can get into as small a cricket pitch as anyone.

If there is any moral to be drawn from this little story it is that Scrubbers need not despair. There certainly is another side to the gliding story, although we don't very often hear much about it. The side which tells of the blokes with not a lot of cash to spare, perhaps not a lot of time either, but who get a tremendous amount of fun, a fair sense of achievement and, in spite of the glass-fibre/laminar flow lot, manage to attain some pretty good standards of flying in their old, nowadays inexpensive, spruce, ply and fabric machines. Remember, you can still get your Silver in a thirty year old machine: it may take a little longer, but the satisfaction of getting it will be all the greater in the end.

Please let's have more news from other gliding Scrubbers in the future.

DUNSTABLE WAVE

By FRANK POZERSKIS

WHILST making my routine journey to Dunstable on Saturday, 5th September, I was making my own study of the sky to judge what type of day it would be. It was, to my mind, an unusual sky because wave bars were forming above the budding cumulus. The time was about 10:00 hrs. Anyway, I was looking forward to a good day's soaring, even after flying seven gruelling days in the Open Class Championships.

On arrival, I quickly rigged my beloved Cirrus and was soon aerotowed to 1,400 ft. It was immediately apparent that the thermal lift was unusually smooth, yet, in some lift, as soon as a turn was made, it disappeared. After struggling for twenty minutes, Mike Fairman radioed that he was climbing in wave and was at 7,000 ft. about 5 miles north of the club. This sparked off a great deal of enthusiasm between pilots, and this of course included myself. I kept asking for Mike's whereabouts but I still could not contact this particular wave. The sky looked very much like the sky of New Zealand, as it was covered with lenticulars.

After climbing to 4,000 ft. in a thermal, I heard Simon Redman in his SHK report 2 kts. at 5,000 ft. At this time I was about a mile behind him with a giant lenticular directly above. Suddenly smooth lift of 4 kts. was encountered and by decreasing speed, and turning into the westerly wind, 6 kts. was achieved. Mike Fairman was now reporting 8,000 ft. still climbing. My own lift increased to 8 kts., and occasionally 10 kts. after 9,000 ft. By now I was above the leading edge of the lenticular, between Ivinghoe Beacon and Cheddington Airfield. I eventually rose to 11,600 ft. where the lift decreased to half-a-knot.

Visibility was excellent and one could easily see Northampton which was 30 miles away. It was noted that with increasing altitude I had to increase my speed to 65 kts. to maintain a stationary position relative to the ground.

After absorbing the breathtaking view I landed as quickly as possible so that my son could try to gain his Gold C height; unfortunately by the time he was airborne, the wave had passed, but it is hoped, not for good.

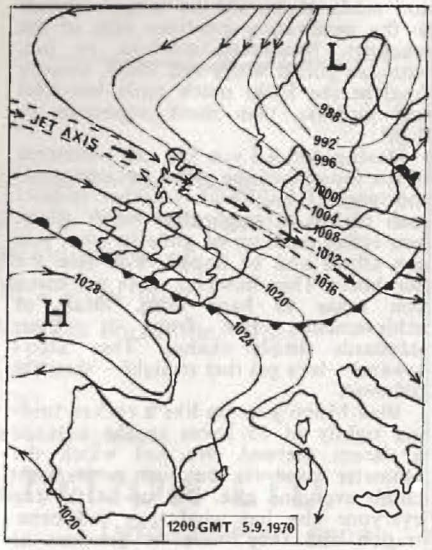
Roger Pollard, Mike Fairman and Simon Redman all achieved heights of over 9,000 ft.

* * *

Met. Notes supplied by Tom Bradbury

The midday chart on 5th September shows that England was on the edge of an anti-cyclone of 1030 millibars, centred over the Bay of Biscay. A weak front lay almost stationary over Cherbourg, aligned 290/110 degrees, with England in the cold air north of the front. The frontal surface sloped upwards over England, and although it was not marked by typical frontal cloud it did produce a layer of relatively moist air, together with an increase of stability aloft and also a considerable shear of wind.

The winds and temperatures over Dunstable have been estimated by interpolating between the values given by the radio sonde reports within a radius of about a hundred miles. These show that the air was unstable from the



The weather situation on 5th September

surface up to about 5,000 ft. From 5,000 to 6,500 ft. was an almost isothermal layer, and there may have been an inversion. About 6,500 ft. the lapse rate increased, but did not return to the standard value till about 20,000 ft.

The wind direction was almost constant up to at least 39,000 ft., being within ten degrees of 290° (True). The speed increased as follows:—

Feet	*kts.*
3,000	25
5,000	30
6,500	43
10,000	50
14,000	65
18,000	70

—with a maximum of about 80 knots near 39,000 ft.

At high level the strongest winds were over Scotland, which was crossed by a jet stream with speeds of over 150 knots at about 30,000 ft.

Evidently all the conditions for lee waves were fulfilled, and the satellite photo at 11:28 BST, showed a great many waves. When the photo was taken,



Wave systems shown spreading from the Atlantic across Ireland and England from a satellite photograph

the satellite was almost vertically above Bordeaux at a height of just over 1,400 km., and the wave clouds over Britain were close to the limit of resolution. To make them clearer the pattern has been sketched on a much enlarged scale, rectified to fit the map projection. The sketch has probably introduced a number of small errors, but the general pattern is probably correct. Some areas were covered by cloud which was too thick to show any wave pattern, and these areas have been shown stippled on the sketch. However, where the cloud was thinner, the wave trains appeared surprisingly extensive.

Three systems extend practically the whole width of Eire, and with some reinforcement from the Wicklow mountains near Dublin, waves continued across the Irish sea to North Wales. Similar wave trains extended many miles out over the North Sea from the Yorkshire coast. A rough check of the wave length suggests values between 5 and 7 nm., with the shorter wave length in the south where the winds were lighter.

I should sound a note of caution, however. The appearance of wave cloud on satellite photos does not guarantee that soarable waves existed over the whole area, and there is no way of determining the height of the cloud. Very similar wave patterns have been seen near jet streams over the Atlantic more than a thousand miles from any land.

Corrections to SAILPLANE & GLIDING, Oct.-Nov. issue

Janusz Krasicki of Warsaw, Poland, has drawn our attention to two errors in the last issue.

Page 394. Helmut Reichmann, Germany, was declared the youngest (28) World Champion to go down in the gliding history books. Jan Wroblewski, Poland, was only 24 years old when he won the Open Class World Championships at South Cerney in 1965. [Apologies to all concerned.—ED.]

Page 433. There was no fatal accident during the Polish Nationals held at Leszno in May. The accident mentioned in the editorial note occurred during the contest held at Lisie Katy (known as the 2nd League contest). On 16th June, while launching for the third task was in progress, two tugs had a mid-air collision, resulting in the death of both tug pilots involved.

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DONCASTER—22nd Aug.—1st Sept.

By DOUG BIRCH

WITHIN minutes of the arrival of the civic chariot bearing Doncaster's premier lady, Her Worship The Mayor, Councillor Mrs. Olive Sunderland, the wheels of the National Open Class Championship for 1970 were set in motion on Saturday, 22nd August.

In a brief, informal manner the Mayor plotted the growth of gliding in this country, from its unsteady beginnings up to its healthy, present-day position, making particular mention of Philip Wills' magnificent effort in 1952 when he became the first British glider pilot to achieve the title World Champion. Finishing on the well-used orators' theme, Mrs. Sunderland wished the "cream of British glider pilots" competing in the championships, a pleasant and enjoyable stay at Doncaster.

Don Westerside, Chairman of the Doncaster Gliding Club and *Directeur du Championnat*, then mounted the rostrum and introduced to the gathered multitude the senior officials for the competition. Acting as stewards on behalf of the BGA: John Furlong, Stan Armstrong and Jack Speight. Task setters: Brian Jefferson and Ian Strachan. Looking after the weather: the most optimistic man in meteorology, Ron Cashmore, ably abetted by Mike Capstone; computing the scores: Joe Caiger; and in charge of operations: Brian Dalby.

After this impressive roll call a more serious note was introduced to the proceedings by Brian Dalby when he outlined the local airspace regulations, areas of high-intensity flying and areas to be avoided, these included RAF Scampton and Conningsby where Vulcans and Phantoms roam the sky, and the Vale of York which is used by *ab-initio* Jet Provost pilots.

Brian Jefferson then unveiled the first task of the competition—Out-and-return with alternate turning-points: Ripon racecourse—146 km.; Easingwold—130 km.; Malton—145 km. X=25, Y=50 km. First launch: 12.00 hrs.

Ron Cashmore then gave the forecast for the day. The stagnant situation with a thundery low over the SE was moving away, leaving in its wake a more stable area. The extensive stratus inland would burn off during the morning, leaving poor visibility and low cloud, especially in the Midlands. Conditions would become generally variable as the upper cloud disintegrated, hence the setting of three tasks. Cloudbase 2,000 ft. rising to 2,500 ft. (all heights asl) by mid-afternoon. Average thermals 2 kt. but in cloud 8 to 12 kt. could be expected. Cumulus tops 9,000-12,000 ft.

With just over one hour to pass before the first take-off the atmosphere in the trailer park was vibrant and alive as crews checked and re-checked their charges for the forthcoming event. Ken Wilkinson, at this stage, was still without two-thirds of his crew, who were flying up from Bicester but had been delayed by bad weather. He therefore accepted the help of Inge Deen, the BGA General Secretary (now retired) as temporary crew member. Jane Pozerskis, as always on occasions such as these, was to be seen diligently polishing the leading edges of her father's Cirrus. Flying in his first Nationals, Jock Wishart had for his crew chief John Williamson, the reigning Sports Class champion. What more could one ask in the way of an experienced guide and mentor? David Ince in the beautifully turned out LS-1 had his wife Anne, *The Daily Telegraph's* gliding correspondent, and their daughter, Virginia, as crew.

In the clubroom the crystal ball gazers had bracketed George Burton and John Cardiff as clear favourites to win the contest. Local pilots Jack Tarr, the winner of the recent Northern Regionals, and Bob Plane were both enthusiastically supported and expected to do well.

At 12.16 hrs., with the start-line having been abolished minutes earlier, Ralph Jones, exuberant boss of Southern Sailplanes, flying his Std. Cirrus, was first away. Half-an-hour later all competitors had taken their first competition launch. It became obvious right after the first few launches that conditions were going



Ralph Jones in his Standard Cirrus. (Photo: D. Birch)

to be extremely difficult, with a low cloudbase (1,800-2,000 ft.) and the sky far from alive! One gaggle of seven aircraft was observed struggling in the vicinity of Doncaster for 35 minutes, whilst other machines were landing with clockwork regularity for relights. From the general consensus of opinion it was learned that pilots were able to get about five miles out and then ran into a very dead area, being forced to scuttle for home.

From radio reports beginning to filter back to control, the conditions showed no signs of improving and it was not long before a steady stream of landing reports was being received, one of the first coming from Bob Lyndon, who landed less than 25 km away at Knottingley, whilst Alf Warminger made 84.5 km. to Lynton-on-Ouse before putting down. On the control room map a steady regimental line of landing pins was appearing along the Ripon and Easingwold tracks and in particular around York, an area which killed the hopes of eight pilots for the day. Steve Hart landed on York racecourse only to find himself locked in. He was later joined by Bill Maltby and it was some considerable time before the crews located the keeper of the keys.

George Burton also had trouble, but of a different nature; his instruments had failed; a kink in one of the tubes had caused a breakdown, and he was forced to land at Rufforth airfield, 74.5 km. The Kestrel 17 George was flying was brand-new and had only done its first test flight on Tuesday of the previous week.

Gerry Paddick, Mike Smith and Ben Benoist were the only pilots to round the Ripon TP, while David Ince, Peter Saundby and Harry Orme circumnavigated the Easingwold TP. None of the pilots attempted the Malton task.

At 15.07 hrs. David Ince, after a considerable period of radio silence, brightened the hearts of all at control by announcing that he was seven miles out and would be home shortly. Five minutes elapsed and he, the only finisher of the day, was back.

He attributed the completion of the task to getting away immediately from Doncaster, and by doing this managed to get a good climb to 4,500 ft., the highest point of the day. Near York he was down to 1,700 ft. and later struggled at 700 ft. in the Vale of York. He said "One spent a lot of time looking backwards in order to stay airborne."

Four pilots did not score.

LEADING RESULTS—OPEN

Ince	LS-1	34.6 km/h.	718
Benoist	Dart 17R	86.0 km.	379
Smith. M.	Dart 17R	85.5 km.	357
Saundby	K-6E	76.5 km.	320
Paddick	SHK	74.0 km.	305

Sunday, 23rd August

The overall weather situation had hardly changed from yesterday; the high pressure area to the west was only a temporary feature and the abundance of low cloud in the south was expected to clear fairly rapidly. The other problem was a weak trough to the north, also with a lot of low cloud which was liable to damp down thermal activity.

After Don Westerside had presented David Ince with the Daily Prize for yesterday's magnificent effort, and David had given his description of the flight, Don announced that two pilots had been penalised; one for indefinable TP photographs, one for carrying no barograph.

By 13.30 hrs. the weather had still not shown any sympathy towards the 33 grounded pilots and the task setters were therefore forced to cancel their original plans and substitute a 100-km. Out-and-return to Wellersley roundabout. Scrubbing time designated as 15.30 hrs. The only flicker of amusement came from "snifter" Bob Plane with his hoary gliding chestnut "2 kt. over Rockware Glass chimneys, God bless the Minister of Fuel and Transport".

Deadline 15.30 reached. No improvement. Task cancelled.

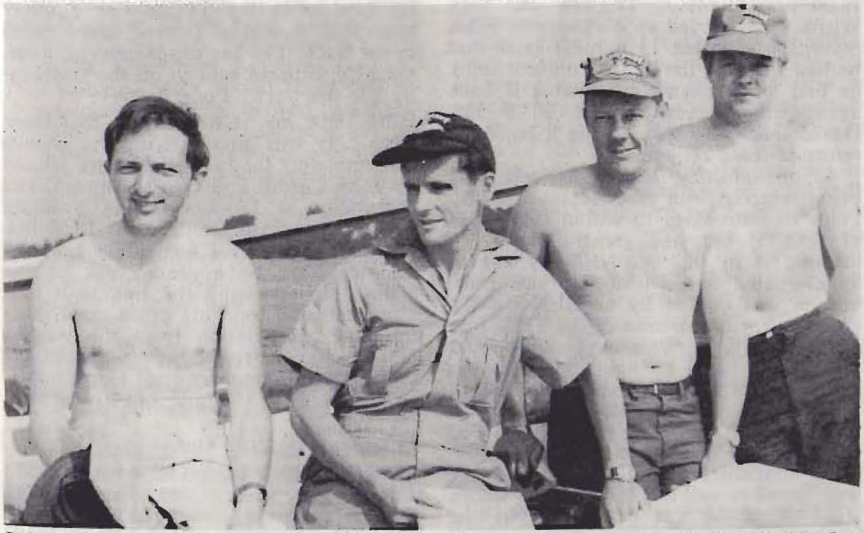
Monday, 24th August

Out-and-return Church Broughton, 160 km. X=20, Y=60 km.

Further stabilisation had taken place and therefore the widespread stratus would be slow to disperse, but the Doncaster area was relatively clear, and provided the flow did not increase to bring thicker cloud from the north, small breaks in the cloud should appear at about 10.00 hrs., and dispersal should commence around noon. Over all low ground, thermal structure was expected to be poor and limited to 2,500 ft. with visibility of about four miles. Over the high Pennine ridges, however, cumulus could develop with bases around 5,000 and tops to 10,000 ft. If this arrived, it would be associated with good visibility and thermals of 6-10 kt.

Alan Simpson, the man in charge of PR, was doing a superb job; today he had arranged for the BBC "Look North" team to be on the spot. Ian Strachan and Don Westerside were interviewed by reporter Barry Chambers, and later the cameraman was whisked around the sky to get the appropriate aerial shots. The programme, screened that evening, was considered a shot in the arm for gliding.

Just prior to take-off the start line was



L-R: "John Willy" crewed for his usual crew chief Jock Wishart flying in his first Nationals. Bill Galt (USA) and Paddy McChrystal (Ireland) made up the team.

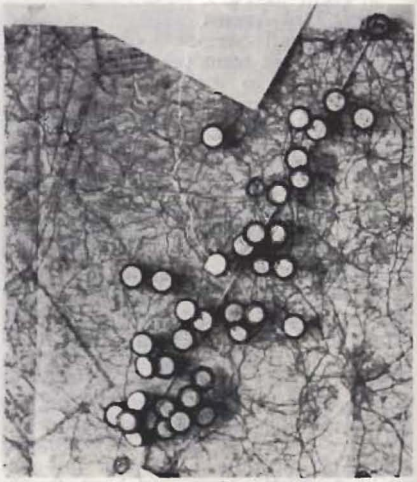
deleted as cloudbase was only 1,700 ft. Bill Maltby was first away at 13.40 hrs., closely followed by Bob Lyndon and John Cardiff. After watching the first few gliders launched, struggling desperately to get away below the stipulated cloud-entering height, Sam St. Pierre, Bernard Fitchett, Ralph Jones, Frank Pozerskis and George Burton withdrew from the grid to wait for cloudbase to rise. Meanwhile, John Cardiff, Charles Ellis and Mike Smith had returned to await relights.

As conditions improved the later-launches started to get away. Pilots' reports indicated that the first ten miles out was not too difficult, but visibility was even poorer than expected.

By 15.15 hrs., Alf Warminger, Steve Hart, David Robertson and Bob Lyndon had reached Chesterfield at around 2,000 ft., whilst Tom Zealley passed the same area at 4,000 ft. Unfortunately, just after this, Bob Lyndon was struggling and then forced to land. Meanwhile, Bernard Fitchett reported he was passing Matlock and was pressing on hard, closely followed by Alf Warminger. Ken Wilkinson returned to base for a relight at 15.25 hrs., and so the struggle intensified, with visibility decreasing all the time, and by 16.00 hrs. Humphry Dimock and Jock Wishart had landed at Wirksworth. Nigel Stevenson reported 15 minutes later that he had rounded the TP but did not think he had much chance of making it back against the headwind. At 16.20 hrs. David Ince, who was having a bad day, returned for a relight.

As on Saturday, landing reports were being received with great regularity. Bob Plane had struggled to within four miles of the TP but had great difficulty in locating it in the bad visibility, which he estimated to be less than one mile, but he was guided by an SHK on the ground to within a mile of the TP before having to land. This was Bob's first "Nationals" and he said that he was learning a lot from the experienced pilots.

By 16.30 hrs. those pilots who were to round the TP had done so. Bernard Fitchett was one of the first, but he encountered difficulties east of Ashbourne and was forced to call it a day. On the return leg Chesterfield was proving to be the bugbear and five pilots were downed here.



Landing pins—Day 2. Doncaster, black pin top right-hand corner
(Photo: A. E. Slater)

David Ince failed to get very far from his relight and therefore did not collect any points. Ralph Jones had the hard luck story of the day; he rounded what he took to be the TP only to discover later that it was a further seven miles down track. For his misjudgement, Jane, his wife, ordered him to do the washing-up for the week! Poor Ralph!

By 18.00 hrs. it was known that there were only two aircraft with any chance of completing the task. They were piloted by John Cardiff and George Burton, and everybody at Doncaster was awaiting with bated breath for news. At 18.00 hrs. John announced his final glide and two minutes later he appeared out of the setting sun, crossing the line with tail-chute out and touching down amid murmurs of appreciation from the waiting enthusiasts. George, however, missed the elusive last thermal required to get home, and landed just south of Rotherham.

LEADING RESULTS—OPEN

Cardiff	ASW-12	42.0 km/h.	876
Burton	Kestrel	137.5 km.	718
Pozerskis	Cirrus	120.5 km.	614
Costin	Cirrus	117.0 km.	593
Woods	SHK	116.5 km.	590

LEADING RESULTS—2 DAYS

Open		*Handicapped*	
Cardiff	1122	Cardiff	1272
Burton	862	Smith, M.	1065
Pozerskis	860	Burton	1052

Tuesday, 25th August

Triangle—Micklefield, Breighton Airfield, Doncaster—95 km. X=20, Y=50 km.

A ridge of high pressure was gradually extending over Scotland and down the line of the Pennines, while a weak trough from the Humber to Carlisle was moving slowly south. The better visibility over north Yorkshire was also moving southwards, but the movement of the systems was probably too slow for clearance in time for the task.

John Cardiff, in his "how I done it" chat, said of yesterday's flight, that after his relight he somehow managed to scrape to Chesterfield, having been lucky in seeing Bob Plane in his K-6CR in a thermal, which he joined. Thus he gained enough height to get to Chesterfield. From there on he made use of the industrial smoke of the area which took him north of track towards Derby. There he was fortunate to connect with a cloud street which took him to the TP. While rounding the TP in poor visibility, he nearly collided with Tony Burton in his Dart 17R. From here, following his identical outward track, cloud street and industrial smog, John arrived at Mexborough with 2,200 ft. showing on the altimeter, which was enough for a comfortable final glide to be computed.

George Burton discovered late last night that he had fractured the tailplane of the Kestrel in yesterday's landing out. Immediate despatches were sent to Slingsby's for a replacement, which arrived this morning, and George was once more ready to continue.

A field briefing at 14.10 hrs. decided that the first launch would be in 20 minutes' time from a pilot-selected start. While the pilots were contemplating the startboard, some in bewilderment and some in amusement, a small poodle decided to show its contempt of the weather and the pilot selective start-board in a particularly canine way.

At 14.30 hrs. cloudbase was still considered to be too low and the task was scrubbed.

Wednesday, 26th August

Yesterday's weather was still with us, and Ron Cashmore's "This is the first time ever that I have seen a December day in August" aptly described the scene.

The next briefing took place on the grid at 14.40 hrs. The decision to scrub would be made at 15.00 hrs. Pilots were warned to be ready for an "upstick" briefing at 09.00 hrs. tomorrow if poor visibility persisted, with possible removal to Spitalgate or Rufforth. Task then scrubbed.

Thursday, 27th August

Triangle — Olney Airfield, Melton Mowbray, Husbands Bosworth — 145.5 km. X=20, Y=50 km.

With thick fog in the vicinity of Doncaster and a favourable forecast for the Midlands, a convoy of 32 pilots and *entourage* set forth to the Coventry club's site at Husbands Bosworth with high hopes of a good day's flying. It was expected that by midday conditions should be good, with large, strong and well-behaved thermals, the best to generate 6 kts. by early afternoon. This, coupled with *nil* wind conditions, gave hope of very fast times over the set course.

On arrival at Husbands Bosworth, once again the pilots had to face the all-seeing eyes of the BBC TV cameras which were awaiting their arrival; more good work from Messrs. Simpson and Cline of the publicity department.

With conditions virtually perfect for the set task, all pilots seemed filled with an urgency which had not been apparent so far during the week, and immediately from the first launch the field were soon showing us their tails as they disappeared rapidly in the direction of Olney. Very good progress was made on this leg, with very few reports of anybody running into difficulties, the only casualty being Vic Tull in the Skylark 3F, who landed just east of Olney. He returned for a relight but failed to better his first distance. The first TP was reached by a fairly large gaggle of aircraft within minutes of each other.

Back at control, nothing had been heard from either John or George. This by now was considered quite usual, but, as always, speculation was rife as to who

would be first back. There seemed to be no doubt that it would be one or the other.

Along the second leg many pilots were achieving their highest climbs of the week, Tony Burton reporting 8,000 ft. at Desborough and Alf Warminger 6,000 ft. in cloud in the same area. Mike Costin, who was flying in his first Nationals, was also getting along very well, and his confident reports were regularly received.

The local lads, Jack Tarr and Bob Plane, although neither finished both had a good day's flying; particularly Bob, who covered 129 km. and at one stage climbed to 6,000 ft. before landing at Market Harborough. Jack landed east of Leicester.

Chris Gill had the hard luck story of the day when his final glide ran out one km. short of home.

Today was the first day in the competition that more than one aircraft finished the course, and those who travelled to HB were rewarded by seeing no fewer than 26 finishers crossing the line.

Between 16.00 hrs., when Don Hanson arrived in the ex-Peter Scott BS-1, and 16.13 hrs., the first flurry of gliders crossed the line, including both John and George. It was not long before George's speed had been calculated at 81.26 km/h., nearly 11 km/h. faster than John.

Bernard Fitchett was now beginning to show his paces and had moved up to third on general classification. David Ince was back on form and lying fourth.

At the top of the table a fantastic battle was developing, with only two points separating George from John, who was still leading. The excitement in the rival camps was now intense.

One very viable thought which Ron Cashmore put forward concerning George's flight came from the fact that during the race he took four climbs to 4,000—4,500 ft. in 4-kt. thermals, and in doing so deviated from track quite considerably. If he had taken only the best thermals along track he surely would have broken the 100-km. speed record.

So, after a satisfying day's aviating—back to Doncaster.

LEADING RESULTS—OPEN		*km/h.*	*Pts.*
Burton	Kestrel	81.2	1000
Cardiff	ASW-12	70.9	742
Fitchett	Cirrus	67.2	649
Ince	LS-1	64.4	579
Warminger	Phoebus 17	63.7	562

LEADING RESULTS—3 DAYS

Open		*Handicapped*	
Cardiff	1864	Burton	2052
Burton	1862	Cardiff	1923
Fitchett	1408	Fitchett	1799

Friday, 28th August

Task A—Out-and-return Spitalgate—149 km., or Wymeswold—158 km.



Ian Strachan in consultation with the start line officials. (Photo: A. E. Slater)

Task B—Triangle—Tuxford Railway Junction, Chesterfield Town Hall, Doncaster—109 km. X=20, Y=50 km.

The weak front was still persisting down the middle of the country, but a reasonable thermal structure was beginning to build up, with the best sources lying to the SW. A thick haze was at present covering the Trent valley, and for those pilots who choose Spitalgate and arrived late, they could expect to be confronted by a sea breeze front. Blue thermals should be in evidence by the time pilots assembled on the grid (13.00 hrs.), but they should not extend above 4,000 ft.

Tony Burton, one of the pilots making his Nationals debut, is a firm believer in making full use of "industrial thermals", yesterday he managed to find one which gave him 6-8 kt., and he says "providing one can stand the smells, which are mostly noxious, advantage ought to be taken of these ready-made thermals". (Tony made the two highest climbs of the competition in this way.)

Jack Tarr, on the other hand, was having difficulty in reaching any great heights; he believed that he spent too much time scratching around in weak thermals instead of looking for the fat, juicy ones.

Whilst everyone was making their way to the grid, Andy Gough flew in to show off Bicester's new Scheibe Falke.

At 14.00 hrs., one hour after the original time planned for take-off, Ian Strachan and Brian Jefferson decided that the weather dictated the use of task B. First launch would be in 30 minutes. Duly Peter Saundby rose to what looked to be another difficult task.

Among the pilots there was considerable muttering as to the decision of the task-setters in going ahead with the race when the visibility was so marginal.

By 14.45 hrs. the airspace around Doncaster was swarming with hard-working gliders. Chris Gill, Bob Lyndon and Bill Maltby provided plenty of spectator thrills as they thermalled in close company just south of the clubhouse, whilst to the west another eight gliders formed a similar pattern in the sky.

Sam St. Pierre and David Ince returned for relights at 14.50 hrs. Charles Ellis, flying his Skylark 3 for the last time in competitions (it has been sold), was heard



Charles Ellis in his Skylark 3.
(Photo: D. Birch)

at 15.15 hrs. asking for his trailer to roll to Bawtry; a minute later Alf Warminger was passing the same district at 1,800 ft. Others, however, were experiencing difficulties between Finningley and Bawtry and were struggling to make headway; a message received from Tom Zealley at this time typifies the situation, "better roll, but at walking pace". Mike Smith, Bob Plane, Bob Lyndon and Steve Hart all had to work hard to pass this difficult area.

Meanwhile, Alf had reached Retford —albeit slowly, and only at 1,600 ft. Bernard Fitchett, however, was pressing on rapidly and was first to report he had rounded the first TP at 15.30 hrs. Shortly after Mike Costin did the same. Unfortunately, Bernard got very low at Boughton and had to land a few minutes later —44 km. from base.

Frank Pozerskis navigated the first TP at 3,000 ft. after having a good climb west of Tuxford. The first leg was still proving difficult as late as 16.30 hrs. and only 24 gliders were airborne after Tuxford had been cleared. The remaining pilots made good progress until the outskirts of Chesterfield were reached, when once more the elements decided to make life difficult, and more gliders were forced out of the air, including number one challenger for the title, John Cardiff, who landed after 62 km.

By 17.00 hrs. it was known that Mike Costin and Ralph Jones had rounded the second TP, but it was also known



An historic quartet, the complete Skylark family, Nos. 1-4 lined up for the photographers. This is probably the first time that they have been seen together. Only one airworthy Skylark 1 (nearest camera) is known to exist. (Photo: A. E. Slater)

that at least another six were likely to do the same. The news that everybody had been waiting for arrived at 17.08 when George Burton was heard instructing his crew to "go home"; immediately all eyes turned to the west in preparation for his imminent arrival, which took place a few minutes later. Only five pilots completed the task.

Both Mike Smith and Gerry Paddick had to give up the struggle 4.5 and 9 km. from the finish line.

LEADING RESULTS—OPEN

Burton	Kestrel	50.9	823
Costin	Cirrus	39.7	752
Jones	Std. Cirrus	39.4	750
Warminger	Phoebus 17	36.7	733
Woods	SHK	29.1	694

LEADING RESULTS—4 DAYS

Open		*Handicapped*	
Burton	2685	Burton	2997
Cardiff	2192	Costin	2566
Costin	1976	Smith, M.	2535

Saturday, 29th August

Out-and-return race with alternate TP's. 1, Wymeswold Airfield—160 km. 2, Melton Mowbray TV mast—165 km. 3, Spitalgate airfield—152 km. X=20, Y=60 km.

Visibility was still hazy in the Doncaster area and the likelihood of it clearing during the day was improbable. Thermals weak and shallow to start with, 2-3 kt. up to 5,000 ft. As yesterday, thermal activity would die rapidly after 17.30 hrs. Wind 5-8 kt. from the SW.

Today was the first day of the August Bank Holiday weekend, and by 09.30 hrs. a considerable number of spectators had settled into the visitors' enclosure.

Mike Costin discovered he had a "flat" in his Cirrus's tyre and was forced to do a rapid tyre change prior to take-off.

Just after 14.00 hrs. Chris Riddell took off into a blue sky followed very shortly by John Cardiff, who spent considerable time in the area, trying to get enough height to leave. In the meantime, Jack Tarr, Humphry Dimock and Tom Zealley had landed for relights.

It became obvious right from the very start that the Melton Mowbray task was not on, Gerry Paddick said he preferred to go to Spitalgate because of the ease of navigation in comparison with the other tasks.

For those pilots who chose Spitalgate, the outward leg presented very few difficulties until they reached the northern outskirts of Grantham, where six pilots had not got enough height to carry them over the township to Spitalgate, and they had to land short of the TP. Bob Lyndon and Bill Maltby managed to reach the TP but could not make any headway on the return leg and were forced to retire at Spitalgate.

The Wymeswold leg proved to be the popular one of the day with 12 pilots rounding the TP against six at Spitalgate.

Today John Cardiff pipped George Burton to the post, his time being fractionally faster than George's. Mike Smith in the Dart 17R finished a very creditable third and practically ensured for himself the Dart Trophy.

LEADING RESULTS—OPEN

Cardiff	ASW-12	48.3 km/h.	1000
Burton	Kestrel	47.5 km/h.	996
Smith	Dart 17R	43.7 km/h.	979
Orme	K-6E	146.0 km.	821
Pozerskis	Cirrus	124.0 km.	678

LEADING RESULTS—5 DAYS

Open		*Handicapped*	
Burton	3681	Burton	3984
Cardiff	3192	Smith, M.	3535
Smith, M.	2824	Cardiff	3207

Sunday, 30th August

Triangle—Lincoln Cathedral, Trowell Service Station (M1), Doncaster—169 km. X=20, Y=60 km.

The ridge of low pressure over the country was decaying with the approach of a frontal system from Ireland, but its effect would not be felt until later in the afternoon. If the weather turned out as expected the possibility of wave should not be overlooked; otherwise, conditions very similar to yesterday would prevail.

On the way to Lincoln, the first 30 km. produced no surprises, except for Steve Hart, who landed near Gainsborough, and thus failed to score. The county town of Lincoln brought the first real problems, resulting in the downfall of five pilots, but worse was to follow at Swinderby where a dead patch crippled the hopes of another eight pilots. They all landed at Swinderby airfield. So, with half the distance covered, half the number of gliders were on the ground.

The latter stretch of the second leg was now becoming even more difficult; those pilots who had avoided the fiasco at Swinderby found that as they approached the City of Nottingham, hardly any headway could be made at all. Time, and time again, pilots reached the outskirts of the City, only to find they could not cross the populated area with the height in hand. Those who attempted to divert fared no better and a further six pilots came to rest in this Robin Hood country.



Mike Smith (with hat) discusses the flight plan for the day with his crew chief.

(Photo: D. Birch)

So on what was probably the most difficult day of the championships, the homeward leg had begun for the surviving four, but this also claimed its scalps, including the esteemed one of George Burton, who finally ran to ground north-west of Mansfield. Also Ralph Jones and Bernard Fitchett had to give in to gravity, which left John Cardiff to complete the course — arriving home with plenty of height to spare!

LEADING RESULTS—OPEN

Cardiff	ASW-12	60.5 km/h.	915
Fitchett	Cirrus	136.5 km.	696
Burton	Kestrel	130.0 km.	657
Jones	Std. Cirrus	128.5 km.	648
Warminger	Phoebus 17	103.0 km.	496

LEADING RESULTS—6 DAYS

Open		*Handicapped*	
Burton	4338	Burton	4750
Cardiff	4107	Cardiff	4207
Smith, M.	3251	Smith, M.	4133

Monday, 31st August

Task A—Race to Spitalgate—78 km. X=15, Y=45 km. Task B—Prizegiving.

Broken and scattered cumulus clouds were beginning to develop early with thermals of 3-4 kts. expected later in the morning and becoming much stronger in the afternoon.

Cloudbase would be around 2,500 rising to 3,000 ft., but over-development could occur and dampen activity. Surface wind 15-20 kts. gusting to 25 and this would increase to 32 kt. above 3,000 ft. Appreciable turbulence could be expected below 1,500 ft.

The tasksetters deliberated for some time, but finally decided it was safe to fly and thus Task B was deferred to a later date.

Because of the strong wind conditions pilots would be released well up wind and be dropped at 2,500 instead of the normal 2,000 ft. The wind had also dispersed the haze and pilots would at last be able actually to see the countryside they had been flying over during the week.

Before the last briefing of the championships was closed Don Westerside took the opportunity to thank all the

WHAT'S NEW?

We can safely say that every day somewhere in the world at least one of Alexander Schleichers' gliders is airborne. On most days literally hundreds of them are flying, surely proof enough of their continuing popularity and reliability. But Schleichers don't rest on their laurels so we are pleased to announce that in addition to their current range of gliders:—

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K.8B Performance follow-on single seater trainer.

K.6E High performance Standard class single seater.

ASW.15 Competition Standard Class High-performance 'glass' single seater.

ASK.14 Single seater powered sailplane with excellent 'engine off' glide performance.

that production is to commence on two entirely new glider types during 1971:—

K.16 Side-by-side two seater motor glider with a really good 'engine off' soaring performance and pleasant crisp handling qualities. Ideal for training, thermal soaring and wave exploration,

ASW.17 A 20 metre super high performance 'glass' sailplane with a glide ratio better than 1:48 and based on the now famous ASW-12 (winner of 1970 U.K. Nationals—five in the top ten places at Marfa). Cockpit space has been increased with handling and glide path control designed to be well within the capabilities of any reasonably competent 'club' pilot.

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officials, and they were handed small gifts by Jean Westerside.

Fred Slingsby, who was to have closed the championships, was, owing to illness, unable to be with us, and Godfrey Harwood kindly performed this duty in his own gentlemanly way on his behalf. Godfrey arranged to have a telegram sent to the Slingsbys to wish them a speedy recovery from everyone present.

On the grid excitement was building up, because for the first time during the contest wave was in evidence and pilots were waiting to get to grips with it. This certainly made the flying more interesting and many pilots encountered the wave, one climbing to 8,000 ft. in it. In all, 18 pilots reached Spitalgate with speeds ranging from 77.7 to 29.0 km/h. Of the rest only Frank Pozerskis and Ralph Jones returned for a relight, but they were too late and never reached the goal.

John Cardiff had easily made the fastest speed; George, however, had made an error of judgement by not crossing the start line, and with the tow to 2,500 ft. added about 5 or 6 min. to his flying time. But with his 231 point lead this morning none of the officials at Spitalgate would hazard a guess as to what the scorers would produce. So John had to go all the way back to Doncaster and spend some anxious waiting whilst the scores were checked and rechecked, and finally it was announced that John had indeed succeeded in wresting the title from George by a margin of 61 points. A fantastic finish to a very good championships.

* * *

The general feeling amongst the pilots about using Doncaster as a National Championship site was good, the facilities provided were excellent, not one person I spoke to had any complaint on that score. The atmosphere was friendly and a pleasant "camaraderie" had been established between competitors and officials. Seven contest days had been fulfilled and the good airmanship throughout the week had been of very high standard.

The only complaint voiced was that it was considered too late in the year for the Nationals to be held at Doncaster, and perhaps a site in a less industrial area would be preferable for contests held late in the season. Most pilots admitted they had been pleasantly surprised with Doncaster and would have no hesitation in returning if a further championship was held there.

LEADING RESULTS		km./h.	Pts.
Cardiff	ASW-12	77.7	1000
Burton	Kestrel	61.6	703
Paddick	SHK	60.5	689
Fitchett	Cirrus	60.3	685
Ince	LS-1	58.4	651

The final results were published in the Oct.-Nov. issue, page 409. We should have pointed out that according to the rules handicapped scores were used as part of the contest and not only for rating purposes. This makes George Burton the official winner (handicapped scores) followed by John Cardiff and Mike Smith.

Prizegiving

This took place at the Acorn Hotel, Doncaster, on Saturday, 10th October. Basil Meads, Vice-President of the BGA, deputised for Fred Slingsby, who had not fully recovered from his recent illness, and presented the victors with their well earned hardware.

The Londonderry Cup, for the outright winner of the Open Class, and the Firth Vickers Trophy, for the competitor under 30 years of age at the start of the contest, and who scores most (unhandicapped) points on any two contest days, to John Cardiff.

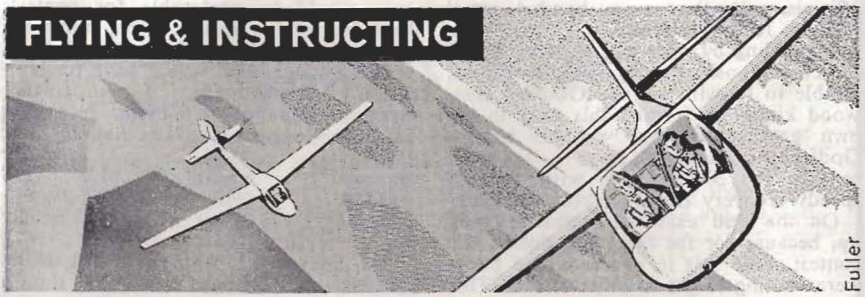
The EoN Cup, for the "Index of Performance" (using handicapped scores), to George Burton.

The Slingsby Trophy, for the highest placed pilot flying a Dart (using unhandicapped scores), and the Dart Trophy to the highest placed Dart in the Open Class, to Mike Smith.

The Emmott Award, for the highest placed pilot competing in Nationals of any sort for the first time, to Mike Costin.

Finally, the Peasants Award (a crate of ale), for the best trier in the competition, to Bob Plane.

And so, the final task of the 1970 Nationals had been completed, and pilots were already looking forward to 1971, a year when, without doubt, the glassfibre ships will make an even bigger impact on the gliding scene.



Part 1 of this article was published in S & G Oct.-Nov. issue, page 396.

IN-FLIGHT INSTRUCTION
3 Pitch Control in Level Flight

Instruments used:—The instruments showing movement in the pitching plane are the artificial horizon, altimeter, air speed indicator and the variometer.

ARTIFICIAL HORIZON:—

The artificial horizon gives a direct and immediate indication of the pitch attitude of the glider, by placing the image aircraft in relation to the artificial horizon bar in approximately the correct attitude for any desired condition of flight. Since the movement of the image aircraft in the artificial horizon is on a much smaller scale than that of the aircraft nose against the true horizon, it is easy to over-control. To avoid this, control pressure should be light but positive and the normal movement of the image aircraft should not exceed one thickness of the horizon bar. If the ASI shows movement of more than 20 knots, the glider is being over-controlled. There are times when corrections of more than one thickness of the horizon bar will be insufficient. Large corrections must be made in stages as follows: Change by making a small correction. Check the control movement. Hold the new attitude and cross check on the other pitch instruments to determine whether the new attitude is correct. Adjust if necessary by another correction not larger than that previously made. Cross check and if now correct—Trim.

AIRSPEED INDICATOR:—

The ASI gives an indirect indication of the pitch attitude of the glider, since for a given pitch attitude the airspeed will be constant. If the airspeed is too high the nose must be raised and *vice-versa*. On a limited panel (i.e. without artificial horizon) the airspeed indicator and the altimeter are the only instruments available to show departure from the correct pitch attitude. If a departure from the correct attitude is made, shown by, say, an increasing airspeed, the glider may be levelled off by moving the control column back until the ASI needle reverses its direction of movement. The aircraft will then be in approximately the level flight attitude.

VARIOMETER:—

The variometer does not give a positive indication of pitch attitude, but sudden variations in rate of climb or descend may mean that a correction in pitch is necessary.

TRIM:—

The importance of trim in instrument flight cannot be over-emphasised. Trim must not be used to change the pitch attitude, but to take out residual pressures on the controls after the glider has been placed in the desired attitude. Since it is possible for loads to be held unknowingly, it is important, when the aircraft is in steady flight conditions, occasionally to relax control pressures whilst cross checking the instruments, to determine the state of trim. If not correct the glider should be returned to its original attitude and the loads trimmed out. The trimmer should not be moved while the attitude is changing.

Cross Checking:—All instruments which indicate pitch or change of pitch, must be cross checked, one against the other,

to build up a clear picture of the aircraft's attitude. The artificial horizon is the primary instrument, the ASI, altimeter and variometer (if it is not total energy) are the support instruments.

4 Direction and Lateral Control

Instruments used:—The instruments used in lateral control are the artificial horizon, turn and slip indicator, and to a limited extent, the compass.

ARTIFICIAL HORIZON:—

The artificial horizon gives a direct and immediate indication of the lateral attitude of the glider. In balanced flight the glider starts to turn when the wings are banked; the turn is stopped by levelling the wings of the image aircraft in relation to the horizon bar. The lateral attitude is determined either by noting the position of the wings of the image aircraft in relation to the horizon bar, or by noting the position of the bank pointer in relation to the zero mark on the banking scale. Either may be used, but when turning, the bank pointer is more easily and accurately read. Whilst in straight flight the wings of the image aircraft are sufficiently close to the horizon bar to show accurately bank attitude, allowing pitch to be observed simultaneously.

TURN AND SLIP INDICATOR:—

The turn and slip indicator gives an indirect indication of the lateral level of the glider, since if the turn needle and ball are centred the glider is in straight and level flight. Deflection of the turn needle shows that the glider is turning in the direction indicated by the needle. Any deviation must be quickly corrected to maintain straight and level flight. Under turbulent conditions the needle oscillates quickly from side to side and the fluctuations must be averaged out to determine whether the aircraft is turning or not. The slip indicator will show whether the aircraft is being flown accurately; if the indicator is not central the rudder is being used incorrectly. On a limited panel the turn and slip indicator, together with the compass, is used to maintain direction on to the heading.

It is noteworthy that the turn needle will deflect in the direction of application of rudder, because the instrument measures the rate of yaw. When correcting for sideslip, ignore transient indications of the turn needle. As far as possible, control turn needle with aileron and slip with rudder.

COMPASS:—

Only the specialised compass, such as the Cook, can be of much use as a turning aid, and even this is subject to turning errors when going through northerly or southerly headings. Its use is, therefore, largely limited to straightening up from turns. The direction indicator or gyro compass is only rarely fitted to gliders. Where fitted it will indicate that bank is present (in properly balanced flight) if it shows a deviation from the desired heading. Corrective action is applied using the artificial horizon and the turn and slip indicator to check for unbalanced flight.

Cross Checking—Combined use is made of all available bank instruments to insure straight flight. The turn needle (and possibly compass) shows when the aircraft is turning, i.e. normal balanced turn, or yaw, induced by misuse of rudder. The artificial horizon is used to hold a constant laterally level attitude, or to change bank as required by the indication of the turn and slip. When correcting a deviation from heading by change of bank, beware of over-banking and overshooting the desired heading.

5 Turns

THE MEDIUM TURN:—

This will indicate between rate 1 and 2 if the turn indicator is correctly calibrated. It is useful to correlate the rate of turn indicated with the angle of bank whilst in clear air.

Instruments used:—The artificial horizon is the primary bank instrument. The turn needle should be used to confirm the correct rate of turn. The pitch attitude of the aircraft must also be changed to provide the extra lift required in the turn, and therefore the pitch instruments must also be watched. Since the artificial horizon precesses in a turn, lateral level must be cross-checked with the turn and slip indicator on recovery from the turn.

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STEEP TURNS—*Instruments used:* It is rarely necessary to undertake steep turns on instruments. There is a considerable change of pitch attitude but due to the large angle of bank this will not be easy to detect from the artificial horizon, and the support instrument, the turn indicator, may well be on the limit stop.

6 Recovery from Unusual Attitudes

1 The Ideal Recovery—From an unusual attitude, except spinning, the procedure should be:

(a) All physiological sensations must be ignored and the instruments trusted completely.

(b) Any toppled instruments must be ignored, e.g. artificial horizon.

(c) The slip needle or ball must be centralised with the rudder. The turn needle is centred with aileron, and the speed adjusted by elevator, and, if necessary, limited with airbrakes.

(d) When centralising the needle, care must be taken to impose only the very minimum of positive or negative *g* to avoid affecting the accuracy of the instruments.

2 Unusual Attitudes Characterised by an Increasing IAS:

(a) In a steep dive with the wings level or banked, all pitch instruments will give an indication of the nose-down attitude. The IAS will be increasing and the altimeter will show a rapid loss of height. The variometer will show a high rate of descend and the needle may be against the stop. The artificial horizon may be unreadable, if not toppled.

(b) Before attempting to pull out of the dive, the wings must be levelled by centralising the turn needle with aileron, at the same time centralising the slip needle or ball with rudder.

(c) At the first indications of a steep dive, having levelled the wings, open the airbrakes if the speed build-up is rapid, and ease out of the dive. During a harsh recovery the turn needle may remain hard against the stop, or flick across the dial, even 'though the wings have been levelled. When the IAS stops increasing, the aircraft is approximately in a level attitude.

3 Unusual Attitudes Characterised by a Decreasing IAS:

(a) A steep nose-up attitude is indicated by a marked rate of decrease of airspeed and any bank is shown by the turn needle. To recover, the wings must be levelled by reference to the turn needle and any slip or skid corrected by use of rudder. As the control column is eased forward indication of level flight will be given when the ASI stabilises. The airspeed may be low at first but will build up to normal cruising speed provided that level flight is maintained by reference to the ASI.

(b) If recovery action is not initiated early or firmly enough the glider may approach the stall: as indicated by falling IAS, and a decrease in rate of climb as shown on the vario until just before the stall is reached,

when a rate of descent is indicated. Recovery can be made at any time before the glider stalls, but should the stall occur, forward movement of the control column will be necessary as the nose drops. The airspeed will increase, and when a safe margin above the stall has been attained, level flight can be regained by reference to the ASI.

(c) A wing drop at the stall will be shown by deflection of the turn needle, but at the stall care must be taken not to aggravate the situation by use of ailerons, as in normal flight. Yaw should be prevented by rudder, and only when the airspeed has reached a safe margin above the stall may the ailerons be used to level the wings.

7 Spinning and Recovery

1 *Instrument Indications when Spinning.* The following are the instrument indications of a spin:

(a) The artificial horizon is probably toppled, but even if not, it may be unreadable because of the extreme attitude.

(b) The ASI usually indicates a fairly steady fluctuation in the region of the stalling speed, but with some nose pitot installations a very high airspeed may be indicated, the needle having moved backwards beyond zero.

(c) A rapid loss of height is indicated by the altimeter.

(d) A high rate of descent is indicated by the variometer.

(e) A large rate of turn in the direction of the spin is indicated by the turn indicator.

(f) Some degree of skid may be shown by the slip indicator.

2 *Recovery Technique* — To recover, apply full opposite rudder, keeping the ailerons in the neutral position. After a slight pause move the control column progressively forward, ensuring that the ailerons are still centralised. When the spin stops, centralise rudder and recover from the dive. The following indications show when the spin has stopped:

(a) The turn needle flicks across the dial and then approximately centres itself. It is the flicking of the turn indicator needle that indicates that the rotation of the spin has stopped.

(b) The IAS begins to increase rapidly.

When recovering from the dive the approximate level flight attitude is shown by the ASI, when it stops increasing, and by the altimeter and variometer when the rate of descent stabilises at the normal rate. If the pull-out is at all harsh, the turn needle will flick again momentarily to indicate a full rate turn. This is caused by the effect of g in the pull-out, and correct indications will be given when the loading returns to normal. A steady deflection with an increasing airspeed, however, indicates a spiral dive and in this case the aircraft has to be levelled laterally before recovery can be made. The main difference between the instrument indications of the spin and the spiral lies in the airspeed, which continues to increase in the spiral but remains steady in the spin. The difference is important: the recovery action involves quite different control movements, and if the movement is not correctly identified the cure for one may aggravate the other. Where the ASI is unreliable due to excessive yaw, the noise should be noted to ascertain if a spiral dive exists.

8 Change from Visual to Instrument Flight

During a visual flight in which a change to instrument flying is necessary, the instruments should be checked for serviceability as soon as practicable, particularly cross checking. As the electrical instruments require a "run up" period (and with certain instruments this period can be relatively large), ensure that these are ON and running well before the transition, which should take place some 1-2 minutes before entering the cloud. Artificial horizons must be uncaged or erected with wings level. This short period ensures that the pilot is settled and the glider trimmed correctly before the cloud is actually entered. When breaking through cloud, a continuous movement of eyes from instruments to ground and back again must be maintained; the glider attitude will then not vary to any marked degree.

W. G. SCULL

MORE GOLD THAN FORT KNOX

By CHRIS LOVELL

EVERY year for the past five years or so, the Surrey & Hants club have descended upon Portmoak for the first two weeks in October. We keep saying that we are bound to hit a complete clamp one year; however, 1970 has really done us proud.

Four club gliders and fourteen assorted privately-owned ones were taken up over the weekend 26th-27th September.

Monday was foggy, then from Tuesday to Saturday of the first week it was an almost non-stop procession of take-offs, landings and barograph calibrations. Wave was contacted by early birds on Tuesday, lifting two pilots to 10,000 ft., whilst Wednesday gave a confused thermal and wave system in a 25 kt. westerly wind. Most pilots contacted wave in the afternoon over Loch Leven as the thermals died out, but the lift shifted about and it became a question of a continual blanket search by about fifteen gliders to keep track of the best bits, as there was no cloud to mark the system. Maximum height was 8,300 ft.

On Thursday, there was ample evidence of good wave right from dawn, with good slots in a strato-cu layer at 3,000 ft. or so, and several members had early launches. Very soon the air was full of radio chatter, "5 kts. 7,000 ft.—6 kts. 10,000ft. . . !" The second wave bounce off the Ochil Hills was perfectly in phase with the south end of Bishop hill, and it was possible to climb from 700 ft. straight up to 13,000 ft. in one go. After 13:30 hrs., the weather suddenly clamped on the approach of a warm front, causing five widely scattered away landings, but not before twenty-two of the twenty seven expedition flights had been above 10,000 ft., resulting in eleven Gold C heights, and Peter Horne had taken his new Std. Libelle to 18,700 ft. for his height Diamond. One enterprising early riser was up to 10,200 ft. and down again in time for an 09:00 hr. breakfast. Jim Mellor, who had come up from Lasham with the Super Cub for the fortnights' towing, took a short coffee break between tows to do a rapid Gold C climb in the club K-6E.

Friday morning was obviously waving with a few roll clouds to the west, but things were not so organised as Thursday, and there was a certain reluctance to rush out of bed at first light. However, bodies were flung into the air and some contacted broken wave. The earliest starters contacted a high altitude system and this resulted in Alan Purnell achieving his Diamond height by a margin of 200 ft. in the morning. He had lunch on the ground and after another launch he went from a low of 600 ft. up to 18,000 ft.; apparently his morning trip was a trial! For years Alan has organised the Portmoak expeditions, and on several occasions has just missed the 5,000 metre mark; now he has three Diamonds. Peter Gellett and Ken Riley had Gold gains, but Ken suffered a considerable surprise on his flight. He had reached 12,000 ft. or so in the first wave system, and was thinking of going forward to the next wave. He increased speed and suddenly hit very severe clear air turbulence at 10,000 ft., resulting in a camera and radio going straight out vertically through the cockpit making a jagged nine-inch diameter hole in the perspex. The headrest of the Phoebus was bent upwards by the sudden downward gust and the following upward gust unlocked the undercarriage and lowered it. He landed safely and the canopy was given a perspex patch, skilfully made up by Frank Ireland. Beware of CAT—not all waves are seductively smooth.

Bleary eyes peered out at about 06:00 hrs. at a classic array of wave bars lined up crosswind as far as the eye could see to the NW. This caused a sudden eruption of bunks and roar of hangar doors. By 06:50 hrs., half-a-dozen gliders were lined up waiting for it to get light enough to launch, whilst at least ten others were being rapidly rigged.

First launch was at 07:00 hrs. with Jim Mellor towing us round the first shoulders of the hill above Kinnesswood, because NW wind makes the south of the hill unsoarable. Ten gliders were launched by 07:50 hrs., and the first ones were away in the primary wave down wind of the Ochils, which was in phase

with the NW facing slope on the Lomond hills. Some strong lift was found west of Kinross, giving 8 knots in places at about 7,000 ft. Chris Lovell and Paul Thompson reached 15,500 ft. by 08:30 hrs. and were having breakfast at 09:00 hrs.! Keith Challenor hung on to his one knot climb in a club Skylark 4 and finally had a gain of 16,600 ft. on his altimeter. He sat on his barograph all day and had it calibrated in the evening —a certified gain of 16,500 ft.—pheeew! Roy Cross nearly made it with a 16,000 ft. gain. Thirteen other pilots reached 14,000 ft. or more, about as much as their metabolism or oxygen would allow.

One early afternoon flight started with a two-hour scrape on the hill and then a thermal climb to 5,000 ft. Patience was rewarded with a 1,000 ft./m. climb to 12,000 ft. continued at a lesser rate right up to the base of an approaching warm front cloud sheet at 16,000 ft.

Bill Dean took the club Phoebus on a wave cross-country to Loch Ericht and back, 220 km. in two-and-a-half hours! He used wave lift of 6-8 kts. between 8,000 and 13,000 ft. Alan Purnell did a highland tour of Loch Lomond, Crianlarich and the Braes of Balquhidder reaching 16,700 ft. on the way. This day was the last of the great wave days. Our badge gains were thirteen Gold heights and three Diamonds along with several near misses.

Sunday was rather horrible; a few gliders were rigged, but only the SGU two-seaters flew amongst the storms and showers.

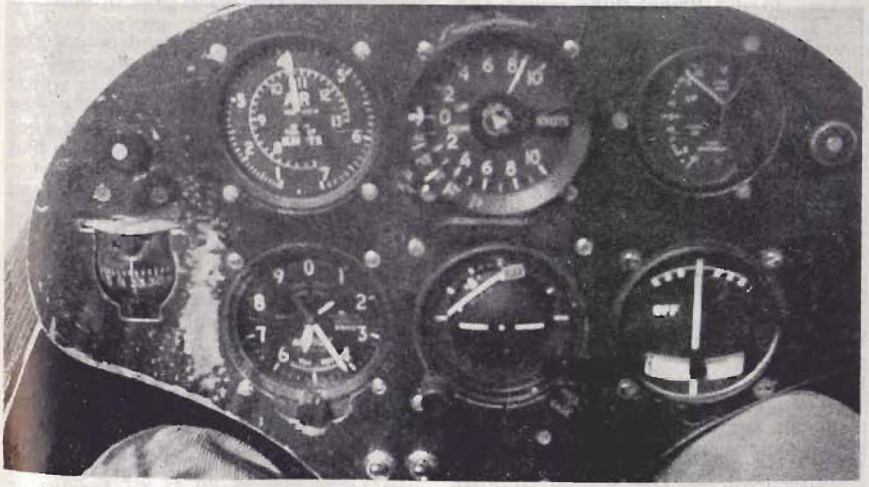
There was hill and thermal soaring throughout the second week; we flew every day, but there was no good wave and the highest wave climb was 7,200 ft. Peter James just topped 10,000 ft. asl in a cumulus, and indeed several thermal flights of three hours or more were done off winch launches without ever going near the hill. Where else in Britain do you get a regular supply of 4 knot thermals to a 4,000 ft. cloudbase in October?

The expedition flew 772 hours off 355 launches in twelve days.

The flying we organised ourselves, with the ever-cheerful Jim Mellor getting five minute turn-rounds off three-minute tows with the Super Cub, backed up by efficient Tiger Moth and winch driving by the SGU.

The whole show was fed and fostered, unfortunately for the last time, by Betty and Charlie Barr with their band of happy helpers.

Thank you SGU, Richard and your calibration chamber, and best wishes to Charlie and Betty on your retirement.



9 knots at 15,400 ft. in Skylark 4 No. 327 at Portmoak. (Photo: C. Lovell)

THIRTY YEARS AGO

By A. E. SLATER

IN last year's instalment, the war had begun and the London Gliding Club had been stopped from flying after 25th November, 1939. The first issue of S & G in 1940 began with a statement that the UK was the only country in the British Empire where gliding had been forbidden (the article was headed "Verboten"), and that in Germany gliding had started again after a temporary stoppage, with 1,000,000 youths aged 15 to 18 being trained to C Certificate standard, according to *The Daily Telegraph*.

But gliding, even if moribund, won't lie down. In the absence of any fighting in the West, servicemen in England needed something to occupy their minds, so it was decreed that a party from the RAF should come to Dunstable for the Easter weekend for some gliding instruction. Of course, every club member who could get there came along too and, with good westerly winds, especially on the Saturday, their flights were limited to two miles horizontally and 2,000 ft. vertically: Hugh Bergel said he reached 1,975 ft. — "That's my story and I'm sticking to it." Philip Wills rigged and flew his Minimoa. Total flying was 388 ground-hops, 20 descents from hill-top and 4 hrs. 39 mins. of two-seater rides by the 29 RAF visitors, and 23 hrs. 7 mins. by club members.

NOT DEAD YET

That looked like the end of war-time gliding, but the authorities reckoned without Terence Horsley, well-known journalist in Lord Kemsley's newspaper organisations and author of "Soaring Flight" (1944). He had somehow discovered the secret telephone number of Fighter Command, so he rang up, and the man at the other end mistook Horsley for somebody he knew with a similar-sounding name, so did not immediately ring off. By the time the telephone conversation ended, Terence Horsley had got permission from Fighter Command for the London Club to fly at Dunstable during the following weekend only. For five more weekends we not only got permission to fly but, by the fifth, the club was told that it could fly any day of the week without bothering to get special permission, so two future instruction courses were arranged.

But then came Whitsun weekend, with a bombshell on the Saturday in the form of a telegram from the Air Ministry forbidding us to fly. Fighter Command, apparently, had no authority to let us do so. On top of this, on the same weekend, the German Army began advancing westwards: the "Phoney war" had ended and the "Blitzkrieg" had begun.

GLIDING GOES MILITARY

Soon came the news that the Belgian fort of Eben Emael had been captured by glider-borne attackers.

After the war Wolf Hirth told me, confidentially, who the pilot was (I had met him at the Wasserkuppe); it appears that the fort was on a hill-top, and its guns were disposed for shooting people coming up the hill, rather than coming down from the sky and throwing grenades through the portholes.

This glider attack stirred all the newspapers, which at once ordered their air experts to discuss the possibility of glider-borne troops crossing the Channel to England. The result was a fantastic display of ignorance.

"Our Military Correspondent" of the Newcastle *Journal and Mail* wrote of "the raw materials of a glider, in which bamboo and canvas are used". *The Times* Aeronautical Correspondent (not the knowledgeable pre-war one, who had left to edit *The Aeroplane*) wrote: "having no motor, they have to land where the elements dictate", and the *Daily Mail* Services Correspondent similarly said that, after being "loosened", the gliders "are then at the mercy of the currents, but in skilled hands these can be turned to advantage and the glider may descend within reasonable distance of its objective." Presumably the pilot would examine the "currents" over Northern France and pick on one going to England. The *Sunday Times* man was so overcome by his boldness in suggesting a mere 12,000 ft. for a starting height, that he had to throw in "a favourable wind" as well. A 6,000-ft. start was

offered by *The Star* man, but only on the assumption that upcurrents would be used, and he added that these "cease when the wind blows out to sea", and that a Channel crossing was therefore "not practical" unless the gliders were towed nearly all the way. The only other writer to show awareness that soaring is possible was a *Reynolds* "Correspondent" who imagined the troops "would glide in the clouds for an hour or even more after the departure of the visiting craft" (i.e. the tug). He didn't say why.

Apparently RAE Farnborough were asked by Authority for information about towed gliders and, having none, rang up the Royal Aero Club, who put them on to me. I had just returned to medicine after four years and had started my first day at Hither Green Hospital in SE London when a young man arrived, all the way from Farnborough. He seemed reluctant to believe that a multiple tow was not arranged like the trucks in a railway train, so, to convince him that I knew what I was talking about, I dropped a few names of leading German glider pilots, mentioning that Wolf Hirth was "an old friend of mine". At this, the young man's eyebrows shot skywards; he showed no further interest in the conversation, and within a minute or two he made an excuse to leave.

Actually, that autumn, Wolf Hirth wrote to me from Belgrade to give news of leading German gliding people, disguising his signature as "K. Wolf" (see S & G November/December 1940).

Not mentioned above is some RAF gliding near the South Downs, organised by Sergeant Ralph Slazenger, which, in John Simpson's article, is mentioned along with other activities, unpublishable at the time, showing that gliding would still not lie down.

★ ★ ★

GLIDING UNOBSERVED

By JOHN SIMPSON

MY slightly irregular soaring in the early days of the war started just over 30 years ago, in September 1939.

I was running a course at the Derby Club when the ban on flying started, and had to return to my ground job in Dorset, taking my Kirby Kite with me. After what seemed at the time to be month after month of acute deprivation (actually I now see from my logbook that it was only three weeks!), polishing the Kite no longer satisfied the pangs. I tip-toed off to Winklebury Hill, a few miles east of Compton Down, and performed a car-bunjy launch off the top. This led to a very satisfying 35 minutes in a 15-knot NE wind, at heights up to 1,000 ft. After a landing back on the top, close to the trailer, we all rushed back to the cover of the Dorset Woods.

Two months later I took delivery of my Viking II two-seater, but restrained myself to doing ground-hops only. However, in the following April I found myself, with several other members of the London Club, at an airfield near Eastbourne, where I believe we were officially engaged in demonstrating the value of gliding as Recreation for the Troops. I flew the Kite on aerobatic circuits and did some VIP passenger flying with the Viking.

Perhaps the most interesting flight I made during this week was a soaring flight above the "Long Man" cut in the chalk on Windover Hill. We found quite a reasonable cart-track up the hill, and I was launched off the top with my private bunjy. I had an hour's soaring and was able to fly back to Wilmington airfield, in formation with a heron. (Birds still allowed to fly?)

Back in Dorset in June 1940, "Buster" Briggs, of the Coldstream Guards, called in on the way home from Dunkirk for a "wash-and-brush-up". I thought the occasion called for a celebration, so we took the Kite to Win Green for some restorative soaring. We each had a few minutes in a light NE wind, landing downwind on the top.

After that, my two gliders were swept away into the Machine. Apart from some assistance at the ATC Instructors' Schools at Welburn and Yeovil, the next flying I achieved was in China in 1944-5. However, this is still less than 30 years ago!

PLACE SCORING—Almost the Last Word

By JACK HARRISON

"WE'VE all had to suffer these discussions so long now that I hope this experiment will prove to be the last word." These were the words of one of the competitors at the Bicester Comps. Well, this is not quite the final word, but very nearly so.

The BGA Flying Committee and the BGA Executive hope that eventually a simple Placing System will be adopted as the only official scoring system for British Competitions. As an experiment, this year's Bicester Regional used the Placing System (2-1-0). No scores were worked out on the conventional 1,000 point system, so we had a really useful test of pilot reaction. In the past, experiments with placing systems have usually been made by working the two systems side-by-side. At Bicester, competitors had the Placing System forced on them, so they became fully familiar with its workings. Some lively discussions resulted.

Pilot Reaction

On the whole, reaction was favourable. Here for the first time was a scoring system they could understand. A competitor could look at the landing pins, and make a reasonable guess at his score—something almost impossible under the old system. The scorer's work was, in fact, only slightly reduced. All the routine calculations of handicap distance, etc., still had to be made. But it is the superficial simplicity of the Placing System that is its biggest attraction. It is understood.

Advantages

An unexpected bonus was that task setting could be more flexible. No longer was it quite so necessary to strive to ensure that the points value per kilometre remained constant throughout the route—very desirable on the old system. On that system, where there is an upwind turning point, the effort involved on the into-wind leg is unfairly rewarded compared with the ease with which points are gained after the TP. In the past, task setters have avoided, where possible, upwind TP's. But at Bicester, on one occasion, a Gold distance was set via an upwind TP. Task setter 'Zot' Zotov announced at briefing that he would not have been able to set this task under the old rules. The eleven pilots who did their Gold distances that day are now firm enthusiasts of the Placing System!

The Placing System was distinctly fairer at times. For example, on one day, the best pilot had a lucky, and skilful, break, and just managed to get into better weather. He then flew on for many miles, going over twice as far as the next pilot. On conventional scoring, he would have been given over twice as many points. It may be argued that this would have been more fair. But most pilots would not agree. True, he was better than the next pilot, but surely not over twice as good simply because he just managed to get into the better weather? It was in these variable conditions that 'Zot' found task setting so much easier. He was able to set tasks on marginal days when he probably would not have dared do so on the old system. There was less risk of a 'nonsense' result.

Another advantage occurred in races. On the conventional system, all speeds less than 60% of the winner's speed are scored the same. The Placing System differentiates between such slow speeds. Also, on those occasions when the slowest finisher's speed was substantially greater than the 60% speed, had conventional scoring been used, a large step in the points between the finishers and non-finishers would have occurred. This was avoided with the Placing System.

Disadvantages

There were of course disadvantages. The tie criteria used, 5 kms for distance and 2 km/h. for speed, frequently caused the value of points per kilometre in a gaggle to be excessively high. It was tempting to stretch the glide into "just one more field". In future, the criteria of 10 kms and 2 km/h. will be used.

Example using different tie criteria:

Distance	70	72	74	76	78	80	82	84	86	
Tie =5	2	3	4	6	8	10	12	13	14	—*
Tie =10	5	6	7	8	8	8	9	10	11	—**

*12 pts for 16 kms
**6 pts for 16 kms

It must be realised, as the above example shows, that a pilot landing within the tie distance of another pilot, does not necessarily get the same score.

Another problem arose in connection with gaggles. Occasionally, a large number of pilots achieved similar distances, with the next pilot landing further on by just more than the tie distance. He would get many more points than the best pilot in a gaggle.

Example:

Distance	70	77	80	81	82	83	84	85	96
Tie =10	2	7	7	8	8	8	8	8	16—

8 pts for 11 kms

The solution to this problem is simple. We introduce an additional rule (it will be needed only occasionally) by stating that nowhere in the scores can there be a step of more than 4 points. So the above example becomes

Distance	70	77	80	81	82	83	84	85	96
New Score	2	6	6	7	7	7	7	7	11—

4 pts for 11 kms

Maximum Size of Gaggles

For those who have followed the argument so far, it can be added that this new rule is in effect stating that no more than three pilots can constitute a gaggle—already suggested by Wallington and others.

Example:

Distance	50	65	65	65	65	80
Tie =10	0	5	5	5	5	10
New score	0	4	4	4	4	8

This new score being equivalent to:

Distance	50	65	65	65	80
Tie =10	0	4	4	4	8

That is, the gaggle of four is scored as if it were a gaggle of three only. Unfortunately, in practice, pilots do not land so conveniently at exactly the same distances as each other. Ties tend to overlap, e.g. distances 70, 80 and 90 kms. This new rule (max. step of 4) is only a sophisticated way of stating a rule concerning the maximum size of *real* gaggles.

Minimum Scoring Distance

On one unfortunate occasion, the Minimum Scoring Distance was set too low, with the result that it was possible to score without soaring. Because of this low MSD, the day was devalued only

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slightly, although it was virtually non-soarable. In fact, re-working the scores using a tie of 10 kms., and the maximum step rule, produces a fairly sensible day of devaluation (35% of possible points compared with 90% that did occur). But the experience of this occasion does serve as a warning to task setters not to set too low a MSD. It should lie somewhere between the old X and Y, corresponding roughly to a flight using one or two thermals. As a guide, task setters could set the MSD on the basis of the distance that is possible if the total gain of height is about 2,000 to 3,000 feet; i.e. with a normal 2,000 ft. launch, the MSD would correspond to the straight glide distance (taking into account the wind) from about 5,000 ft. (1,500 metres).

Next Season

In order that more pilots can have experience of the Placing System in action, and can see that it is a perfectly sensible method of scoring, the Flying Committee intend to encourage all Regionals to use the Placing System. Then, in 1972, it is probable that it will be introduced as the only official system for all competitions, including Nationals.

Summary of Rules

Rules are basically as previously published S & G Feb.-Mar. 1969). In broad terms, these rules are as follows. Pilots' achievements are listed in order of merit. Tie criteria of 10 kms. for distance and 2 km/h. for speed are used. Each individual pilot is given a score calculated as follows:— 2 points for each pilot beaten, plus 1 point for each pilot tied with. All pilots achieving less than MSD (declared at briefing) are counted as one pilot only, thereby producing day devaluation on marginal days. When the scores have been worked out, the list is examined. If there is any step in the scores of 5 or more points, this is reduced to 4 only, with all competitors in the list above this step having their scores reduced by the appropriate amount.

Conclusion

The experiment at Bicester has shown that the Placing System is a perfectly viable method of scoring competitions. The fact that minimal modification to the basic 2-1-0 has proved necessary shows that the basic principles are sound.

2-1-0 has now matured into a system that is effectively identical to the most highly developed Wallington ideas. However, the Wallington rules have become increasingly difficult for the average pilot to understand, and the appeal of simplicity is lost. The 2-1-0 Placing System remains simple, whilst at the same time it deals better with certain situations than Wallington, for example overlapping ties.

After next season, when more competition pilots have a working knowledge of it, I am sure that the introduction of the Placing System as the official scoring method for all competitions, will be welcomed.

THE JUNIOR INTER-SERVICES' CONTEST

By D. S. BRIDSON

THE Junior Inter-Services' Contest was held at RAF Bicester from the 8th-16th Aug. The weather was reasonably good during this period, and on one day outstanding.

Pilots with previous competition experience flew in the Senior Class and the rest flew in the Club Class. There were 45 gliders, 27 in the Senior and 18 in the Club Class, and the total number of pilots was 51.

The competition was almost free of incident, but M. Gale of the Royal Navy had to withdraw when he damaged the Skylark 3 on the first day. Dick Feakes found, during a pre-flight inspection, that his Phoebus was a "Phoebust": a wooden beam supporting the undercarriage had failed. Dick was able to complete the contest in an Olympia 419.

Pilots in the Senior Class needing Gold distance, and goal Diamonds, were given this chance with a 310 km. triangle, but only Lee Hood, who already had this

qualification, completed the task. The Club Class were given their chance with a race to Great Yarmouth via Northleach. Cooking Olympias and K-8s flooded into Great Yarmouth, and many are the claims for Gold C distance *et al.* R. Hawkins completed not only his Gold distance and goal Diamond, but also his Silver C height and duration. It is only fair to say that the Club Class Gold bonanza was on a different day to the Seniors' 310-km. triangle.

On the day of the VIP's visit it rained. In order not to disappoint them the Senior Class was launched for a fly back. The VIP's, duly impressed, remained to watch the Club Class launch later in the afternoon. Their task was free distance, and they were towed to 4,000 ft. in order to glide out to better weather some miles to the east of Bicester. One pilot almost reached Boston in Lincolnshire. A good effort.

Some competitors found turning point photography quite a problem. One strip of film was devoted exclusively, apart from a starboard picture, to close-up's of a large pair of feet. A bunch of what appeared to be bananas was alleged to be the town of Westbury. The stewards were not interested in symbolism and penalties were duly imposed. If the results of the contest had been decided purely on photographic skill, Dick Feakes would have been a clear winner. He made his Instamatic behave like a far more sophisticated camera and produced some consistently clear pictures of the turning points.

The Royal Air Force came first (D. Lee), the Army second (Lee Hood and P. Goozee) and the RAF (A. Farmer) and Army (J. Evans, who had taken time off for flying his glider at a military tattoo) equal third.

Finally, if G.C. of glider 263 sends me a s.a.e., I will give him an explanation for the penalty deduction on the last day of the contest.

The Club Class was won by K. Kiely, K-8, 156 points, followed by C. Spink, K-8, 137 and R. Cooper, Olympia 2B, 134 points. There were eight contest days in this Class.

No.	Final Results Pilot(s)	H'cap %	Sailplane	1 30	2 47	3 44	4 48	5 34	6 47	7 47	Total Points
1.	Lee, D. G.	100	K-6CR	22	47	17	34	34	477	47	248
2.	Hood, L. S.,	96	K-6E	30	—	39	48	—	44	9	213
	Goozee, P. K.			—	21	—	—	22	—	99	
3.=	Farmer, A. T.	100	K-6CR	16	40	13	38	26	39	40	212
3.=	Evans, J. A.	96	Oly 419	28	28	44	34	17	17	44	212
6.	Hogg, A. J.	96	Oly 419	7	37	32	34	22	34	34	200
7.	Wilton-Jones, M.	96	K-6E	26	44	21	41	10	14	27	183
8.	Camp, G.	96	K-6E	0	32	39	9	20	37	45	182
9.	Simms, J. A.	96	K-6E	11	21	39	21	8	32	34	166
10.	Shipton, Pamela	96	K-6E	24	34	15	33	20	3	22	151
11.	Feakes, R.	82	Phoebus	0	42	15	28				141
		96	Oly 419					7	33	16	
12.	Harrington, T. C.	80	ASW-15	0	21	22	46	4	11	27	131
13.	Naylor, R. G.	100	K-6CR	0	9	22	19	11	26	37	124
14.	Ouids, T.	90	Dart 17R	11	12	17	28	32	0	19	119
15.	Hardon, R. A.	100	K-6CR	0	21	25	16	13	4	38	117
16.	Foot, C. C.	96	K-6E	7	47	11	1	0	32	18	116
17.	Montieth, J. R.	100	K-6CR	0	2	0	27	0	41	35	105
18.=	Welsh, J. H.	100	Skylark 3	15	14	11	20	0	16	27	103
18.=	Martin, J. A.	100	K-6CR	18	11	11	4	28	23	8	103
20.	Fox, J. A.	100	K-6CR	0	28	39	10	0	7	8	92
21.	Lombard, W. C.,	96	K-6E	0	—	21	—	—	23	—	
	Colvert, T. M.			—	28	—	—	0	—	—	91
	Young, J. W.			—	—	—	10	—	—	9	
22.	McKenna, J. M.	98	Skylark 4	0	2	11	24	0	11	12	60
23.	Connelly, B. G.	96	K-6E	3	2	25	7	0	19	0	56
24.	Shard, C. W. G.	90	Dart 17R	0	10	0	1	3	28	8	50
25.	Beck, R. P.	96	K-6E	0	10	0	14	0	0	2	26
26.	Gale, M. A.	100	Skylark 3	3	withdrawn						3
Hors Concours											
(5)	Medland, M.	96	K-6E	16	36	17	40	28	47	27	211
(22)	Rennie, J.	100	Skylark 3	19	13	18	15	4	12	0	81

Tasks:—Day 1, 140 km. out-and-return; Day 2, 160 km. out-and-return; Day 3, 110 km. goal race via turning point; Day 4, 310 km. triangle; Day 5, 110 km. goal race via turning point; Day 6, 215 km. triangle; Day 7, Cat's Cradle with four turning points.



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GLIDING CERTIFICATES

THREE DIAMONDS

No.	Name	Club	1970
12	B. Fitchett	Leicester	21.6
13	H. F. Jacques	Waikerie	15.1
14	J. Cardiff	London	21.6
15	A. D. Purnell	Surrey & Hants	2.10
16	A. A. Maitland	Cambridge	21.6

DIAMOND DISTANCE

1/22	A. D. Purnell	Surrey & Hants	14.8
1/23	B. Fitchett	Leicester	21.6
1/24	A. A. Maitland	Cambridge	21.6
1/25	H. F. Jacques	Waikerie	15.1
1/26	J. Cardiff	London	21.6

DIAMOND HEIGHT

3/112	P. Shanahan	Clevelands	2.5
3/113	J. B. Goldsbrough	Yorkshire	20.9
3/114	P. R. Horne	Surrey & Hants	1.10
3/115	K. Challinor	Surrey & Hants	1.10
3/116	A. D. Purnell	Surrey & Hants	2.10

DIAMOND GOAL

2/328	W. E. Malpas	Val D'Essone	2.6
3/329	J. B. Hearn	USA	30.5
2/330	T. C. Harrington	Bicester	1.8
2/331	L. S. Hood	Kestrel	14.6
2/332	R. T. Cole	Surrey & Hants	30.7
2/333	Angela Smith	London	14.8
2/334	T. J. Krzystek	Polish	14.8
2/335	A. J. Wagenaar	Thames Valley	14.8
2/336	R. H. Cooper	Fenlands	14.8
2/337	R. I. Rea	East Midlands	14.8
2/338	I. L. A. Eyers	Airways	21.6
2/339	J. A. Stirk	Doncaster	22.5
2/340	H. R. Jarvis	Kestrel	14.8
2/341	A. R. Milne	SGU	14.8
2/342	G. J. Hinder	London	21.6
2/343	C. P. Wills	Surrey & Hants	1.8
2/344	M. R. Pack-Davison	Southern Commd.	14.8
2/345	T. Steggles	East Midlands	14.8
2/346	W. W. Dickson	Bicester	14.8
2/347	A. R. Covington	Coventry	11.8
2/348	C. J. Marsh	Airways	6.8
2/349	R. Hawkins	Southern Commd.	14.8
2/350	A. A. Maitland	Cambridge	21.6
2/351	H. F. Jacques	Waikerie	17.12.69
2/352	N. H. Wilkins	Heron	14.8
2/353	C. Hughes	Bristol	20.6

GOLD C COMPLETE

261	A. J. Wagemaar	Thames Valley	14.8
262	R. I. Rea	East Midlands	14.8
263	I. L. A. Eyers	Airways	21.6
264	J. A. Stirk	Doncaster	22.5
265	A. R. Milne	SGU	14.8
266	R. W. B. Newall	Bicester	22.8
267	T. Steggles	East Midlands	14.8
268	A. A. Maitland	Cambridge	21.6
269	H. F. Jacques	Waikerie	17.12.69
270	P. Grenet	Airways	11.6
271	P. R. Horne	Surrey	1.10

GOLD C HEIGHT

E. Ainscough		Midland	25.7
R. B. Smith		Norfolk	28.4
R. W. B. Newall		Bicester	22.8
J. E. Heesom		Surrey & Hants	10.6
J. W. M. Manclard		SGU	1.3
J. H. Bryson		Ulster & Shorts	23.5
P. Shanahan		Clevelands	2.5
J. W. A. Webster		Bristol & Glos.	7.6
P. Grenet		Airways	11.6
G. D. A. Green		SGU	1.10
C. W. S. Goodman		Crusaders	17.9
M. Valentine		Midland	25.7
R. F. Brigden		Surrey	2.10
P. R. Horne		Surrey	1.10
J. Hempseed		SGU	3.10
K. Challinor		Surrey	3.10

GOLD C DISTANCE

R. H. Cooper		Fenlands	14.8
R. I. Rea		East Midlands	14.8
I. L. A. Eyers		Airways	21.6
J. A. Stirk		Doncaster	22.5
Angela Smith		London	14.8
H. R. Jarvis		Kestrel	14.8
A. R. Milne		SGU	14.8
G. J. Hinder		London	21.6
T. Steggles		East Midlands	14.8
W. W. Dickson		Bicester	14.8
A. B. Covington		Coventry	11.8
R. Hawkins		Southern Cmmnd.	14.8
A. A. Maitland		Cambridge	21.6
H. F. Jacques		Waikerie	17.12.69
N. H. Wilkins		Heron	14.8
C. Hughes		Bristol	20.6

SILVER C

2700	J. P. Player	Moonrakers	21.6
2701	D. Howard	Clevelands	21.6
2702	Erica Scurr	USA	23.6
2703	V. W. Jennings	Upward Bound	11.7
2704	T. J. Ward	Four Counties	21.7
2705	M. Lemon	USA	27.6
2706	T. J. Doricott	RAE	1.8
2707	R. G. Rodger	Surrey & Hants	3.8
2708	P. France	South Wales	25.7
2709	J. E. Griffin	Wrekin	3.7
2710	J. W. Young	Aldershot	1.8
2711	A. G. M. Preston	London	30.7
2712	J. M. Hoye	Kent	31.7
2713	K. Durno	Essex	1.8
2714	B. Warren	Cambridge	2.8
2715	D. R. E. Ibbs	Essex	31.7
2716	R. F. Bowden	Handley Page	25.5
2717	P. C. S. Chilton	ETPS	1.8
2718	C. F. H. W. Cooke	Surrey & Hants	7.8
2719	B. A. Barry	London	17.8
2720	D. J. Neville	Straits	15.11
2721	R. Parkin	Trent Valley	21.8
2722	C. D. Campbell	Chilterns	3.8
2723	K. M. Harris	Thames Valley	30.7
2724	R. D. Clarkson	Midland	14.8
2725	Elizabeth Kiely	Wrekin	2.8
2726	J. L. Collins	Derby & Lancs	14.8
2727	P. D. Dawson	Leicester	13.6
2728	P. W. Gellet	Southdown	1.8
2729	J. S. Thompson	Bicester	1.8
2730	M. Harrison	Imperial College	11.8
2731	E. Stockham	London	17.8
2732	M. E. Brooke	Anglia	25.8
2733	H. F. Lowndes	Eagle	15.8
2734	R. L. Dilworth	Bicester	18.8
2735	R. Heselwood	Clevelands	15.8
2736	C. W. S. Goodman	Crusaders	3.5
2737	P. Brooks	Oxford	18.8
2738	J. J. Scarsbrook	Heron	28.8
2739	T. A. T. Chapman	Thames Valley	27.8
2740	P. R. Andrews	Kestrel	30.8

Correction to list published in October issue, page 404: Silver C No. 2663 should have been credited to R. F. Jenkins, Bath & Wilts. Gliding Club. (Apologies!)

CORRESPONDENCE

DOWN WITH BUBBLES

Dear Sir,

With regard to John Gibson's letter in the Oct.-Nov. S & G, may I return to this subject for the umpteenth time. When a thermal condenses it usually meets some variety of inversion at about the same time, so that the usual cumulus cloud has a depth of only one or two thousand feet.

If the air at the top of a cumulus is decelerating, the cloud must curl over forming roughly the shape of a toroidal vortex; the so-called "bubble"! This knowledge is as old as the hills and John's observations in the Ribble estuary throws no new light on the matter.

The shape of the overlying cloud is only indirectly relevant to the shape of the thermal beneath it. The life of a cumulus cloud is usually about 40 min., and for the best part of its life a thermal of about 5-10 ft/sec. climb is entering its base. Five-10 ft/sec. for 40 min. is 12-24,000 ft., whereas cloudbase (in UK) is usually about 3,000 ft. above ground level. It follows—therefore, that for the greater part of its life, the thermal consists of a largely unbroken current of air between ground level and cloudbase and not a series of discrete "bubbles". Confirmatory evidence is not difficult to find. Anita Schmidt once maintained a constant altitude by opening her dive brakes a fraction and stayed in this position under a cumulus for 40 min.

During contests it is quite common to find several gliders circling all the way from 500 ft. to cloudbase in the same thermal, rather like pedestrians standing on an escalator. Bubble theory suggests that they should all catch up with the one on the top—very rare in my experience. Bubble theory suggests that thermals should be surrounded by a ring of downdraft—very rare in my experience.

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At the time of the first use of the atom bomb, great attention was focused on the problem of fall-out, and the behaviour of the fire ball was the object of a great deal of theoretical and practical study. The rate of ascent of the fire ball is very high in relation to the wind speed, so the latter is neglected in the calculations. In this case you get a toroidal vortex with a trailing plume both in theory and practice.

There are two fatal weaknesses in this theory: first, the hot and moist air which feeds the thermal is produced over a period of minutes and hours, not seconds, so that a fairly constant stream results; and secondly, the wind is usually as strong if not stronger than the rate of climb of the thermal, so that the new bit of air joining the bottom of the thermal is out of register with the bit that's just gone up. The result is that instead of building up into one nice big toroidal vortex, they just chew each other up. This was confirmed in W. H. Hall's paper previously referred to, and although glider pilots still talk a lot of rubbish about bubble thermals, the term is no longer referred to in the best meteorological circles.

What I think is the most amazing thing about the whole question is that glider pilots spend vast quantities of their time talking and writing the most useless rubbish about the subject, when a little common-sense and effort could settle the question once and for all by direct experiment. Pilots spend thousands of pounds on aircraft and instruments, but how many of us measure the air temperature, humidity or lapse rate while in flight? How many of us fly across a thermal observing the stopwatch and ASI to measure its width in several directions? A host of other simple and inexpensive experiments could be performed, but like a lot of sheep we prefer to be dictated to by mathematical meteorologists who don't know what they are talking about.

Marlow, Bucks. BRENNIG JAMES

THE RATING LIST SHUFFLE

Dear Sir,

Since 1966 the Rating System has been subjected to annual scrutiny and has been changed or amended at least five times in an attempt to achieve a combination of index-of-performance and promotion from Regional to National competitions.

I agree that changes are probably necessary as the structure of competitions changes, but the timing of the changes can have some unfortunate effects. There are undoubtedly people who, for various reasons, were unable to fly in the 1970 Nationals, but would have flown in the Regionals if they had known of the impeding changes earlier in the year.

The latest system (S & G, Aug.-Sept., 1970) may well prove to be a good one, but is it not better to apply it for 1972? It is worthwhile allowing pilots time to consider the implications of new criteria, and then if they fail to gain a place in the Nationals, it will be because of their own performance and not because of a change in the rules.

RAF Nordhorn, Germany. L. E. N. TANNER

CHANGE HANDICAP-PLEA

Dear Sir,

Having flown in the north for 15 years, I would like to enter the lists of present controversy. Good soaring days which are consistent and which last from 10 am. to 6 pm. are relatively rare in Yorkshire, and northern patriotism should not blind us to this fact. Wave is too chancy a medium to use for the Nationals. The argument that conditions are the same for everyone is wrong, as poor conditions increase the ratio luck to skill.

I think most of us voted for the new 60% speed rule as it seemed OK in theory, in practice, on a very short speed task an above-average thermal which the other chap doesn't get is worth up to 400 points, and perhaps this is too good a reward.

Could the Handicap Committee have a very careful review of the relative

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figures for Darts and K-6E's? The K-6E climbs better and is very similar in the medium speed range. Average conditions do not justify much flying over 70 knots and 55-65 seems to predominate. Therefore the present differential is too large. For example, on one day at Dunstable this year, Wally Kahn in a Dart was within 3 seconds of a K-6E and got 120 points less. Even a few K-6E men feel this is a bit hard.

Now that the Sports Class is virtually a Dart/K-6E contest, and there is very little to choose between the top dozen pilots, the matter has become critical. I suggest 92% Dart and 94% K-6E handicaps, and welcome the views of others.

Ripon, Yorks. BARRIE GOLDSBROUGH

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Brennig James (S & G Oct.-Nov., page 414) is right to ask why we have been unable to produce sailplanes in this country to meet International competition. The reasons are many and complex, but not least is the current British capacity for talking and not doing.

However, there is one corner of England that is energetic, for I hear tell that Torva Sailplanes Ltd., will shortly announce a new range of British designed, computer calculated, sailplanes to please the eye and tickle the fancy. They also have us big chaps in mind, so Wally (Kahn), I suggest that you get in touch to find out what's coming. (*See page* 494.)

Wetherby, Yorks. J. C. RIDDELL

BBC TELEVISION — WEATHER FORECASTS

Dear Sir,

BBC Television weather forecasts are now so short that they are hardly worth watching. I have not timed the main forecast at 6 pm., but I doubt if it exceeds one minute. These forecasts are useless for gliding and most other activities which depend on the weather.

I have written to the BBC asking if they could give longer, more detailed forecasts, and it seems that the weather broadcasters are both ready and willing to help, but the BBC is more inclined to further reduce the time available, rather than increase it. They consider that detailed forecasts are of interest to such a small public that they cannot waste time on them.

It does seem that "Aunty" does take notice of letters from individuals when there is a fairly large number of them, and I would ask all British readers of S & G who would like more detailed forecasts to spare a few minutes to write to the BBC, Broadcasting House, London W1A 1AA, and tell them that there are still people who have something better to do than watch sport on television.

Perranporth, Cornwall. JOHN KENNY

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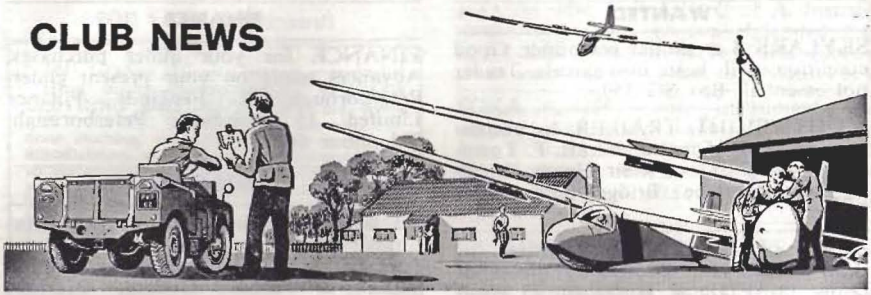
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CLUB NEWS



AS I write this we are enjoying a glorious late Indian summer here in the south. Reports of some very good wave flights have come in. In fact, it is interesting to note the great increase in this type of flying from all over the country.

In this issue we welcome the Peterborough & Spalding gliding club who operate from Portland in Lincolnshire. The Aquila club have moved from Enstone, and the Aldershot & District club have renamed themselves and will now be known as the Kestrel G.C.

We, and all clubs, send best wishes for a Merry Christmas and good 1971 soaring to all gliding friends at home and abroad.

Copy for the Feb.-Mar. issue should reach me (one week earlier, because of Christmas) by the 2nd December, and that for the April-May issue by 10th February, typed double-spaced on foolscap, **Please remember to add your name, address and Tel. No. on all copy.** Copy to be sent to 11 Great Spilmans, Dulwich, London SE 22. Tel. 01-693-3033.

YVONNE BONHAM (Mrs.)
Club News Editor

16th October

AQUILA

AQUILA is rapidly becoming expert at moving sites. After only nine months at Enstone we have moved to Turweston, near Brackley, Northants. Turweston was a derelict airfield; the runways overgrown with at least one fence right across it. It is slowly showing signs of returning to life, thanks to all the help from the more dedicated club members, especially Tony Buck. The only big job left is the building of a hangar. Mr. Merrick Owen, the land owner, has helped us greatly and we thank him for his interest and assistance.

We have tried the new site, and although we are restricted to auto-tow at present, there are prospects of a winch arriving fairly soon. A syndicate consisting of four club members with a Skylark were absolutely thrilled when they flew it for the first time at Turweston.

The move has meant that flying has been somewhat curtailed, but, nevertheless, total hours flown during the year equal 1968/69, although launches have been halved in number.

We look forward to some cross-country experts visiting us next season.

E.C.

BATH & WILTSHIRE

WE are just finding out how friendly and helpful gliding people can be. Flying was stopped for three weeks at Keevil because of a major Service exercise. During the break came a piece of good news and a piece of bad: The runways on our field are to be re-surfaced, but, the operation will stop flying until February.

Many possible solutions have been discussed, including a recurring club dream —a site of our own. In the meantime offers of hospitality have come from all around—Swindon, Moonrakers, Bannerdown, Cotswold and Dorset.

Syndicate pilots have already had some interesting and pleasant days at neighbouring airfields, but at the time

of writing a final decision on where the club will winter has still to be made. For the present, our warmest thanks to all our good neighbours.

The Bocian is back in the air at last, after most of the summer on the ground waiting for a new wheel. An expeditionary force took the Swallow to Haverfordwest for a week of Indian Summer weather. And, until the contractor's men move in, we are still flying at Keevil.

R.J.C.

BLACKPOOL & FYLDE

WE were treated to a Barnstormers' display at Blackpool in October, including the Rothmans team of four Stampes. One of our instructors, Jane Murdoch, is a regular Barnstormer, and she filled the silent aerobatic spot in the Fauvette. This meant coping with a 25 knot gale, which had stopped our fun at Samlesbury, but at least this gave us the opportunity to watch her very creditable performance.

We have to report the resignation of Jack Aked as our Secretary after 20 years of continuous service. This will leave him more time to devote to his duties as CFI, while we are building the club into a bigger unit. We have adopted a training record card in which the instructor logs each exercise. This takes time to fill in between launches, but is more helpful than just the log book. We hope it will increase the efficiency of our training, especially as solo standard is approached.

We have also instituted a monthly subscription to enable members of any BGA club to view the Ribble landscape from the Grunau, Olympia, or Fauvette. But please give us plenty of warning before dropping in on us; Samlesbury is a closed airfield, and you won't penetrate the guard without making prior arrangements.

K.E.

BRISTOL & GLOUCESTERSHIRE

NYMPSFIELD is getting down to the season of parties and trailer-fettling. Members of one syndicate have already started to replace the tail end of their trailer, but looked worried when somebody suggested that they might have to move the wheels aft to keep it balanced.

Cross-country mileage is well down on 1969, and apart from Howard Johns in the comps., only one deliberate cross-country has been done in a club glider. The longest distance from Nympsfield was 302 km. to Great Yarmouth (Chris Hughes), and the shortest when an anonymous instructor had to put the T-21 into a field at the top of the ridge. The summer courses are also at an end: congratulations to Tim Bradbury, who has worked so hard all summer with a succession of winch drivers.

We were all deeply shocked to hear of the death of David Archer in early October, after a short illness. He was on the airfield only a fortnight earlier and we were stunned to discover that his illness was a malignant form of leukaemia. Dave had been gliding for five of his 24 years, and held a C certificate. He was our Bar Secretary, and his cheerful enthusiasm on the field, in the workshop and in the bar will be missed by all. We extend our sincere sympathy to all his relatives and friends.

M.J.C.

COVENTRY

THE local gods were kind to our pilots at the Nationals held at Doncaster. Mike Smith came 3rd and Mike Costin 5th. The latter received the £25 Emmott Award for being the highest placed pilot flying in any Nationals for the first time.

With the soaring season almost behind us, Les Johnson managed to squeeze in a cross-country to Enstone to complete his Silver, in his Skylark 3F. Geoff Wallis has received a Whitbread Bursary Award, and some of the award money was spent to gain his Silver height.

We are now beginning preparations for next year's National Competitions to be held at Husbands Bosworth.

Our Fancy Dress party in September went off with a swing. A surprising number of Arab-looking types turned up possibly bent on hi-jacking the Capstan. The proceeds of the parties go to our Clubhouse Fund for new furniture, and fittings.

Our courses have not long finished, and were a great success, in no small part due to our Course Instructor and his

wife, the chief cooks and bottle washers, Bill and Elsie May. Thanks are also due to our hard working Course Secretary Derek Abbey.

V.M.

CUMBERNAULD

WE have had a setback to progress in the form of spoil from nearby excavations being dumped at one end of the airfield. This has the load bearing properties of porridge and has reduced the available cable run by some 25% (not to mention its capacity for swallowing Wellington boots), so that launch heights are somewhat disappointing.

The need for concluding negotiations for the Loch Lomond site has therefore become pressing, but to say that this involves two separate County planning authorities probably gives an indication of the difficulties.

The gloom has been somewhat relieved by Russell Brown and Roy Surtees having passed an instructor's course, and this should allow us to consolidate a thorough training programme.

Our congratulations go to Glenn Surtees on becoming the Club's youngest solo pilot, having sampled the assorted delights of a Prefect, Blanik and K-6 within the space of two weeks.

R.S.

DERBYSHIRE & LANCS

NOW the colder days of winter are with us again we are really beginning to appreciate our new centrally-heated extensions. These were formally opened on the 19th September, when we were honoured to have Naomi Christy, the BGA Development Officer, to perform the ceremony. We all enjoyed the party and a really super buffet organised by the ladies. At the same time we presented our resident course instructor Alan Stevens with a tankard in appreciation of his work during the year. His wife, Freda, was presented with a wedding present. They were married that morning and came back to the party to be with us. Their honeymoon caravan was suitably decorated by a clandestine group who shall, of course, remain nameless. On the morning after the party the west ridge worked to enable Naomi to do a spot of soaring with our CFI Eric Boyle in the K-13.

We now have two new syndicate aircraft on the site; an Olympia 460 and a Standard Javelot.

Some weeks ago a party of us were able to visit Manchester Airport to have a look round their Air Traffic Control. The control tower, radar approach room and Preston radar rooms were visited and we found it most interesting.

P.H.

DEVON & SOMERSET

ON 19th September our new clubhouse was officially opened. The ceremony was performed by Alderman E. R. Lawrence, C.C., Chairman of the Honiton R.D.C., and the occasion was graced by many other civic dignitaries including the Mayors of Honiton, Taunton and Tiverton and their Ladies, as well as the Chief Constable of Somerset. It is doubtful whether the site will ever again be the venue for so many bowler hats and pin-striped trousers. The weather could not have been better and many "air experience" flights were carried out in the Capstan and Eagle, the

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Bergfalke having sustained an accident in the trailer that morning. Perhaps the most outstanding feature was the hair raising aerobatic display by John Fielden in the Dart 15, finishing with a downwind landing and stopping at the spot from which he started. This ceremony made both T.V. and Press, and gave the Club considerable publicity. Whether this was entirely beneficial is questionable as we were burgled the following weekend suffering damage to the telephone box and windows and loss of bar takings, stock and fuel.

The barbecue and dance in the evening was well attended and enjoyed by all. Our President Norman Whyte and Chairman Francis Bustard are to be congratulated on the administrative and catering arrangements.

A.E.R.H.

ESSEX & SUFFOLK

IT is good to be able to report that the past season has been the most successful in the club's short history. Membership has expanded, and amongst the new members three have already soloed and one reached Bronze C.

We were all especially glad to see hard-working Ralph Brooker complete his Silver C with the distance leg, having achieved his five hours earlier in the year.

In late July and August, mid-week flying was organized at Ipswich Airport. During this time we were fortunate in having some excellent soaring conditions and good sea breeze fronts. Our CFI, Eric Richards, and John Pickering made Gold C distance attempts, both to be thwarted by overcast conditions in the Midlands. A number of Bronze legs and Silver heights were successfuly obtained adding to the pleasure of those members who found the time to come along.

We were glad to welcome several visiting pilots and their gliders, including one glider which was making its maiden flight in this country after being shipped across the North Sea the previous night *en route* from Austria.

We all send the best of luck to John Burke, one of our most regular flyers, who has recently taken up a post in Uganda for two years.

M.L.

LEICESTERSHIRE

AT our AGM in May, Frank Crisp and Ivan Vesty retired from their posts of Chairman and CFI after giving the club excellent service. Willy Bailey has now taken over as CFI and Ron Willett as Chairman. The club is to introduce a series of regular Lectures, a Duty Pilot Scheme as well as some reorganisation etc.

Several Silver C's have been gained this season, and on one day four local flights of five hours were achieved. One notable flight was Bernard Fitchett's 500 km. triangle (see S & G Oct.-Nov.). Barry Atkinson flew the club Skylark 4 in the Nationals at Dunstable finishing 12th, and Barry Richards has recently joined our band of instructors.

In an attempt to attract new members, we are now running a course for *ab-initio* students from a local college. This is proving very popular and several of the people on the course are now appearing regularly at the airfield.

We are still flying from Rearsby (despite the close down of the Beagle works), and will be pleased to welcome visitors or prospective new members any weekend.

P.G.T.

LINCOLNSHIRE

THE club has taken over a new lease of life this year with the acquisition of two Bergfalkes and a guarantee to have the use of our site at Bardney for a further six years. The Bergfalkes arrived in May, and we said goodbye to our Swallow and T-21. Two T-31's make up the club fleet, and our hangar also boasts a syndicate-owned Prefect, Eon Baby, Gull, Olympia 2 and Skylark 3F.

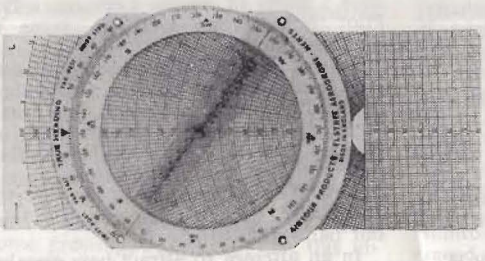
This year has seen 6 first solos, 7 C certificates, 2 complete Silvers, 6 Bronze legs, 1 complete Bronze, 8 Silver legs, 1 Gold leg. Added to this is John Fisher's flight to Newcastle-Upon-Tyne, and Billy Parker's 6 hrs. 40 min., both in the Gull.

On the social side, two summer barbecues have given us the opportunity of welcoming many friends from neighbouring clubs, and it is hoped that our regular club social evening on the second Saturday of every month will encourage even more visitors.

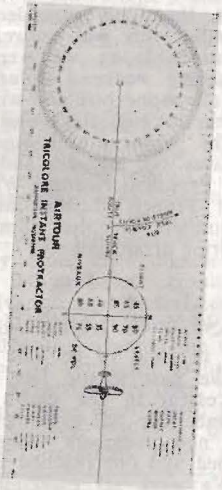
M.J.T.W.

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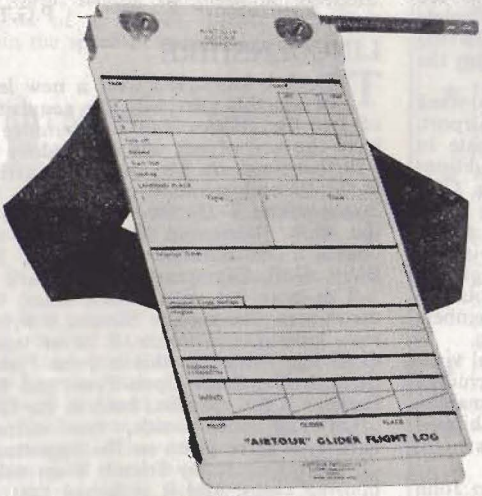
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LONDON

THE latter half of the soaring season proved to be well above average, and members excelled themselves in National and Regional contests. John Cardiff is to be congratulated on winning the Open Class at Doncaster under very difficult conditions, and is our first major Nationals winner since Geoffrey Stephenson won League 1 in 1957. It is perhaps worth noting that the bad visibility experienced in the Midlands was prevalent in the south, so it wasn't peculiar to the Doncaster area.

A more unusual and perhaps more outstanding result was a win by Angela Smith at the Booker Regionals. In addition to this, she gained a women's out-and-return record, plus a Gold C and Diamond goal flight. She has now reached the same point on the badge climb as her father, who has been gliding since the Club was formed in 1930.

The 5th September was another record breaking day, thanks to a jet stream of 160 knots over southern England. (See Dunstable Wave, page 466.) The day was somewhat marred by two expensive accidents, partly due to the very turbulent take-off conditions, and also by a small administrative slip making pilots unaware of an intended Royal Flight.

Tuesday, 1st September, was another outstanding day, classic cloud streets enabling your scribe to fly 300 km. to Hereford and back in 4 hours 35 min. The return half was at an average speed of 120 km./h. Brian Holloway, flying an SHK, wasn't quite so lucky, landing at the turning point.

Late September and early October produced no thermal weather of consequence, but plenty of hill soaring westerlies.

M.P.G.

MIDLAND

AUGUST started with some very hot days where circuits seemed to dominate the flying, but in the middle of the month wave was in evidence and John Brenner had a fast climb to 11,750 ft. asl.

Our new K-13 has arrived and is now flying. It is to be flown by experienced pilots only, both solo and dual, and eventually we hope to fit radio and oxygen so that we can extend its range of utilisation.

During September the Cambridge club came to the Mynd for their second visit of the year. Whilst with us they flew 235 hours, and attained three A and B certs., one C and five Bronze C legs, two 5 hours, and one Gold height. Unfortunately the west winds started a little later on in their period with us, so few heights were gained, but during the following weeks some good heights were recorded by club aircraft, as well as private owners.

John Brenner is the only person to have completed any cross-countries this last month, and it looks as if the thermal season has now finished.

The social side of the club, which takes over during the winter, started off with our Trog Party, which was held on 14th November.

P.M.S.

NEWCASTLE & TEESSIDE

HERE at Carlton we have had quite a good year, especially if our financial position is anything to go by. The number of launches are down, but the soaring hours have increased. It has been quite a surprise, coming to Carlton after a short absence, to find all the new faces confronting you as well as the variety of craft soaring the skies.

In August we teamed up with the Scouts and provided them with a week's gliding. This is a culmination of several weekends when their appetites were whetted. Recently Alan Henderson flew to the Northumbria Club to claim the Visitors Plate, while at the same time two Northumbrians were attempting to fly in the opposite direction. They were shot down by Alan. Also previous attempts have been unable to penetrate our defences.

Most of the operating areas at Carlton are now grassed. The two-drum winch is operational, and with slight modification it will make an adequate replacement.

The fortieth anniversary of the club is due in 1971. We hope to mark it in some notable way.

N.Mc.J.

NORTHUMBRIA

OUR wave system has lately been working to only 5 or 6,000 feet on clear days. The pitfalls of wave flying were recently demonstrated when the Capstan on aerotow set off for a wave slot under almost complete cloud cover. At 1,200 feet and a long way upwind, the tug and glider entered cloud and were forced to part company. The Capstan's return was a final glide, of which even a John Williamson would have been proud, as they sped through the rotor and the down of the wave to land on the extreme western tip of our site, beating the returning tug into a very poor second place.

Wave has been so common this year that one member remarked, "Oh not wave again, I thought summer was the thermal season." His wish was granted the following weekend when cumulus filled the sky. We had aerial visits by an Olympia 2 from Carlton Moor and a K-6E from Sutton Bank. Our own members headed south but were forced to return by an approaching front.

This year we have doubled the number of launches, next year we should achieve even more as we are planning to operate seven days a week throughout the summer months. Our hangar project, completed this year, is to be surrounded by trees, and we are going to add a temporary clubhouse to the building complex.

J.R.G.

PERKINS

THE best flight so far this year from our fenland site was Fred Pell's 6 hours plus duration for the first leg of his Silver C.

On the 29th August Colin Goodman from the Barnstormers visited us to give us some aero-tows with his recently renovated and immaculate Tiger Moth.

A trip to the Farnborough Air Show was organised by our Honorary Secretary, Ken Tinkler, on the 13th September. Unfortunately the weather was dreadful.

Terry Sismore is organising our Annual Dinner and Dance which will be held at the "Windmill", Orton Waterville, on Friday, 22nd January, 1971.

J.C.B.

PETERBOROUGH & SPALDING

TO further the sport of light aviation and gliding in the area, an "Open" club allowing unrestricted access to interested members of the general public, was formed and became operational on 1st June, 1970. As, however, no public funds were immediately available to purchase equipment for such a venture, local glider syndicate owners have made their equipment available for club use.

Commencing operations with four aircraft, a Beagle Terrier tug aircraft, a Bocian, a Skylark 2 and an Italian M-100s, the club with 25 members at the outset, has practically doubled that figure in the first three months of its existence, due mainly to a very successful press publicity campaign.

The President of the new club is J. W. E. Banks, a keen supporter of light aviation locally, who allows us to fly from his private airfield situated at Postland (two miles north of Crowland in Lincolnshire) and where cross-country types will be made more than welcome.

The Bocian logged 165 aerotows with a duration time of over 124 hours over the first three months of operations. Things were going so well, we took the unprecedented step of introducing booking in advance to cover the winter period, so that people with little time at their disposal could arrive on the airfield about 15 minutes before their booking and depart immediately after the flight, a system we proved works well with aerotow facilities. However, the syndicate Bocian used by the club was extensively damaged in an accident, so much so that it is anticipated that repairs will take in the region of three months. We are endeavouring to obtain a temporary replacement to cater for flying tuition, but should we not be able to do so, Perkins Gliding Club have kindly offered to cater for our trainees.

We are busy at the moment digging foundations, pouring concrete and erecting our own 44 x 80 ft. long hangar (one of two our President just happened to have lying around one of his farmyards!) The next step is club premises and plans are afoot!

J.V.L.

SCOTTISH GLIDING UNION

Obituary: Dorothy Lawson

One Sunday in 1938, a small MG sportscar trundled carefully up the rutted road to Feal Farm on Bishop Hill. It halted beside a perspiring bungy team which was preparing to launch a blue Primary glider.

The driver of the car, Bill Lawson, quickly added his weight to the efforts of the crew and the fair-haired girl in his car quizzically surveyed the scene before emerging to mingle with the others. Dorothy Sidey, soon to become Mrs. Lawson, had arrived at the SGU.

At the re-formation of the club in 1946, Dorothy quickly became entangled in clubroom organisation, and willingly laboured with the others as the SGU hesitantly progressed from occupancy of one ex-RAF hut after another at Balado airfield. In 1956 some empty fields at Portmoak suddenly became available and the SGU was on the move once more. In a matter of hours Dorothy made temporary quarters at Welburn—nearby, habitable for weekenders.

When the present clubrooms were erected in 1961, one of the key figures in the planning of our domestic comforts was, of course, Dorothy.



Dorothy Lawson in 1948.
(Photo: A. J. Thorburn)

With the introduction of paid club-room staff, it was inevitable that she should become Chairman of the House Committee, and as such became well-known to members and visitors from all the UK clubs, and many abroad.

The problems she solved for us during the last twenty years, largely by her own generosity and unstinted labour, are too numerous to mention.

As well as all this she had her moments of gliding, and many hours of trailer towing for Bill. Her recent death is a shock and her gentle but firmly persuasive personality is greatly missed.

With her has gone part of the SGU.

A.J.T.

SOUTHDOWN

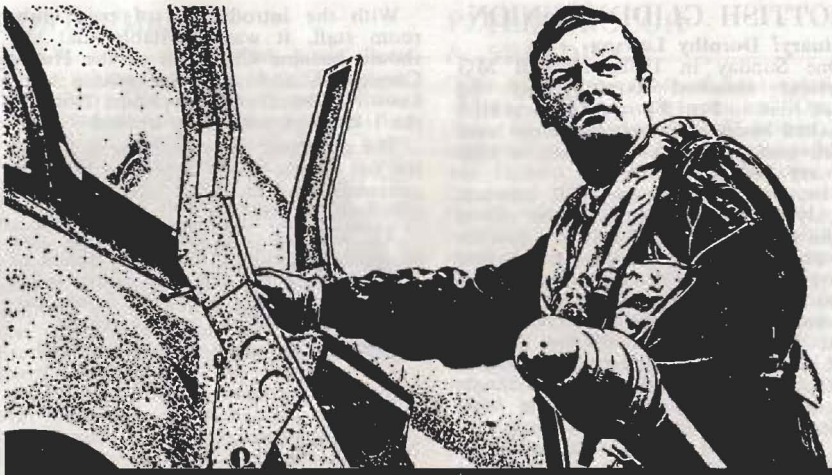
DURING the summer, our aircraft have visited other sites, collecting several Gold and Silver heights and distances. The first trip was by the syndicates Olympia 463 and Pirat, to Compton Abbas. Brian Wheeler flew almost to Lasham for his Silver distance in the Pirat, as did Peter Gellett in his Skylark 4.

The Olympia 463 and the Club Olympia 460 visited the Mynd in June, Jim Tucker and Ian Agutter gaining their Gold heights with 11,000 and 10,500 feet respectively, while John Ash and Chris Berry made Silver height climbs, other members enjoyed thermals and waves.

We have again visited Redhill, by courtesy of the Tiger Club, for aero-towing experience.

However, we have had some good soaring this summer. On 6th June, Ian Agutter and Val Rendle contacted some of the tantalising minor wave which we occasionally see here, reaching and maintaining heights of about 2,250 ft. Another memorable day was the 14th June, the longest flight being Ian Agutter's 4 hrs. 19 min. in the Olympia 463. Keith Mitchell had 2 hrs. 47 min. of his 5-hour attempt in the Pirat with a height of 3,200 feet, before having to retire due to being sick.

Also August produced some good soaring, and cross-countries including a 50 km triangle in the T-21 were carried



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out. We have also had several 1st solos, Bronze legs and conversions, and ran members' courses in July and August.

K.P.M

SOUTH WALES

OUR wave week was a great success thanks to the generous last-minute appearance of Tony Gaze who towed us tirelessly to the right spot many times; 78 in all during the week (see page 451). As one launch drunk visitor said at the end of the week "this will snowball"! It has. Trailers arrive and great is the rigging and de-rigging thereof. May I take this opportunity to say we have no tug — yet — and only one cable. Yes, we are working on it.

Training-wise we have had many solos all on the Swallow. There is great talk of another K-6 or even a Libelle, whilst the T-31 had to go for a song. Anybody got a K-7 we can sing for? We hope to do some hill soaring from a site near the club should our field get too wet to work on. In the meantime the T-21 and Swallow pound the circuit.

I.H.S.

STAFFORDSHIRE

OUR present site at Meir is being slowly eaten away before our eyes. Our landlords, the Stoke-on-Trent Corporation, are removing the turf in a fairly rapid manner to provide lawns for the local inhabitants. It is to be hoped that negotiations and finance to enable us to proceed with the acquisition of the site at Morridge, near Leek, will be completed before we are reduced to flying from mud flats.

Further flights have been carried out from Morridge, but we cannot commence flying on any scale until we hear that our application for a grant has been approved. If and when this is done we shall proceed with all possible haste to familiarise ourselves with the new site so that as many as possible of the club members will have experienced flying from a hill site before we move. Our intentions are backed up by a number of pundit types who have visited Morridge and have suggested that we get to know the site as well as possible from the air before the club moves there *en bloc*.

A.J.D.

SURREY & HAMPSHIRE

THE long summer days have now mellowed to gentle 1 knot thermals below a cloud-base of 2,000 ft. Our cross-country tally this year is 27,800 km. of which 14,760 were done in club gliders. These figures are 25 per cent down on those for 1969 and reflect the good local soaring that we've had (our hours are up on last year) but country wide it's been very variable, this is the first season for a long time that no one has gained a 300 km. closed circuit Gold or Diamond leg, although a dozen or so triangles and out-and-returns of over 300 kms. have been completed by Gold C pilots.

The Portmoak expedition was a great success about which more is written in this issue. The South Wales Club at Usk was host to a few of our members during September and some splendid wave flying occurred on some days when the wind was W-SW; 12,000 ft. was reached twice, considerably exceeded since we believe, so those planning winter and spring wave expeditions are looking west, a decision to go can be made almost on the spur of the moment and it's only three hours' drive on good roads to Usk.

C.L.

THAMES VALLEY

WITH a 20 knot north-westerly we organised an expedition to Chinnor Ridge on Saturday, 3rd October. A K-7 was aerotowed to the ridge and it was found that conditions produced lift to 1,700 ft. On receiving this information back at Wycombe a further seven gliders arrived.

Our usual landing field was full of sheep but a little skilful flying by the tug pilot managed to herd them upwind of the field. Farmer Hill duly appeared and obliged by unlocking the gate so that glider trailers could be brought in for rigging purposes. Our CFI, Norman Smith, got him airborne in the tug and he enjoyed the ride.

The Vintage Car, Aircraft and Pipe Organ show at Wycombe Air Park on 27th September was a huge success and promises to be the vintage show of the year; vintage entries were presented with a screw-on plaque to record the occasion. Several old pipe organs were on display

and sounded very well. On examining the mechanisms at close quarters, a complicated array of flexible tubes and leather bellows, one couldn't help thinking that if these organ builders were still around they would come up with a fully compensated total-energy system that worked without the assistance of electronics.

We would like to welcome more visitors to Wycombe; why not make a visit and see how we tick.

J.W.

ULSTER & SHORTS

DISPOSSESSED for the summer by the billeting of Army reinforcements at Long Kesh, we moved in June to lodge with the power club at Newtownards. The Capstan was left at Long Kesh for its C of A, thus restricting two-seat training to the Blanik only.

Though we lost the use of the clubhouse and bar to which we had grown accustomed at Newtownards, most members were happy to get back on the wire again at Long Kesh in early October. Our reverse auto-tow equipment, which gives excellent value at eight-bob a launch including 15 minutes' flying, was brought back into operation. We wonder why the Cambridge UGC's survey of launching economics, covered in the last S & G, omitted any study of this simple and economic system—wholly developed in Ireland by our friends in Dublin—for it gives far higher launches than straight auto-tows and an hourly launching rate which makes winching look positively comatose. We've had 3,400 ft. on our wire, with 2,000 ft. commonly exceeded.

In September and October we revived a lapsed club tradition with two weekend expeditions to Magilligan Strand, a glorious seven-mile beach on the north coast of Ulster with 1,260 ft. Binevenagh and a long cliff ridge immediately behind. In a stiff north-westerly it's all going up and we fly off the beach at the foot of the cliffs.

Several Bronze C legs and one Silver C duration leg were gained on these two outings—the latter by Treasurer Jim Scott who then shot off to Southern California and Texas on urgent business, some of which was to search for Gold.

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Looking further forward, much 1971 activity seems to be assured by this year's crop of new soloists which despite the site disruption and the season's loss of the Capstan considerably exceeds last year's in numbers.

R.R.R.

WORCESTER

THE seasons are rolling by and have had their effect. Our gliders are no longer to be seen silhouetted against a deep red dying sun setting over the Worcestershire countryside, as evening flying has now stopped.

Our K-2 is now back in service in its new colours of pastel blue and white. The Swallow pilots will have to waken earlier now if they hope to get on to that ever-growing flying list.

During October we were pleased to have the company of the National Coach, Bill Scull, and his Scheibe Falke to run one of the BGA's Instructors' Courses. His pupils appear to work very hard at the paperwork and lectures. The general impression is that the Falke is a good idea. For us lower mortals it was a very inspiring sight watching the

motorised machine taking off and climbing steadily into the face of a strong cross wind then returning and doing some two or three circuits and bumps whilst we struggled to retrieve one heavy T-21 after a long landing. However, we won't be motorised just yet, so away from watching and back to winching.

Congratulations to Keith Tildesley and Roy Williams on successfully getting through the Instructors' Course.

J.M. and R.B.

YORKSHIRE

WITH the approach of winter we are looking forward to the various social events which help to pass the long dark evenings till spring. The Bonfire party which is the children's joy is already planned and a Hallowe'en party organised by Betty Lilburn is sure to be a great success. Christmas will also be well catered for. But we have no cause to regret the past summer. Despite various weather problems we have had plenty of successes to report.

David Lilburn managed to top Richard Tindall's height record and gain 19,800 ft. in the K-6E. David also got 12,000 ft. earlier in August, Richard Tindall, 13,000, Ian Dunkley, 8,000 and Ralph Stoddart 9,000 ft. But heights aren't our only achievement. There have been a number of 5-hour durations as well as cross-country flights over the past two months.

In addition to all this, our courses this year have been even more successful than usual. The day courses run by Laurence Hill were very well patronised and we hope to repeat the idea next year. Then, with our Scheibe Falke, there should be a considerable speed up in training.

P.M.

SERVICE NEWS

CHILTERNS (RAF Benson)

RAF Benson's recent Battle of Britain At Home Day included a superb aerobatic display by Doug Bridson, our CFI, flying the club's Bocian. The display was enjoyed and greatly appreciated by an immense crowd of spectators.

Club flying has continued steadily and members recently enjoyed an expedition to the Yorkshire Gliding Club's wonderful site at Sutton Bank. Our grateful thanks to Henry Doktor and to all the others who made our stay so enjoyable. Three members completed their Silver duration on the Bank—Pete Simons, Allan Madge and Ginge Lewis—and Neil Carnegie appeared for just long enough to complete his Bronze C.

Whilst up in Yorkshire we also enjoyed the Rally held at RAF Dishforth on 26th September. The day was notable for its generally poor conditions and shocking visibility (thank heavens for the A1) but was a great success, due to the very capable organisation of the Clevelands Gliding Club.

Con Greaves and Group Captain Godwin have now left us and to both of them we again offer our thanks and best wishes for the future.

P.A.M.

CLEVELANDS (Dishforth)

REGRETFULLY Clevelands bursts into print for at least the second time in three years—we've been a little too busy for much writing. The regret is due to Gerry Kemp's retirement from the Royal Air Force and the office of CFI.

When Gerry took over in 1966, Clevelands was flying an average 4,000 launches per year. His drive, enthusiasm and hard work have built up the stats. each year, and now we are averaging around 11,500. During this time the club's equipment and amenities have been vastly improved, most of the ideas, and their carrying out, were of his doing.

On 17th September, shortly after handing over, he was launched from Dishforth in the club Dart. After some scratchy thermalling, he climbed from 1,400 ft. into wave, and on up to 20,000 ft. to obtain a well earned height Diamond.

The wave was disappointing last winter, but has appeared frequently all summer, to the confusion of the theorists! July was perhaps the most "wavy" month, with good heights reached every weekend, but September provided the "quality". On the same day as Gerry,

Squadron Leader Wood gained his Diamond, and a club record, reaching 25,000 ft. from a 2,800 ft. aerotow. He was still climbing at 5 knots when he broke off with the oxygen running low. This wave was set off by Whernside, which is only 2,300 ft. amsl.

Clevelands' first local Diamond height was gained by "Taff" Shanahan on 2nd May this year. Gold gains have been frequent, unfortunately too often by those who already have them, e.g. the writer, with 5 between 31st May and 20th September. One of these was during a third attempt at Portmoak and return. This time Dunbar was reached, before the low clag spread in and forced a hasty retreat back to Dishforth. Distance achieved was 440 km. The day must come, but we will probably have a traffic problem with the haggis-bashers coming south—there is land down this way, you know!

Jim Beck soloed on his 16th birthday. The same day he gained his C; the next a Bronze leg; the following weekend his second Bronze leg and Silver height; and now, three months later, he has a full Silver, a Gold height and an assistant instructor's rating. All this plus 19 different types flown!

STOP PRESS.—On 18th October, from 16 aerotow launches, 9 made gains greater than Gold height and 1 reached 20,500 ft. in our wave.

S.A.M.

FULMAR (RNAS Milltown)

THE summer produced very little soaring but Trevor Armstrong took advantage of a good day to do his Silver distance. A few wave contacts were made, the best being to 15,000 ft.

Several instructors are no longer with us. CFI and Treasurer John Eatwell and John Kinch have gone to sea, while Denis Shepherd has left the Service and is now in the Middle East.

George Iley, our new CFI, is no stranger to many of us, as he was club instructor some years ago.

Trevor Armstrong has taken over the Treasurer's job. He and Frank Drake have done an instructor's course at Bicester and are now doing their share in the two-seaters.

H.D.

HERON (RNAS Yeovilton)

FOR almost five months, barely a weekend has passed without some soaring at Yeovilton.

Yeovilton has been pretty busy since the arrival of the Phantom. However, thanks to the professionalism of the controllers here, we rarely have to stop gliding in order to receive or launch the big jets. Our special thanks to Cmdr. Ford, who spends most of his weekends pushing and heaving with us and working the Oracle with Air Traffic Control in order that we might mix it with the fighters.

The achievements of the club have been impressive and healthy, with a good standard of soaring and airmanship. We recently introduced the reverse pully launch system as an additional launch facility. Early impressions are very favourable but we would welcome experienced advice from other clubs using this system on the most suitable method of repairing the piano wire.

Our most senior member, "Arnold", deserves a mention, his age is a state secret and his knowledge of forestry and elephants is voluminous; however, at this respectable time of life, Arnold was seduced by the magic of motorless flight during a glider aerobatic display at Yeovilton Air Display; since then he lost some weight, shamed us all with his boundless energy and industry, and has virtually taken over the T-21. Our congratulations to Arnold. Likewise to Nick Wilkins, who completed his Silver C and gained his Gold distance and Diamond goal, all within the season.

A sad farewell to John and Helen Dransfield, who are now in Australia. John is a "chopper" pilot on loan to their Navy. Whilst resident with us, John was our number one tug pilot and Helen kept us well fed in the "Butty Bar". In a desperate final gesture, John rushed off in a big cloud with the Olympia firmly strapped on to gain all three legs of his Silver C. Now is the time of decision.

D.R.B.

KESTREL

SINCE our last report we have changed our name from Aldershot & District Gliding Club to the Kestrel Gliding Club. The club is now much

more active, with a greater launch rate (over 100 a day); greater participation by club members in non-flying activities and a large increase in the number of expeditions to other clubs.

This year we have gained two Diamond goals. Leigh Hood, our deputy CFI, flew a 300-km. triangle from Odiham, and Howard Jarvis flew his from Bicester in the Junior Inter-Services Contest. Eddie North, CFI, gained his Gold C height earlier this year at Portmoak, and eleven Silver C legs have been achieved as well as numerous A, B, C and Bronze C's.

Cross-country flying comes high on the list of priorities and by 11 a.m. on a good day only one of the three single-seaters is usually still in the circuit, and on many occasions only the two-seaters are left for both solo and dual flying. We have recently purchased a T-21 to alleviate the strain on the K-13.

We would like to extend our thanks to the ATC Gliding Club at RAF Tangmere, who were most hospitable in welcoming us when we could not fly from Odiham.

A great deal has been achieved this summer and the club now looks forward to a winter of expeditions. We hope to visit Portmoak, Sutton Bank, Dunstable and the Long Mynd. We also hope to take the K-13 to Issoire, France, for about three weeks early in the New Year.

Club flying only takes place at Odiham at weekends, but if you happen to be flying past do drop in. You will always be most welcome.

H.R.J.

MENDIPS (Weston-Super-Mare)

THE club has been extremely busy during the last few months, the buildings have undergone structural changes, and the Committee, bodily changes.

Len Barnes is now our CFI, having taken over the controls from Tom Bobbin, who has left for greener pastures. Most of our Committee posts have been filled by fresh blood, and, as usual, new brooms are sweeping clean, aircraft and MT getting new sorts of attention and, of course, the flying programme reorganised.

Great efforts are being made to get all club members beyond *ab-initio* stage before the winter sets in. A good standard is being set in ground handling and operating, which helps to boost the launch rate.

The summer has been a reasonable one, marred slightly by a couple of costly breakdowns on our winch and tractor; nevertheless, Silver legs have been attained and two members, Alan Hardon and Alan Long, represented the RAF in the Junior Inter-Services at Bicester in August.

Several outings have been made to other sites, notably RNAS Yeovilton, and the Bank Holiday weekend, which was spent with the Moonrakers at Upavon. A grand weekend, plenty of flying, with two possible Silver C heights to be celebrated.

Anyone passing the airfield at Weston on the A371 is most welcome to look in; flying normally takes place on Wednesday afternoons and weekends. The usual social facilities are available. The club fleet consists of K-6CR, Olympia 2B, Bocian and T-21.

F.P.G.

CRUSADERS (Cyprus)

THE club's fleet currently comprises five gliders: two T-21B's, one Swallow, the pioneer Olympia 401 prototype, and a K-13. Excepting the new Schleicher, each glider has been extensively refurbished during last year under the leadership of Air Engineer Chris Waller. This work has been to the detriment of our flying achievements for the "stats." year ending 30th September, but we are confident of a remarkable improvement for this period.

Highlight of recent operations from our satellite strip at Prastio was the gaining of Gold C height by "Benny" Goodman. Benny joined Crusaders as an *ab-initio* in 1969, and his rapid advancement is indicative of the progress one can make in Cyprus, given Benny's amount of enthusiasm.

Sad farewells have been said to two stalwart Army members of our point-services club: dynamic George Brindle has served the club in virtually every capacity, culminating in his appointment as Deputy CFI for the last year. Pip Rice has similarly been a tower of

strength, and has left himself a permanent memorial in the shape of a new clubroom, constructed by himself almost single-handed. Lucky the clubs which next enrol these men of action!

Recent Committee appointments include Chris Waller as the new Deputy to CFI George Ross, and Brian Murgatroyd becomes Ground Engineer in place of Keith Powell, who regrettably has also returned to the UK. Crusaders will be losing most of the present instructors in 1971, and new, qualified blood would be most welcome. Service personnel can apply for a Cyprus posting and be certain of the gliding experience of a lifetime!

G.C.

EAGLE (Detmold)

IT is some moons since Eagle last appeared on these pages, but accusations that we have become a sailing and ice-skating club are entirely groundless, although the fact that our airfield is a 700 ft. high water-hole does prevent us from flying during the winter months. However, the summer does usually make up for it, and this season has been reasonably successful. Personalities in the club have changed this year, although "Chiefy", Alan Sommerville, goes on for ever, Chris Watson combines the roles of Deputy CFI and Treasurer, so any attempt to increase flying meets with a double approval; and Terry Colvert, our Secretary, rushes round with membership forms and assorted pieces of paper. The fleet, a K-4, K-13, two Swallows, Olympia 463 and K-6E, is in the capable hands of Gordon Berry, and Eric Drummond fixes winches and "beetles".

The 1970 season has been the club's best yet, with a significant increase in the launch rate but, more important, many more hours' flying, and a doubling in cross-country mileage, notably in the Germany Competitions, which were reported on in the last issue.

At Detmold our new K-13 has had very high utilisation, giving new members their first taste of gliding, new solo pilots the first taste of soaring, experienced pilots their first taste of cross-country flying, and Alan Sommerville and Chris Watson a further taste of the instructor's seat. Our mongrel winch, Tost/Bedford/Drummond, after a major overhaul last winter, has proved extremely reliable and gives good launches. Aerotows are available from the German club's Piper.

Eagle is not a stay-at-home club; visits have been made to Vennebeck and their magnificent ridge at Oerlinghausen, where the Germans have come to expect a different glider each week, the annual Zell-am-See expedition is planned for the beginning of November with 15 pilots and four aircraft.

Service postings in and out of Germany have brought new faces to the club, and some of the old faithfuls have gone. We welcome Smudge Smith and Ken Patterson from Wrekin, Pete Cole from Netheravon and Bob Cohen from Four Counties, and say goodbye to Tim Oakes, off to Yorkshire, John and Ann Swales to Netheravon and Stevie Clark to Lincolnshire; thank you all for your hard work. Finally, a great loss to the club, Brian Connelly and his "thing"—a Fauvel tail-less glider. Brian, as Deputy CFI and aircraft member, who during his tour in Germany has put in a lot of hard work for the club, will be missed very much.

C.W.D.W.

PHOENIX (RAF Brüggen)

DURING September club flying had to be curtailed, due to circumstances beyond our control, but has now recommenced. Last weekend produced several re-solos and one first solo pilot in the form of Ross Davies, who is an Educationalist.

Steve Jennings and Dave Williams, two Assistant Instructors, have left us, and on the arrival side we have Ben Benoist, ex-Bicester, to strengthen our instructional staff.

Our Chairman, Graham McKenzie, has been in the hands of the surgeons at Wegburg Hospital, but we look forward to seeing Graham active again on the field shortly.

We have checked our heating systems in Clyco Mk. 1 and trailers, ready for our winter season. Last year it got down to −10°C when gliding was still in progress, so all visitors are welcome to a warm up and a hot drink from the canteen.

J.M.

OVERSEAS NEWS



We would be pleased to receive news for this section from every country in the world where soaring is done.—A. E. SLATER, *Overseas News Editor.*

AUSTRALIA

OXYGEN must be used by all pilots when flying above 10,000 feet, according to new regulations issued by the Directorate of Civil Aviation. "This", comments *Australian Gliding*, "virtually means that oxygen will have to be carried on all soaring flights where it is intended to work to maximum possible altitude". In Australia, oxygen is not generally carried in each sailplane. A party of members of the Victorian Soaring Association has visited the Institute of Aviation Medicine at RAAF Base, Point Cook, to learn all about it in the Institute's decompression chamber.

Australian Gliding

AUSTRIA

NEW NATIONAL RECORDS. — Victor Mensch, of Hallein, has put up a goal-flight record of 480 km. from Zell am See to Lausanne. Hans Wolf and Guido Achleitner have set up a two-seater record of 170 km.

Five Diamond distance flights of 515 km. (320 miles) were made from Zell am See by four Austrians and one Briton, Tony Maitland.

A German pilot, Jochen v. Kalkreuth, of Frankfurt, flew 700 km. in 7 hr. 48 min. from Aigen to St. Moritz.

Austroflug

Soaring Paradise

IT is with some trepidation that I am writing about a paradise I have discovered this summer, or should I say rediscovered, as I had been there when I was young. I would like this place to remain as unspoilt and romantic for ever, but I also would like to share it with other enthusiasts. The club I am talking about is the Mauterndorf Gliding Club (full postal address: 5570 Mauterndorf im Lungau, Salzburgerland, Austria).

I stayed in the five-star Hotel Elizabeth, which adjoins the flying field; it has superb food and a heated swimming pool for the sum of £2 per day, including breakfast, service and all taxes paid. It serves as a most luxurious clubhouse, but there is accommodation for as little as 10s. a day or less.

The club has a Bergfalke, K-7 and K-8 as well as others, some of early vintage, and for launching a very efficient winch is available. With wind, hills and mountains in every direction, flying is possible on almost every day, but take-off is only possible in one direction (along the valley, either way), and provides excellent training for crosswind take-offs and landings.

Whenever there is a chance of wave developing, a telephone call to the Salzburg Gliding Club, 50 miles away, will bring a tug immediately, as the Salzburgers do all their solo flying (owing to restriction on their own field) from Mauterndorf.

The charges for flying or tuition are the lowest I have ever come across, and are about half the cheapest prices in England.

For some unaccountable reason, most British pilots seem to go to Zell am See, a place which I avoid as it is getting

overcrowded, is much more expensive, and has to be booked in advance. Also the food is better at Mauterndorf.

One thing that struck me during my stay was the large number of motor gliders using this site. They were mainly two-seaters of all makes and shapes, but also some fine single-seaters flew in from all over Austria, Germany and France. The pilots were very kind and invited me to join them on many a flight, exploring the soaring possibilities of the Alps in the area. One of these flights lasted four hours with only 14 minutes of engine time. Lift of 8 m/sec. was not uncommon when hugging the hot rocky slopes—an unforgettable experience.

The CFI, Horst Steiner, is also a famous ski coach; he was invited for a two-year period to train ski coaches in Australia and speaks fluent English. He is also the owner of a nearby guest house which has a ski-lift outside its front door. A summer or winter holiday combining gliding and ski-ing may be of special attraction to people who enjoy both sports. The social side of the club in the Hotel Elizabeth or in the lovely castles of Mauterndorf and Moosheim, with the finest (and cheapest) Austrian wines, song, dance and local costumes, will always count as one of my happiest holidays.

There are direct flights from London to Salzburg, and Mauterndorf Hotel cars or buses are always at the airport. The drive takes about two hours through the most picturesque Tauern Pass with scenery of mountains, valleys, forests and wild rivers which have no equal anywhere in the world. (Deduct 10 per cent, as I am Austrian.)

HENRY F. PULITZER



Soaring in the Austrian Alps

BELGIUM

FLIGHTS ACROSS FRONTIERS.—French and Belgian authorities have drawn up a mutual agreement governing glider flights from one country to the other. The regulations are long and detailed. Documents to be carried on board include passport or other identity document, gliding licence, airworthiness certificate, logbook, maps, permission from the Commandant of the take-off airfield to make the flight, etc., etc. On landing, the pilot must immediately inform the police. Cameras may not be taken aboard without permission of the competent authorities—apparently of the country in which the glider lands.

Conquête de l'Air

CANADA

NATIONAL SOARING CHAMPIONSHIPS. —These, the 22nd of the series, were opened by HRH The Duke of Edinburgh and Princess Anne, who arrived at Carman, Manitoba, by helicopter on July 14th. During their half-hour at the site, Prince Philip and Princess Anne conversed with several pilots and officials. Despite a few rain showers, everything went off very well and the soaring fraternity and townspeople of Carman alike were most impressed by the easy informality of the Royal visit.

In spite of the large amount of planning and the high hopes for the contest, the weather did not co-operate and only two contest days were flown. Since a minimum of four contest days are required for a valid contest, no Canadian Champion was declared; however, the

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Sports Class (a handicapped contest based on the system outlined in *Soaring* of April 1969) was won by a combination of a modified SB-7 built by Joe Mandla of Montreal and pilot Dave Webb.

The two official contest tasks were (1) a 200-km. triangle won by George Blunden (Cirrus) at 82.4 km/hr., and (2) a Prescribed Area Distance won by Hal Werneberg (Std. Cirrus) with a distance of 483.2 km. After the two days, standings were as follows:

1. D. Webb	Mod. SB-7	1,911
2. R. Mamini	HP-14	1,886
3. G. Blunden	Cirrus	1,877
		S.W.

CZECHOSLOVAKIA

WOMEN'S CHAMPIONSHIP.—This was held in Rana from 20th June to 2nd July. Tasks were:

100-km. Triangle; 224-km. Out-and-return; 104-km. Out-and-return; 120-km. Out-and-return; 123-km. Race to Kolin; 300-km. race to Otrokovice. Vera Hudcova won three tasks, Jindra Pausova Ml. one, and Jana Peliskova one.

Leading Total Scores

Vera Hudsova	4177
Rozina Tiapakova	3565
Kvetoslava Benesova	3256
Jindra Pausova Ml.	3240
	Letectvi

FRANCE

THIS is a gliding story with a difference. It was a mountain-flying competition lasting 11 days, the fourth year in succession that I have competed there. As usual, every day was a competition day, and in addition I had one practice day beforehand.

Wave flying

This occurred on the pre-competition day and I spent four happy hours playing with waves up to 16,000 ft. The sky was pretty with lenticular clouds, but on this day, if you thought that those clouds were wave markers, then it was time to think again. The wave was where you found it, and on reaching the top one could try several lenticular clouds without getting any reaction. Only under one of about 20 wave clouds was there any of the text-book lift, and it was very weak, just 1½ to 2 knots up. Mostly the lift in the waves was 8-10 knots. When it began to get dark in the valleys I decided to come down; but with full airbrake and wheel out it was surprising how long it took; quite often one passed through rising air powerful enough to lift the glider for a short while.

The aircraft

Three days before it was time to set out for Vinon in the South of France, I bought the Standard Libelle in which John Williamson won the Sport Competition at Dunstable. I had only flown it twice previously and it was not kitted up at all. Only the P.Z.L. vario worked and the radio was loose on my lap.

Mountain flying

This is fantastically wonderful. No camera can do justice to the wonderful scenery, and ordinary gliding pleasures are literally nothing compared with the thrill of zooming up the near vertical side of a mountain ridge to above the snow-line and up to heights above 10,000 ft. Even the birds play in the anabatic upcurrents. One falcon I saw was repeatedly doing stall turns with wings almost completely closed, ignoring me completely as I passed and re-passed the same place. The experts say that one should fly with the wing shadow 6 ft. under the wing, but that is too close for me—12 to 20 ft. away was the closest that I flew to the rocks.

Mountain flying in a glider is so terribly thrilling. One sees sights that ordinary mortals cannot imagine, and the mountain air currents, anabatics or thermals are like champagne—the heart races with excitement as powerful upcurrents are superimposed on the steady

uplift. One's spirits soar with the glider in the glorious scenery.

Although on three previous competitions there I had always won at least one race, on this occasion with the Libelle I was not even placed. It is not that I am getting any worse, but the younger set are getting better so much more quickly, and know their mountains better. Last year I was hopelessly lost amongst the mountains on two occasions, and this year I made detours of up to 40 kilometres in order to avoid such embarrassment; also, I was very chicken of flying across ranges and gorges where there was no place to land. This is nothing against the Libelle: Jean-Pierre Cartry won the competition in an exactly identical aircraft. I flew the Libelle 80 hours in 24 days in France during the International Mountain Competition and the Angers Competition.

The crew

My crew consisted of two nieces, both animated and in a state of continual joyful anticipation. My theory that these two lassies would provide me with plenty of male help whenever required proved to be very correct. Both had crewed for me before, and for my crew chief it was her third competition at Vinon. She is French-speaking and very well known.

Trapped in a valley

On one day the first turning-point was in a large triangular valley where I had force-landed last year because I could not climb high enough to escape. This year I discovered a south-facing escarpment 5,000 ft. above the floor of the valley where I rose to 7,000 ft., but this was not high enough to see over the mountains towards the second turning-point.

The sun was shining on this vertical face and clouds were forming from the thermal anabatic winds, but it seemed that whenever I reached enough height to get near the clouds, there was no lift under the cloud itself, which was most frustrating. From this source of lift I tried all types of other potential lifting slopes but without getting as much success as on the sunlit escarpment, and further, each time I returned to regain height, I could not get as high as the time before. After three hours I finally decided to go to my grass field of last year where the farmer had been so kind.

This field was at the outfall of a 20-mile gorge 2,000 ft. deep in places. I saw five other gliders who had landed in various places, some looking very hazardous. My grass field of last year was now a standing crop of wheat (yes, I was low enough to identify it!) but I had another field in view, and on approach over the mountainside, I found gentle lift. On the principle of "make merry now", I played with it and found enough height to go to another ridge, still within range of my field. Along this ridge in one place I found lift of more than 10 knots, and to my amazement it took me to 9,000 ft., from where I could see over the mountains to a valley where there was an aerodrome.

Although it looked chancy, I decided to make for it, and all went well until over the last mountain where the top was like the saddle on a horse. As I approached, I encountered 10 knots or more of sink; so, in desperation, with no place to land, I dived for the deck at 100 knots and coasted along at 18 inches above the surface, 6,000 asl, up over the saddle with airspeed down to 55 knots. The grasses smacked my fuselage (no wheel down) and I just managed to skim over the hump to the downward slope, ever increasing downwards. I suppose that my mental feelings were much akin to the pangs of childbirth; when over, it is soon forgotten, they say . . .

If I had gone to ground up there, the glider could not have been retrieved. In a flash I had reasoned that the downdraught would have to stop at ground level. By now a young gale had sprung up, lift on any face into wind was certain, and I was able to make my way to the second turning-point and home without any more white-hair-making episodes. I had been in the air for 7½ hours, and my crew were most surprised to hear me on the R.T., three hours after the last to arrive, reporting my final glide.

HUMPHRY DIMOCK

NATIONAL CHAMPIONSHIP "AIR".—This event, for Service pilots, was held at Dole (Tavaux) in June. Tasks were flown on five days out of 11. Classes and winners were:— Open: 5 entries; winner, Lt. Delvigne on Cirrus; the other four

were of Phoebus C type. Standard 1: 18 entries; winner, Cne. Berry on a Squale; 9 entries of this type, 6 Edelweiss, 2 K-6E and a Phoebus B (which came second). Standard 2: 22 entries; winner, Sgt. Lopitaux on a Mésange; four of this type (including runner-up), 9 Super-Javelot (all among the last 12 placings), 7 Fauconnet, K-8 and K-6B.

Aviasport

PORTUGAL

BACK to Sintra after our first period in Evora, training continued. C. Miguel made a flight of 5 hr. 15 min. with hill support.

By mid-September again two gliders were towed simultaneously by the same Auster D5 south to Evora. The site is proving as good as we expected. Flying has been done weekends and some weekdays according to pilots' availability. Five student pilots follow a course and each pupil has 15-20 flights from car launches, followed by a surprisingly reduced training on aero-tows before going solo.

During the first week the two gliders put up 39 hours. Pilots C. Miguel and F. Hipólito had altitude gains of more than 1,000 metres. Later, on his distance attempt to Beja (53 km.), Hipólito landed there after gaining 300 m. more than he did on his previous altitude flight and missed the duration (and his Silver C) by a mere 27 minutes. Remarkable is the fact that newly-trained glider pilot Cabrera Santos (got his wings the week before) in his first "post-graduation" flight covered 53 km. southwards and gained some 1,600 m. in a little more than 2 hr. 20 min. flying time.

We expect to find good weather in Evora at least until the end of November.

E.F.M.

SOVIET UNION

RUSSIAN FEDERATION FINAL CONTEST. —This was held at Orel from 1st to 14th July. Owing to hot, cloudless weather, causing lack of thermals, it was not possible to set a task until 7th July. A 205½-km. triangle was set. Good cumuli with 4-5 m/sec. lift covered the course; 21 out of 29 pilots finished.

First of the women was Nadyeshda Kopyitina from Rostov. 1st of the men was Parkhomtsev, who flew the course in 3hr. 24 min. Second woman, Szeltova (Kazan); 3rd Revynova (Orel). Second of the men was Slyepichev (Rostov); 3rd, Sykhantsev (Pyensa).

DAY 2.—A 200-km. Out-and-return was set. The weather was complicated and only 5 pilots completed the task. The winners of this hard task were Revynova and Petrov, both of the Rostov team. Second were Kopyitina (Rostov) and Volodyanets (Orel); 3rd, Szeltova and Sukhantsev. Note: women have been put first.

DAY 3.—The Met. Department expected good weather and at first set a 300-km. triangle. However, as the cumuli were late in starting, the task was changed to a 100-km. triangle. As it was a short task, all pilots waited before crossing the line for conditions to improve. However, instead of improving, the cumuli started to distintegrate. Seeing how the weather was changing for the worse, the pilots set out in gaggles and not one finished. However, two pilots flying *hors concours* did manage to do the task. One was Marina Afrikanova and the other Alexandra Kolacheva. They were flying with North Korean pilots as passengers.

DAY 4.—100-km. Triangle. Clouding associated with a cold front prevented lift after the second turning-point.

DAY 5.—300-km. Triangle. Pilots took off and then waited until they were informed over their radios that the start line was open; then they were away as quickly as possible. Again "capricious" weather caused trouble after the second turning-point and the task was counted as distance along a line through two turning-points. First of the men was Anatoli Koval, 261 km.; 2nd, Yuri Logvin from Kazan, 235 km.; 3rd, Slyepichev, 196 km. Women: 1st Kopyitina, 219 km.; 2nd Ydina, 219 km.; 3rd, Szeltova, 196 km.

Final Results: Women

1. Kopyitina (Rostov)	2059
2. Szeltova (Tatar Asiat. R.)	1901
3. Revynova (Orel)	1839

Men

1. Petrov (Rostov)	2204
2. Sykhantsev (Pyensa)	2166
3. Koval (Orel)	2096

Team Results

1. Rostov Region	6259
2. Pyensa Region	5797
3. Tatar Asiatic Republic	5640

There was very little in the first 12 places among the men; e.g., 1st, Petrov, 2204 pts.; 11th, Logvin, 1894 pts.; 12th, Minyeev, 1844 pts.

A. VINOKUROV AND E. GLADKOV

Translated and condensed from *Krilya Rodiny* by C. WILLS.

Ukrainian Championships

Teams from the Kiev, Vinnitsa, Lvov, Rovno and Dnepropetrovsk Regions and a full team from the Aviationsport Club of the Kiev machine-building factory met at Dnepropetrovsk. 26 high quality pilots gave promise of making this a keen contest.

Unfortunately, this year, the weather has been bad for gliding in the Ukraine and it did not change for the contest. In fact, it rained so hard at the beginning that, when the sun did break through, the countryside needed another day to dry out. At last, on 18th July, a 208-km. Triangle was set. No pilots finished.

DAY 2.—A 104-km. Triangle "sprint distance" was set, although it was possible also to consider 200 or even 300-km. Triangles. Leonid Yerishko from Dnepropetrovsk flew the course in 1 hr. 36 min. Durnov took 1 min. longer. Third was Amochkin.

DAY 3.—A 300-km. Triangle was set. Only three pilots passed the second turning-point. In one of the Blaniks, the author of these lines, having struggled for 7 hours, was tired, and had to give up and land when down to 200 metres. However, Rudyenski and Yerishko, who had been pair-flying, managed to get home.

DAY 4.—Task, 208-km. Triangle. In spite of storms and rain which turned the task into a gamble, 9 pilots managed to finish. First, Valeri Sarayev (Kharkov); 2nd, Yerishko; 3rd, Amochkin.

DAY 5.—A 300-km. Triangle was set. Because of storms, no one even got to the 1st turning-point.

Team Results: 1st Dnepropetrovski; 2nd, Kiev; 3rd, the team from the Kiev machine-building factory. For the latter, this represents great progress.

Absolute Champion of the Ukraine: Leonid Yerishko; 2nd Rudyenski; 3rd, Durnov. First of the women: Yekaterina Golyenko.

V. GONCHARENKO

WEST GERMANY

A LOCAL GLIDING CLUB. — Nearly half the total membership (30) of Limburg Gliding Club were invited for the evening to the Wiesbaden flat of Chuck and Bonnie Bentson (formerly of London G.C.), when we spent the night there on the way to Constance. The age spread of their members, apart from children who get taken up, ranges from one of 16 and seven of 17 to Rudolf Götz, who began gliding in 1926.

Another veteran, Rudolf Schwarzer, started learning at Grunau in 1934, having visited it in 1930; he is now 51. His father, who worked at Schleicher's factory in Poppenhausen, absolutely forbade him to take up gliding because the only crashes brought down from the Wasserkuppe for repair were the severest ones—the others were dealt with in the Wasserkuppe workshops—so father had acquired a distorted idea of the dangers of gliding. However, the son, who needed a parent's written permission to glide at 15, forged his father's signature on the necessary document.

The club, which is about 15 miles north of Wiesbaden, has not yet built itself a clubhouse, but has a little kitchen and hangar. Wives come, and a few fly too. The club is run on an annual subscription of 300 DM (about £35)—students half price—and finds that, at this rate, there is no need to charge flying fees.

The club fleet, for a membership of only 30, is fantastic—12 machines. The club itself owns a K-6, K-8 and K-13. Four K-14's owned by syndicates are virtually club machines, and also privately owned are a K-6, K-6E, Libelle, SF-27, and an experimental K-13 with an engine similar to that of an SF-27M. None of the members fly in competitions because, as they insist, they fly for fun.

A. E. SLATER

WASSERKUPPE JUBILEE. — On 9th August a big international rally was held on the Wasserkuppe to celebrate the 50th Anniversary of the first glider rally held

there in 1920. That event was the first of a series of annual meetings at which the art of soaring flight was developed and mastered. Neil Armstrong turned up and spoke of his early gliding days which led eventually to his becoming the first astronaut to step on the Moon. He mentioned that the first rocket-powered flight was made from the Wasserkuppe in a machine designed by Dr Lippisch, pioneer sailplane designer, and flown by Fritz Stamer, head of the Wasserkuppe gliding school.

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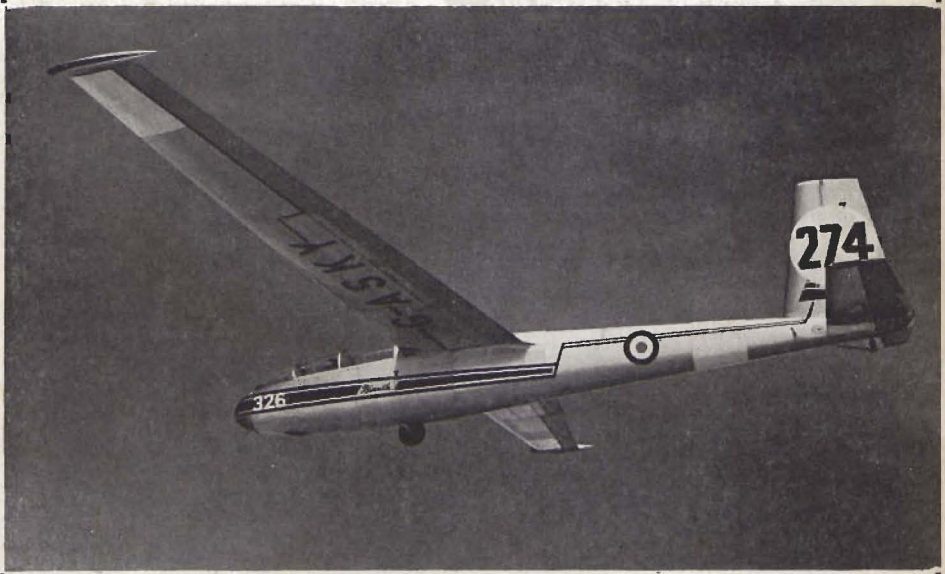
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