GLIDING

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INCLUDING 1954
WORLD CHAMPIONSHIPS PROGRAMME

GLIDING

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Cover Photograph.—**A Slingsby Sky** launched at Dunstable. Photo by A. E. Slater.
NOTE.—The photograph on the cover of the Spring, 1954, issue was reproduced by courtesy of *The Aeroplane*, whose photo it was.

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Our Finest Hour

WE welcome to Camphill the finest pilots and sailplanes of 19 nations. We are very much aware of our responsibilities to the cause for which most of us have worked in our spare time over many years past, and we are determined to do everything we possibly can to make our guests feel at home, to make their visit pleasant and memorable, and to make our special contribution to the general store of knowledge.

What are we hoping to do in this way? Before stating this, we must say in advance that our success must to some degree hinge on our notoriously unreliable climate. But for many years past we have had reasonably good weather (by British standards) for our National Championships at Camphill, so we pray that on this most crucial year of all we will again be blessed by good fortune.

Granted good weather then. Firstly, we hope to show that good pilots can make good flights in weather conditions much less "easy" than those which have been experienced at previous World Championships. It will, we believe, be a lesson of great importance if it can be shown that soaring flight can be carried out in a wide variety of weather conditions.

Secondly, we hope (again, weather permitting) to provide more actual flying days than have been flown at previous World Championships. We believe our guests have come all this way mainly *to fly*, and we hope to satisfy them. We will be helped in this by the very nature of our weather and size of our island, which makes it unlikely that we shall see a large number of consecutive very long distance flights. Thus, after most days' flying, competitors should be able to get home reasonably early, and so be rested and refreshed for the next day's task.

Thirdly, living on the site in a fleet of caravans, we hope there will be more social contact between the teams and people of all nations than ever before. Gliding is an international bond of friendship, and in 1954 anything which can draw the nations together in a spirit of mutual enthusiasm is of really priceless value.

Now for one disadvantage. Owing to the nature of our site at Camphill, we cannot offer launching facilities as good as have been available at previous World Championships. The unexpectedly large entry of 35 single-seaters and 10 two-seaters means that on some days some aircraft will have to wait on the ground for the congestion over our slope to thin out before it will be safe to launch them. We have done what we can to mitigate this unavoidable snag, notably by a new departure in our marking system. We believe this will ensure that, in spite of this difficulty, the best man (or men) will win.

We expect to demonstrate something else of great importance: the next generation of British sailplanes. What our designers and manufacturers are doing is significant and, we believe, unique amongst the nations. We are producing a number of laminar-flow sailplanes *at a price which the ordinary user can afford.*

Laminar flow wings have been built before, but so far have proved too expensive to be of general interest. But in the Skylark II, the Olympia IV, the British Gliding Association's K-1, and the Slingsby T-42, we expect to have a breed which will have the performance of ordinary machines of 10 ft. greater span, but sell at lower prices.

At the time of writing it is not certain which of these new designs will be quite ready to be actually flown in the Championships. But some or all of these aircraft will be either flying or available for inspection at Camphill, and we believe they open up a new era for gliding, rather like jet aircraft ten years ago for powered flight.

Then there are rumours of one or two exciting new instruments designed and built by enthusiasts, which may see the light of day for the first time at Camphill. At Madrid in 1952 our Total Energy variometer and our Pye radios gave the British team an edge on others. It will be interesting to see if we can still keep one jump ahead in 1954.

But no doubt many of our visitors also have surprises up their international sleeves. So whether we come out on top or whether we come out nearly bottom (and we have had experience of both), we look forward to the great fortnight with unbounded enthusiasm, and with the determination to do our utmost to succeed as hosts to the International World of Soaring Flight.

One Day's Flights From Camphill

An Analysis of Soaring Conditions

by Betsy Woodward

On the last day of the 1953 British Nationals (3rd August) the task consisted of following a course along 143 degrees true, from Camphill to the south-east of Kent. Twenty-eight pilots attempted the task, the longest being Stephenson's 193-mile flight to Lympne. Written reports and several barograph traces were received from 14 contestants, and it was hoped that from these an analysis of the soaring conditions along the route could be obtained.

As every glider pilot knows (especially those familiar with English conditions), reports from one pilot can vary considerably from those given by another who flies over the same course a half-hour later. Such is the case on this day; however, an attempt has been made to show the areas and times of building cumulus, spreading-out of cumulus into a layer of stratocumulus, clearing skies and rebuilding.

The adjacent map has been divided into several areas, times and a summary of conditions encountered being placed beside each.

An interesting feature of the day was the cloud street laying to the east of the course, which was used by two pilots and observed by several others.

CAMPHILL-CHESTERFIELD-MATLOCK AREA.—Most pilots report good conditions in this area from 11.00-13.30 and several climbs were made to 8-9,000 feet in 8-10 f/s. lift. Several, however, reported heading for "nice-looking cumulus" only to find them dissipating. One contestant said that there was not sufficient lift to leave Camphill until 14.00; however, others launched at approximately the same time (12.00) found good to exceptional lift, though short-lived. Only one report was obtained after 14.00, which mentioned "small patches of lift in the area". No report was made of high cloud or spreading-out of cumulus.

NOTTINGHAM-DERBY AREA.—By 12.30 the clouds in this area were becoming well developed, and one pilot reached 8,300 feet, averaging 5 f/s. lift. Conditions were still favourable at 13.00; the top of a cumulus just west of Derby was estimated to be 10-12,000 feet. These clouds then became over-developed and a spreading-out occurred. High cloud and strato-cu were evident at 13.15, primarily in the southern part of the area. At 13.30 one contestant found smooth lift averaging 5 ft./sec. in a cloud just north of Nottingham which had an estimated height of 10,000 ft.; however, in the southern portion a definite overcast was present and several pilots found nothing but "dead air". Fifteen minutes later, lift over and to the north of Nottingham became poor (probably due to spreading out), but no mention was made of a heavy overcast as was observed to the south.

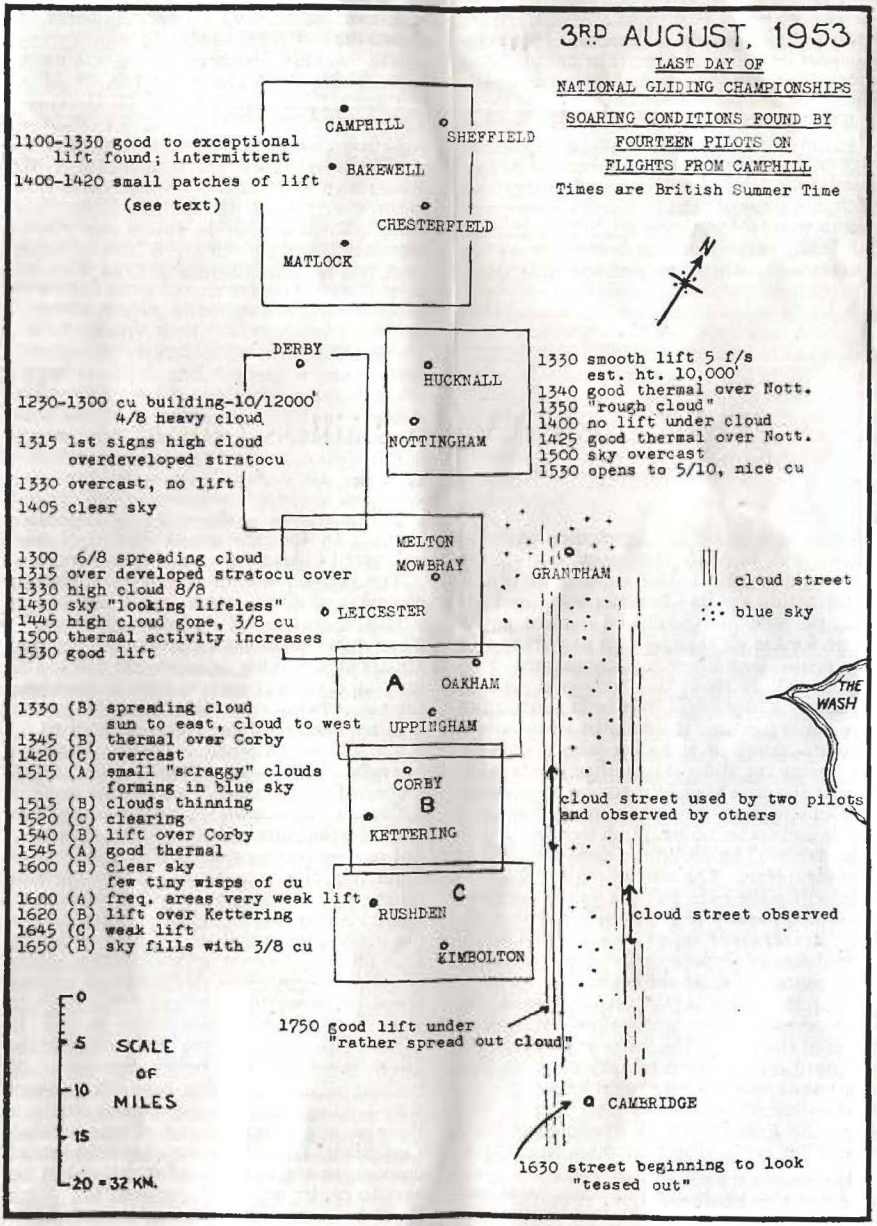
By 14.00 the overcast in the southern area was gone and several small but rough, dry thermals were used. Pilots in the area at this time reported clear sky ahead on course. The lift between 14.00 and 14.15 was considerably weaker than at 13.00; the maximum altitude obtained being 5,700 ft. and the average rate of climb being 3 ft./sec.

There is a report from only one pilot after this time, who mentions an overcast sky south of Matlock, with breaks to the east and west at approximately 14.30. At 15.30, while on the ground at Hucknall, he reports that the sky had cleared to 5/10 and "nice cu" were present.

LEICESTER-MELTON MOWBRAY AREA.—A 6/8 overcast of spreading cumulus was reported at 13.00, and by 13.30 had reached 8/8. By 14.45 the area was again covered by 3/8 cumulus, but reports showed only poor lift (2 ft./sec.). Forty-five minutes later 5 ft./sec. lift to 3,800 ft. was found two miles east of Melton Mowbray.

UPPINGHAM, CORBY, RUSHDEN.—This area is composed of three smaller areas but, from all indications, conditions varied little between them; so times have been grouped together (see chart).

We will not attempt to draw any conclusions from the above, but will leave this


3RD AUGUST, 1953
LAST DAY OF
NATIONAL GLIDING CHAMPIONSHIPS
SOARING CONDITIONS FOUND BY
FOURTEEN PILOTS ON
FLIGHTS FROM CAMPHILL
Times are British Summer Time
CAMPHILL
SHEFFIELD
BAKEWELL
CHESTERFIELD
MATLOCK
1100-1330 good to exceptional lift found; intermittent
1400-1420 small patches of lift (see text)
DERBY
HUCKNALL
NOTTINGHAM
1230-1300 cu building-10/12000' 4/8 heavy cloud
1315 1st signs high cloud overdeveloped stratocu
1330 overcast, no lift
1405 clear sky
1330 smooth lift 5 f/s est. ht. 10,000'
1340 good thermal over Nott.
1350 "rough cloud"
1400 no lift under cloud
1425 good thermal over Nott.
1500 sky overcast
1530 opens to 5/10, nice cu
MELTON MOWBRAY
LEICESTER
1300 6/8 spreading cloud
1315 over developed stratocu cover
1330 high cloud 8/8
1430 sky "looking lifeless"
1445 high cloud gone, 3/8 cu
1500 thermal activity increases
1530 good lift
GRANTHAM
cloud street
blue sky
A
OAKHAM
UPPINGHAM
1330 (B) spreading cloud sun to east, cloud to west
1345 (B) thermal over Corby
1420 (C) overcast
1515 (A) small "scraggy" clouds forming in blue sky
1515 (B) clouds thinning
1520 (C) clearing
1540 (B) lift over Corby
1545 (A) good thermal
1600 (B) clear sky few tiny wisps of cu
1600 (A) freq. areas very weak lift
1620 (B) lift over Kettering
1645 (C) weak lift
1650 (B) sky fills with 3/8 cu
CORBY
B
KETTERING
C
RUSHDEN
KIMBOLTON
THE WASH
cloud street used by two pilots and observed by others
cloud street observed
1750 good lift under "rather spread out cloud"
CAMBRIDGE
1630 street beginning to look "teased out"
0
5
10
15
20 = 32 KM.
SCALE OF MILES

to the readers, as conclusions can be as varied as the individual reports. The only obvious lesson would be: If in doubt, fly to Corby and use the thermal from the works there.

There is, however, hope for the future. If pilots could write down time and place of workable thermals, visual observations of conditions (including time and place) and include a copy of their barogram, then much worth-while information might be obtained. At least, sorting it out would prove an interesting pastime on non-soarable days.

(EDITORIAL NOTE.—For information about their flights, used in the foregoing article, we are indebted to A. Coulson, S. R. Dodd, C. G. Dorman, C. A. P. Ellis, F. Foster, R. G. Frechville, J. H. Hickling, J. C. Neilan, R. C. Pick, A. D. Piggott, E. C. Rigg, D. A. Smith, G. H. Stephenson, G. C. Varley, A. H. Warminger and A. H. Yates; also to Miss Betsy Woodward, who is on a visit from the United States, for much patient labour in sifting the pilots' accounts. Times given are British Summer time, one hour in advance of G.M.T.).

The Fauvel AV-36 Tailless Glider

by Ann Welch

I WAS able to fly this interesting glider at Birrfeld through the generosity of the Swiss Aero Club, who wanted to obtain information on its characteristics, and for this purpose had produced a most useful form for the eight of us who flew it, so that the results could be easily compared.

The AV-36 looks distinctly odd, like an ordinary glider which has been sawn off at the trailing edge. It would be very easy to ground-handle if it had a wheel, and for retrieving the glider is just lifted whole on to the trailer by about four strong bystanders.

Construction is conventional, but may well need some modification to meet British standards. The cockpit is comfortable and the view good. The instrument panel is well placed for the eyes, but the gap between its base and the top of the stick is not enough. The transparent cover has an absolutely lethal row of unnecessarily projecting bolts well placed to scalp the pilot.

For launching a "Y" yoke is used, the two releases being just below the leading edge of the wing. The Swiss very wisely put a guard on the open bungey-hook so that the yoke could not get caught up on it.

The weather for the test flights was typically English, with a strong gusty wind and light rain. The tug was a Stieglitz of 145 h.p.

I flew the AV-36 at a pilot-plus-parachute weight of 145 lbs., and at this loading the c.g. was at, or even slightly behind, the aft limits. In the absence of ballast, I was instructed to lean forward if necessary!

The take-off was quite normal: trimmer central, and all the controls felt just as one would expect on a "planeur classique". There was neither undue sensitivity nor any apparent instability. On tow at 110 k.p.h. (68 m.p.h.) it was easy to keep in position, the glider being very pleasant to fly.

After releasing, speed was reduced to 80 k.p.h. (50 m.p.h.) and the stick displaced laterally and released. The bank and speed increased very gradually and slowly until at 120 k.p.h. (75 m.p.h.) recovery was made to avoid further loss of height. The glider did not recover on its own. At 80 k.p.h. in level flight the stick was displaced forward and released. The speed increased to 100 k.p.h. and it remained at this speed. Static friction did not appear excessive, but may well have accounted for these effects. The glider could be trimmed to fly hands-off at any speed between 70 k.p.h. and 100 k.p.h. It was not tried outside this range.

Down to 70 k.p.h. the glider flew absolutely normally, but below this speed it became slightly unstable in pitch. When slow-circling, such as one would do in a thermal, at around 60 k.p.h., it was felt that the glider path was not entirely under control, to the extent that it might not be easy to centre accurately in weak lift. Very slight longitudinal oscillating occurred, the frequency being very approximately once in

each circle of about 25 seconds duration. At this same speed the sound of the glider altered, acquiring a sort of hollow note. The mild longitudinal instability at low speeds was mentioned by all eight pilots.

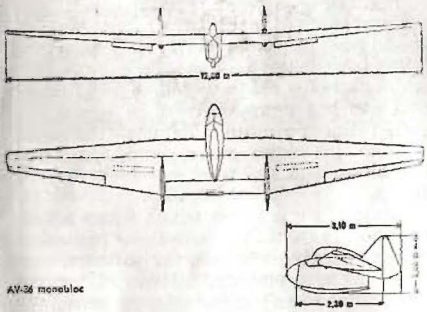
At my weight the AV-36 could, with difficulty, be held nose-up at just under 50 k.p.h. (31 m.p.h.). When stalled straight it mushed into a gentle nose-down attitude, and then recovered speed itself. When stalled in a turn, or when rudder was applied at the stall, the nose fell away to the appropriate side, and after about 180° change of direction control was positive again even if no recovery action was taken. The nose never fell away steeply however hard I tried to make it spin, although the sinking speed became fairly high. The glider could be flown with full rudder on, and full back and opposite stick, and nothing more violent occurred than the mild falling away of the nose and the change of direction through about 180°. However, at the moment of entering one attempt to spin, a slight lurch occurred when at a fairly steep angle of attack, but this was probably due to the extreme c.g. aft position in which I was flying, as it was not noticed by anyone else. There was no stall warning, unless the change of noise at 60 k.p.h. could be so regarded.

The brakes, which are on the undersurface of the wing only, are quite powerful at 100 k.p.h., making a simple steep approach possible; I understand that they are less effective at lower speeds, and I do not know anything about their limiting speed characteristics, although at very high speeds I should imagine that they might try to blow shut.

The glider did not appear to be entirely simple to land, as it behaves rather like a ball. Of the twelve landings done during the two days by experienced pilots, the machine was broken once and badly bounced on at least three other occasions. If the attitude is just right at the moment of landing, the glider sits down perfectly, but if it is put down either slightly too fast or too slow it bounces back into the air, and attempts to sit the glider back on the ground again may result in its hitting the ground in a somewhat nose-down attitude (as it did when it got broken), or in a nose-up stalled attitude.

In an attempt to try to find out what the glider wanted to do on landing, I put it into the right attitude, as near as I could judge, just above the ground and held the controls rigidly. The glider touched and bounced four times before stopping; the bounces were harmless and the attitude of the glider remained the same with no tendency to subside into a more tail-down attitude and stay put.

Only two of the twelve pilots made good landings. I talked over this problem of landing with Gehriger, who had flown the prototype at Grenchen, when no difficulty had been experienced. The glider I flew was the first of a series of 40 built at a factory (the prototype had been built by M. Fauvel himself), and I do not know to what extent



AV-36 monobloc

the skid shape and springing differed. The skid of the series model is a fairly steady curve, and the springing felt on the hard side.

I hope that the above remarks, both on stability and landing, do not discourage people from building this glider as it has a great deal to recommend it. The performance would appear to be similar to an Olympia, and it could certainly be built appreciably cheaper than the normal glider. It is small and light in weight, and would be an excellent glider for the private owner, particularly if it had a wheel. From the stability and general flying aspect, anyone who could fly a Grunau would feel perfectly at home on the AV-36. But as regards the landability, I am sure that further research should be done in the shape of the skid and/or springing. The answer is probably very simple, but as the present series model is built, the landing characteristics cannot be regarded as satisfactory. Undoubtedly a technique could be devised for putting it on the ground without damage, but this should not be necessary on a glider for general use, or for landing in strange fields.

Cold Fronts in Southern New Zealand

by P. K. Renshaw

WHEN the Weihe, which used to be Philip Wills', travelled half way round the world to New Zealand, her arrival caused a slight reshuffling of the sailplane population. The Prefect, which used to be Dick George-son's, took up permanent residence two hundred miles further south at Taieri Aerodrome, near Dunedin. Here she likes to think of herself as the sailplane which is furthest south in the British Commonwealth —and perhaps in the world.

During the last year she has explored air which has only seen a sailplane once before and she has enjoyed flying in occasional rough but powerful thermals, the dead smooth lift from waves and, on three occasions, she has tried her luck in cold fronts.

Some of these fronts which sweep across the country from the South Polar regions at about weekly intervals, or oftener, are terrifying and powerful. I was out at the aerodrome when the Prefect experienced her first . . . from the hangar, and even there she shuddered. From far down the valley an evil homogeneous wall of blackness blotted out sky, mountains, and the valley floor. With the suddenness of an explosion a great gale hit us as the south-westerly wind blasted away the north-westerly before it. The surface wind rose to 70 knots and a deluge of rain and hail lashed across the aerodrome. Many power wires were blown down in the city and houses lost their tiles and chimney pots.

A few week-ends later, the Prefect ventured into her first cold front with some trepidation. However, the attempt was ill-timed and the wind changed around to the south-west before the take-off. This front was relatively benign and the surface wind was blowing at about 20 knots. There was much turbulence, occasional lift and a rapidly lowering cloud base. Only a few hundred feet of height were gained before the Prefect had to land.

The second attempt was better timed. The Prefect was aero-towed off as the front approached obliquely up and across the valley. This was a text-book front with a nice roll cloud at about 4,000 feet. It did not appear to be too hostile. Releasing at 3,000 feet, the Prefect was some four miles ahead of the roll cloud. The Prefect circled, gained height and then flew straight to the roll cloud. Here there was scattered lift and moderate turbulence. The absence of appreciable lift was soon explained, for the roll cloud was tending to decay, only to re-form with annoying perversity in the place the Prefect had only just left: just a wisp of white cloud to begin with, but this rapidly thickened. Viewed from behind, this cloud was undoubtedly rolling with the front rising and the back falling and decaying. The Prefect flew straight at the roll cloud with the variometer showing maximum sink and the altimeter unwinding like a clock in which the escapement is missing. The Prefect flew straight through the centre of the roll cloud and into the warm air again. There was considerable turbulence in the roll cloud and as we came into the warm, clear air there was much positive "g" and creaking of woodwork. In a thrice the variometer was reading maximum lift and in a couple of minutes or so we climbed from 3,000 to 7,000 feet. This climb was achieved by flying perfectly straight in front of the roll cloud. It showed itself as a vertical line on the barograph.

At 7,000 feet the position was reversed. Below, stretching from the horizon to the left and the right was an ever-increasingly thickening roll cloud; in places it was now down to ground level. Slowly and relentlessly it was creeping forward, blotting out more and more of the landscape, more and more of the mountains and getting thicker and blacker. It and other clouds behind had cut off the Prefect from the aerodrome and the safe Taieri valley. Ahead lay 15 miles of terrible rough valleys and mountain peaks to nearly 3,000 feet. There were no landing grounds. This was countryside over which I had promised the Prefect never to take her unless we were at over 10,000 feet; and here we were flying against a strong north-westerly wind at 3,000 feet below the promised height with the possibility of unpleasant powerful downdraughts if a wing was put wrong. Above was a continuous sheet of cloud and we went up into it.

With that terrible ground out of sight I



The Slingsby Prefect in which Dr. Peter Renshaw made the "cold front" flights described in this article, photographed beside the Southern Alps in South Island.

felt better and also like an ostrich. It was not very rough but my blind flying was. First the air speed gave trouble and then the compass course. Then the ascent ceased and there was no alternative but to come out of cloud, reorientate oneself to the front and incidentally, the sea coast and mountains. At 6,000 feet we came out of cloud . . . and there, immediately below, was the aerodrome. Cloud flying had not been very progressive and we had succeeded in flying a few miles only, backwards. We were now well behind the roll cloud in the cold air and the south-westerly wind. All the hills surrounding the valley were in thickening cloud. Low cloud was spreading rapidly over the valley and in a few minutes the aerodrome and the ground would be covered. The Prefect had had enough cold fronts for one day, and as she was looking for a downdraught to circle in, the dive-brakes came out and the speed went up. On the way down hail fell; it was noisy and frightening. Five minutes after landing, the surrounding mountains were quite hidden from view and the cloud base was 500 feet. The descent showed itself as another vertical but longer line on the barograph.

A month later I was out at the aerodrome when another cold front appeared in the distance. It was not a good day and it was late in the afternoon. There was 8/8ths cloud at 4,000 feet and a 20-knot westerly wind was blowing. However, it seemed a pity not to have a look at this heaven-sent opportunity a bit more closely. Perhaps it might be possible to have a brief look at the front, return quickly to the aerodrome and land there before the wind change.

As the front got nearer it looked extremely black, but in a few minutes we were airborne. It was extremely rough. The Tiger Moth towing me plunged wildly in all directions, and as I tried hard to follow, the nylon towing-rope stretched in and out like a concertina. There was no roll cloud to indicate the beginning of this front but suddenly I saw, far down the valley, a sharp line of swirling, rising dust as all the top soil from the plain was being lifted up. The cold air was dashing up the valley to meet us with the speed of an express train. It was time to release. Phew! What turbulence! The Prefect seemed to experience negative and positive "g" at the same time, and this was confirmed by the variometer whose balls had given up the struggle and sat both at the top of their respective tubes. At one moment the machine was stalled and at the next flying at 60 knots.

Soon we arrived at the downwind boundary of the aerodrome. There at 1,000 feet a great force lifted the machine up 500 feet in a few seconds. At the time neither the Prefect nor I were very keen on going higher and the dive brakes came out. For a short time we continued to rise and then we hit a compensatory down draught.

The ground began to rush up and the downwind boundary of the aerodrome appeared to recede rather quickly upwind. The dive brakes were shut and the speed increased to 70 knots . . . still going backwards, 80 knots . . . no forward progress . . . 90 knots and a very rapid descent. We were only a hundred yards behind the downwind hedge and immediately below was a ploughed field. As we levelled off the speed fell but the hedge passed below at a ground speed of about 5 miles an hour and then we cleared the railway line by a foot or two and we were over the smooth surface of the aerodrome. The Prefect landed with the A.S.I. reading 50 knots.

Meanwhile Hugh Skilling was giving a great display in the Tiger Moth. He had not turned since I had released, and flying at 65 miles an hour was doing a nice approach—backwards. In front of the hangar he began to come down like a helicopter. As he touched down six people held the wings and tail but the Tiger was still game and tried to take them all for a short flight as she taxied to the hangar. We have since learned that the surface wind over the aerodrome reached 53 knots. We have deduced that the wind at 1,000 feet must have been around 70 knots.

It would seem that these fronts—so prominent a feature in determining the weather of New Zealand—call for further but perhaps cautious investigation. Opportunities are limited, for the fronts have a habit of coming through at inconsiderate moments. It would probably be advisable to be launched in plenty of time in order to avoid the low turbulent layers. Desirable, too, are light preceding winds with low humidity and little cloud, and, most important, the front must be a friendly one. When I was out at the aerodrome last Saturday, a north-westerly wind was blowing. This wind comes to us across the Southern Alps and other lower mountain ranges. High in the sky were large luxuriant stationary lenticulars. Typically this wind blows before a cold front, and it was not long before blackness appeared on the horizon. Soon the lenticulars gave way to high spreading anvils of cumulonimbus. The Prefect and I decided that this was no friendly front, and I was back at home in front of a blazing fire before the cold air caught up with me.

Gliding in Australia

by W. P. Iggulden

THE Australian gliding movement at present consists of 32 clubs with a total of between 500 and 600 members. Its combined fleet numbers about 70 gliders ranging from primaries up to a few sailplanes around Olympia standard. The great bulk falls between the two, being mainly intermediate and medium-performance sailplanes, single-seater and two-seater.

These clubs and their gliders are spread around some millions of square miles; their members are drawn from a population of nine million people.

Thus the density of gliding in Australia is not great. But even so it represents a significant slice of the country's private, non-commercial aviation; of all those active in that sphere, one out of every four or five is a member of the gliding movement. And gliding is growing fast and solidly.

In Australia both aero clubs and gliding clubs get a Government subsidy. But there is a huge gap between the amount provided for each. Gliding gets an overall total of £A2,000 per annum; the aero club grant varies—last year it was in the vicinity of £A104,000, fifty-two times greater than the amount for gliding.

A direct and rather odd consequence is that it costs less to join an aero club than a gliding club. Gliding, therefore, must stand on its own real merits alone, with no side issues — such as alleged cheapness — to obscure matters. It has stood this acid test quite well.

From club to club there is a wide variety in many things. In size they run from a dozen people with one glider up to—at the largest—60 or 70 people with half a dozen sailplanes. Nearly all provide training, but

one or two will accept only pilots already trained or partly so. The majority use club-owned gliders, several use privately-owned machines, some have a mixture of both.

Primary training and two-seater training are both used: of late years there has been a big swing to the two-seater. Instruction among the bigger clubs is based on Instructor's Panels rather than C.F.I.'s—a system arrived at independently by each.

Fees vary also, but there is a general tendency to keep charges low enough to bring gliding within reach of all; probably, too, there is a desire to avoid raising gliding club fees too ridiculously high above aero club fees. In any case, the result is to keep the income of the clubs too low to allow them to buy extensive or advanced equipment. This factor was not so important when clubs mostly built their own gliders, but today, when they tend to buy factory-built machines, the financial angle is becoming an even bigger worry.

Among the clubs there is one point of similarity: they all do their flying from flat fields, relying on thermals for their soaring. There are no hill sites now in regular use in Australia, though formerly a number were in use. Most launching is done by winch; aero-towing is also extensively used—one club uses it exclusively—and there is some car-towing.

Getting a gliding site is a major headache for many clubs, particularly near the capitals, as commercial aviation is highly developed in Australia and there is a very busy network of airline routes converging on the main cities. Large parts of the sky around each capital are reserved for this traffic, and the gliding clubs must look around in what is left. By some freak of fate, the terrain in those free areas usually consists of a fine selection of scrub, mountains and sea. Most clubs have overcome this problem, but one at least has been extinguished by it, and another is forced to operate 120 miles from its home city.

Soaring conditions inland are good, but the chief population centres are on the seaboard, and so are many of the bigger gliding clubs, which—to be able to operate near home—must put up with the indifferent soaring conditions found near the coast. But at Christmas time, which coincides both with the holiday period and good soaring weather, many of these clubs organise expeditions inland. Even there it is not always plain sailing; some areas are cleared and have fair road networks. But other areas have wide expanses of scrub and no roads, or few, so that to get from point A to point B it is necessary to fly around three sides of a square—or else risk landing in the middle of nowhere, with no way of getting the glider out.

At Christmas time also, the Australian national gliding contests take place. These are probably the most far-flung competitions held anywhere. Until recent years nobody had been able to solve the transport problem raised by the great distances between the clubs and any given central site. The solution was found by extending the contest site to cover the whole of Australia, leaving the gliders and pilots where they would have been anyway. This has its drawbacks, but it is a lot better than no contest at all. And it does fulfil the first aim of a sporting contest: to foster friendly and enthusiastic competition under one set of rules.

Distance also hampered the overall organisation of the Australian gliding movement. But today a national body, the Gliding Federation of Australia, with constituent bodies in each of the six States, links the clubs together, and the gliding community is strongly united. State matters are dealt with by State bodies: the G.F.A. is responsible for those which affect Australian clubs as a whole. One of its duties, handed to it by the Department of Civil Aviation, is airworthiness control of gliders. The G.F.A. Council meets each year; in between, matters are handled by post. The system seems to work well and has allowed the gliding movement to tackle its wider affairs in a concerted manner.

One project in which the G.F.A. played a decisive part was the establishment of the present glider manufacturing industry in Australia. Several years ago it assisted Edmund Schneider and his son to come to Australia and start business as professional glider builders. The Schneider works in Grunau, Germany, were well known before the War, both as the largest of their kind and as the home of the Grunau Baby. Edmund Schneider Ltd., now established at Adelaide, South Australia, is already making its presence felt in the Australian gliding movement, and is expected to become an even more important factor in the expansion of gliding as time goes on.

Several interesting types produced by the firm include the Kangaroo two-seater. One of these set a new national distance record for two-seaters last year with a goal flight of 203 miles in 5½ hours. Span is 18 metres,

and price is £A1,350. Another new type already flying is the Grunau Baby IIIb. A gliding angle of 1 : 22 and sinking speed of 2 ft. 7 ins. shows the marked improvement on the older models. With wheel, canopy and dive-brakes, the IIIb sells at £A880.

At present under development by Schneiders Ltd., is a high-performance two-seater with performance expected to be better than 1 : 29; this will have a span of 56 ft. and will cost about £A1,650.

Within the past few years the establishment of local manufacture is one of the most important developments for Australian gliding. Another significant factor is the rate of growth shown recently; over the past several years the gliding movement has shown a membership increase of about 30% per year, and if this rate can be maintained for a few years, a really strong movement can be expected in Australia

Correspondence

USE OF INSTRUMENTS WHEN LEARNING TO GLIDE

Dear Sir,

As there seems to be some doubt and difference of opinion on whether instruments should be used in the early stages of glider pilot training, I offer my opinions for your consideration.

Although John Free in his article, published in the Spring issue of GLIDING, condemns training without instruments, there are many instructors who would not agree with him on this point.

As the popularity of gliding is rapidly increasing, and the air above gliding sites becomes more crowded, the risk of collisions correspondingly increases. Many of our junior glider pilots still do not realise that a collision in the air is almost certain to be fatal to one or even both pilots, although invariably the innocent party is the victim. The possiblity of collision is considerably increased if the menance of pilots who try to control their gliders when their eyes are glued to the instruments, is not carefully watched.

Since the aim of gliding training is to encourage soaring flight, the instructor must discourage the pupil from concentrating too much on the instruments at the expense of a good look-out. The necessary training to achieve the satisfactory production of pilots who are capable of being always on the look-out for possible danger, whilst at the same time being conscious of their instruments, may slightly retard the progress of training in the early stages. The bad habit of instrument-gazing will, however, be eliminated.

The glider pilot must not become reliant on the altimeter for the correct height to turn in for the final approach; and on the other hand there must be no tendency to compromise between judgment and altimeter readings. Confidence in personal judgment must be developed, as compromise leads to uncertainty and lack of confidence.

The ability to fly in cloud requires considerable practice, and hence training is slow from the circuit-and-landing stage to control by instrument interpretation in cloud. Initial practice can be carried out by soaring in clear sky in two-seaters, when one pilot can act as look-out and the other soars by the use of instruments and a visor. When the student is capable of keeping the glider under control by instrument interpretation, he should be allowed to venture into small cumulus. Direct entry into cumulo-nimbus cloud, as practised in the past by our seniors, can still be hazardous, though the dangers of such flying have been greatly exaggerated.

It is perhaps worth mentioning that it must be stressed to pupil glider pilots that the movement of all controls must be gentle and unhurried, and that the whole instrument panel should be scanned at once. The tendency to glue the eyes to one instrument often results in the frightening experience of spinning out of the bottom of clouds and the consequent loss of confidence.

The pupil must, therefore, have good detailed training in the use of primary instruments for cloud flying. Although cloud flying with an artificial horizon and compass eventually becomes easy, only considerable training in primary instrument flying can prevent serious trouble should the gyroscope topple in large cumulus.

E. MEDDINGS,
Flight Lieutenant.

A page from
THE ESSO HISTOIRE OF AERIAL LOCOMOTION
Adapted from the French de P. Crochet-Damais. Illustrated par Philippe Féty avec permission.



LEONARDO DA VINCI'S FLYING MACHINE

IT took man three centuries to rediscover, after Leonardo da Vinci, the principles of the screw, the parachute, the submarine, the motor car and the torpedo. It would take a little longer to explain some of the other fantastic devices with which the great Renaissance engineer, artist and boffin filled his copybooks. Crammed with scribbled notes and mysterious sketches, they contain diagrams of gliders, flapping wings, gremlins, and helicopters with great helical screws. Leonardo was the first to study the flight of birds with a view to mechanical imitation. Simultaneously he was painting a lady called Mona Lisa, whose long-suffering smile may well have been due to the artist's habit of flinging down his palette and dashing to the window to observe the behaviour of sparrows' wings under load.

His parachute, another novelty, was a stiffened linen tent underslung with leather and cords. Records suggest that it didn't handle any too well and it is impossible to tell from Mona Lisa's expression whether she hoped it would open or not.

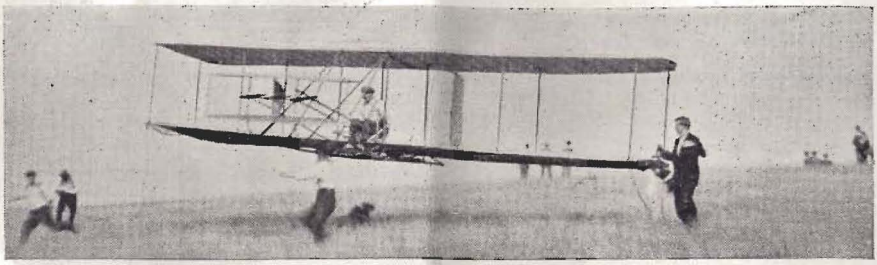
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Colonel Ogilvie at the controls of his Wright glider in 1909. These two photographs were taken at Friston, near the present site of the Southdown Gliding Club.

C. Espin Hardwick

Not only the Midland Gliding Club but the whole of British Gliding owed much to Charles Espin Hardwick, who died on 18th May after some months' illness at his home at Little Aston, near Birmingham.

The Midland Club, which he founded in 1934, owes its existence to him, and especially its magnificent site on the Long Mynd, which it only acquired after Mr. Hardwick had fought a legal action, mainly at his own expense. Though he lost it, another piece of land was found, and on this the hangar went up, with a temporary clubhouse at one end which had to remain temporary for many years.

At last Mr. Hardwick's efforts in raising a Building Fund were rewarded, and last year he was able to see his dream of a clubhouse taking shape. He lived just long enough to hear of its coming into use for the first time during the Easter Rally, though confined to bed and unable to see it.

The Midland Gliding Club is Mr. Hardwick's chief monument, but its history does not go quite as far back as his earliest services to Gliding. During 1933, when he used to come regularly to Dunstable from Birmingham to learn to fly, he found the London Gliding Club in trouble through not owning its own land; so Mr. Hardwick bought the land off its owner for about £950 and gave the club 15 years to pay him back.

Two modifications of the Falke, a popular German secondary trainer, came into existence through Mr. Hardwick ordering their prototypes from Slingsby's. The Falcon II, with extended wing tips, enabled him to climb higher than Snowdon over the Vale of Clwyd in 1934. After that came the two-seater Falcon III, which was built in numbers and twice held the world's multi-seater duration record.

Finally, there must be mentioned a short spell as Chairman of the British Gliding Association in an attempt to make that body representative of the gliding clubs; here again, initial failure was followed by success.

Of Espin Hardwick's lovable personal qualities much might be said, as all his many friends are aware.

A.E.S.

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Clubs & Associations

Midland Gliding Club

THE club suffered an irreplaceable loss when Mr. Espin Hardwick, our President and founder, died at his home near Birmingham on 18th May. He was one of the keenest workers, and it is tragic that his fondest dream, the new clubhouse, never heard his laughter and sharp wit within its walls.

The new clubhouse was opened unofficially in time for the Easter Rally, providing a valuable asset and helping no end towards the success of the meeting.

The club took delivery of a new Prefect Mk. II during the period, and this made possible quite a marked change in post-solo instructional policy. A Prefect Mk. I now becomes our basic trainer, but as we still have a Tutor (complete with spoilers, etc.), we are using this aircraft for the initial few solo circuits. All early soaring and most of the circuit training will, however, be divided between the Prefect I and T-21b two-seater. The Tutor will of course be available for soaring by "experienced" members.

So far, 1953 has been a disappointing year; we have had a thin time both for thermal and west-wind days. The total flying hours to date are 500.

The Cambridge and College of Aeronautics Clubs visited us in late March and April and had a reasonable time as regards weather, but nothing outstanding, which is rather unusual.

The Annual Dance was held on 5th March at Dudley—yes, actually in the Zoo, and the annual trophies were awarded as follows: Siam Trophy to Lt.-Commander G. A. J. Goodhart for his 190-mile goal flight to Leiston; Neill Trophy to J. W. G. Harnden for being the best ab-initio pilot; Maxam Trophy to R. H. Prestwich for his wave exploration.

March 20th saw Prestwich and Shephard, the latter in Cambridge Olympia, climb to 7,700 ft., and the Midland man flew upwind for 12 miles without losing height in alternate patches of lift and sink.

April 3rd saw the arrival back at the Mynd of the Skylark I, only this time on a syndicate basis. The 4th provided a cracking west-wind day and 60 hours were logged.

Easter Task-Flying Rally

Friday, 16th April, was the practice day for the Easter task-flying meeting; most participants had thermal practice up to a maximum of 4,800 ft. during the afternoon.

Saturday turned out to be distinctly unco-operative and no one was even able to start towards a declared goal.

The weather on Sunday was very much better with a fair sprinkling of small cu and a light N.E. wind. The organisers declared the contest would be for pilot-nominated goals. Philip Wills in his Sky reached his goal at Cardiff, 70 miles, and G. Whitfield his at Madley, 34½ miles; all the other eight competitors were well scattered about in the border country. Tony Adams in the Midland Olympia distinguished himself by landing on the Black Mountains near Hay. Wills was therefore leading.

Monday produced better conditions, and an out-and-return race contest to Madley Airfield was announced; the light wind had now shifted to the east. The majority of the competitors got away fairly easily and four of them completed the 69-mile course. Wills was the winner at 30 m.p.h., Fred Breeze (Gull IV), Tony Deane-Drummond (Olympia) and David Martlew (Midland Olympia) followed at lesser speeds.

On Tuesday the weather remained good but difficulty was experienced in contacting what lift that there was. Fred Breeze in Gull IV and John Hickling flying the Midland Olympia were the only competitors to score marks. Lift died out over the flat country to the N.W. where both pilots were heading, and Breeze, by stretching his glide to 19 miles, bagged 100 marks and thus passed Wills's score by a handsome margin. Wills unfortunately could not compete on this day and so we congratulate Fred, the winner, on his very consistent performance during the contest.

Final scores: Fred Breeze in Gull IV, 217.1 points; P. A. Wills in Sky, 200; A. B. Adams, J. H. Hickling and D. L. Martlew in Midland Club's Olympia, 155.2; A. J. Deane-Drummond and A. E. Tobin in Olympia, 93.4; A. Pickup and R. H. Prestwich in Skylark I, 37; N. P. Anson and J. J. C. Buckley in red Olympia, 8; R. S. Hooper and D. D. Carrow in Kite II, 2.

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Army Gliding Club

THE Club has passed another milestone in its short history by amalgamating with the Surrey Gliding Club. The Army Club was formed in 1948 out of the remains of three small clubs which operated at Fairoaks, Blackbushe and Thruxton. There were not sufficient funds to purchase a two-seater until October, 1950, when Lord Nuffield was generous enough to provide the cash. Up to this time solo training and inexperienced instructors produced the usual astronomical repair bill, and but for intense enthusiasm and hard work by a small core of members the Club would have had to close down on at least three or four separate occasions.

In October, 1950, the Club was organised with a sound financial and instructional policy. It was also fortunate in recruiting two or three experienced glider pilots who had to undertake all the instruction and quite a lot of the ground organisation as well. During the next three years the Club's prestige and bank balance grew. There was only one serious accident (causing no injury to the pilot) and four minor ones during the whole period, which included nearly 15,000 launches, 1,800 hours and about 1,700 miles of cross-country flying. In the last two years more flying was being done in each summer month than had been possible in a whole year with the old solo-training organisation.

Unfortunately, the Army continued to post members overseas as soon as they became sufficiently qualified to take an active part in running the Club. It was largely to offset this basic disadvantage that the step was taken to amalgamate with the Surrey Gliding Club, to each other's mutual advantage. At first it looked a shambles, but gradually order has emerged. The technique of auto-towing and flying Grunaus and Prefects has been exchanged for extra two-seaters, Olympias and Weihe.

Our only joint shortage at present is in launching facilities. We hope this will be rectified when David Martlew finishes the two-drum winch. The Ferguson tractor is also being modified with vast chunks of steel bars and beams to assist in retrieving multiple cables. It appears to save 2d. a launch on fuel costs alone compared with the Beaverettes.

Already it is difficult to know who is a member of which club, although over half the paid-up members at Lasham are on the books of the Army Gliding Club. This is as it should be, and augurs well for the future. If only we had security of tenure of our site . . . .

A.J.D.-D.

Scottish Gliding Union

THE start of the summer soaring season, now with us, has been eagerly awaited. During the winter and spring several additions and improvements were made to gliders and equipment which places us in a much more favourable position than ever before. The Bishophill site has two Cadets and Balado has two Cadets, Tutor, T-21B, Krajanek and Olympia. Aero-tows by the Tiger Moth have also opened up many new soaring possibilities, and almost any wind over ten m.p.h. should be soarable within four miles of the airfields. Launching equipment has been strengthened, and together with the winch we have a 22 h.p. and two 30 h.p. Ford V8s. One of the 30 h.p. vehicles has been fitted with a four-speed lorry gearbox as, apart from being more robust, the ratios are more suitable for launching in light wind conditions.

The first seven-day holiday course of the year was held at Easter, and despite trying weather was very successful. The demand for course bookings has been greater than ever, and at the time of writing some courses are already full.

We were glad to have a short visit from L. Marmol (original owner of the Krajanek) during Easter weekend. He was engaged on survey work, and on returning to Balado after one flight he shut off the engines and made a dead-stick spot landing from 3,000 feet in his Miles Aerovan.

Many local soaring flights have been made from Balado in the past few months, the first thermal flight of the year being on 28th March when Thorburn and Davis soared T-21, Olympia and Krajanek. April 18th, 19th and 25th were good soaring days with flights of over an hour, Bob Porteous in Krajanek missing Silver C height by 200 ft. May 9th produced a 23-minute thermal flight in the T-21 and a 37-minute flight by T. Davidson in the Olympia, in which he used the lee wave from Bishophill. On this day also we did over 100 launches for the first time. May 16th was another good day, when Dodds and Sambale soared the Krajanek, the latter reaching 2,800 ft. in a flight of one hour.

D.H.



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Surrey and Imperial College Gliding Clubs

THE merger of the Surrey and Imperial College Gliding Clubs and the Army Gliding Club, which took place just before the last issue of GLIDING, seems to be beneficial all round and there has been very little, if any, criticism. Up to 23rd April this year we have done just over 5,040 club launches and 450 hours, and there have been 250 private launches and 75 hours.

The biggest recent change has been the reorganisation of the primary side. There is now a "school" consisting of two flights, one of which flies Daisy (our faithful ex-Redhill T-21B) and the other Fanny (our newly acquired T-21B). Each flight has its own instructors, in charge of either Peter Murden or Bunny Austin, and pupils are allotted to one or other of the flights; once allotted, they only fly that T-21, and with the instructors of that flight. The great advantage of this is, of course, that an instructor will only have to get to know half the pupils. Daisy and Fanny operate on the winch lines and pupils are taken up to and including about five solo circuits on them. After this they transfer to the auto-tow side where they are checked in Rudolph (the canopied Army T-21B), and then they continue their solo flying on the Prefect and Grunau until they convert on to Olympias.

Easter, for a change, was most successful both on site and for the expedition, and the combined figures for four days were 600 launches and 115 hours. Outstanding among the flights from Lasham were John Neilan's cross-country on Good Friday, when he was towed to Harting Hill and from there soared to Lewes and then came back and landed just the other side of Alton; and Wally Kahn's out-and-return to the Oxford Club at Kidlington, a total distance of 95 miles, taking three hours there and an hour and a half back. Also notable is the fact that the first five people went solo on the T-21B during the Bank Holiday weekend.

The Easter expedition visited Roundway and took one Olympia and one canoe. A very pleasant time was spent with the Bristol Club and, there being a north-easterly wind, flying took place at Inkpen where eleven hours were flown from eleven bungy launches. Among those who went on expedition was Betsy Woodward, the American Ladies' Champion, who, prior to that, had spent a month at Lasham running a course, getting an idea of how gliding works over here, and getting a cold.

A more recent expedition was the visit to the Isle of Man by PedrO, the Tiger Moth, Frank Irving, John Neilan, Betsy and Dick Scorer & Co. from the Met. Department of I.C. The object was to investigate the vertical currents over and around the island.

During the last three months three gliders have been at Lasham for testing. These are: first the K-1 or Crabpot, designed by Hugh Kendall, who has also done the majority of the test flying. It is unusual in that it has a butterfly tail and full-length ailerons, which also are adjustable as flaps. Some idea of its performance can be gained from the fact that on his first trip in it Philip Wills climbed from about 250 feet up to cloud base. Secondly, the Skylark II or T-41, which also has given a very good account of itself in the spring thermals. And thirdly, the Olympia IV, which is an Olympia fuselage with laminar-flow wings; this was brought over and test-flown by the Farnborough crowd, including Harry Midwood, Bill Bedford, John Sowrey, Pete Bisgood, old uncle Roger Austin an' all.

Finally, and by far the most important item, Derek Piggott is now with us as Chief Flying Instructor. We are extraordinarily lucky to get someone so experienced as our full-time instructor, and we hope he will enjoy Lasham and be with us for a good long time. Backing him up is Warren Storey, also just out of the Royal Air Force, who comes as Ground Engineer.

H.T.

Blackpool and Fylde Gliding Club

WE have been held up for over twelve months owing to the construction of a new 2,000-yard runway at Squires Gate Aerodrome. It is now finished and we have permission to resume, *with caution* (the first Blackpool Hawker Hunter took off on Saturday). We are trying to find a second-hand T-21 two-seater, as our airport is too busy these days to allow pupils to learn by the solo-training method that we have been using since the club formed.

J.S.A.

WATCH THE SKY IN JULY!

The Slingsby "Sky" sailplane is the choice of the leading pilots in many countries. To those of our friends abroad who have been unable to place their orders in time for delivery in July we express our regrets

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Handley Page Gliding Club

HAVING completed the certificate of airworthiness on our T-31, we started flying again in earnest at the beginning of February. The first result was a B certificate by Fennell on the 20th in spite of interference by Canberras taking off and landing. During the week-end of 13th-14th March we suffered the usual setback of most small clubs due to the absence of key personnel at the B.G.A. Annual Meeting and Instructors' Conference.

On Easter Monday several small thermal flights were achieved by the Super-Tutor. On the best of these a height of 2,200 ft. was achieved by Haye, flying without the canopy as some modifications to its surround and attachment structure are proving necessary. This machine is proving itself very useful in providing intermediate members with solo circuit and preliminary soaring experience.

G.R.

Royal Naval Gliding and Soaring Association

As an indication of the extent gliding has "caught on" in the Royal Navy, two new clubs have been formed since the beginning of the 1954 season—one, the Seahawk Gliding Club at R.N. Air Station, Culdrose, and the other, the Condor Gliding Club at R.N. Air Station, Arbroath. Other Air Stations have also enquired about forming clubs, but although the enthusiasm is there, the equipment is not. and the R.N.G.S.A. is in the unenviable position of being unable to provide sufficient gliders, winches, etc., to meet its commitments. However, the response to the sport is most encouraging, and no doubt some means can be found of eventually overcoming the difficulties.

As far as the clubs themselves are concerned, all are busily engaged getting into stride for the 1954 season. In the Royal Navy, with its constant movement of personnel, gliding clubs inevitably find that they have a completely new batch of members at the beginning of the season and virtually have to start afresh each year. It is satisfying to see, nevertheless, the numbers of actively interested persons who have never experienced the sport before and who are ever keen to swell the ranks of those who glide.

The Portsmouth Naval Gliding Club at R.N. Air Station, Gosport, started the season with two most successful "Open Days" and almost immediately filled its quota for new members. Amongst the spectators the club was very pleased to see Vice Admiral Sir John Eccles, K.C.V.O., C.B., C.B.E., Flag Officer Air (Home), the President of the R.N.G.S.A., and Captain N. Bailey, O.B.E., R.N., the Chairman.

A course for members of the Association has again been arranged this summer at the Midland Gliding Club, Long Mynd. These courses have always proved most popular, especially as opportunities for soaring rarely exist at the majority of Naval Air Stations, whose activities are mostly confined to training ab-initios.

K.G.R.H.

Hereford Gliding Club

THE season opened well on 15th April when a few members met at Madley with the Slingsby Kite for practice circuits. After releasing at 800 ft. on the third circuit, Donovan C. Wilson, Secretary of the club, contacted steady lift which proved to be a standing wave deflected from hills some miles away from the airfield. A height of 1,600 ft. was reached and the duration of the flight was 20 minutes, this being a record for the club from Madley—and earning Donovan Wilson his C license.

On 23rd and 25th April the club flew for the first time at Stockley Hill. Over the two days, 18 launches were made with a total flying time of 8 hours 25 mins. Alan Brook obtained a greatest height of 1,800 ft.

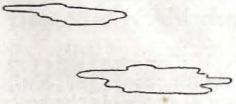
It is interesting to note the behaviour of the buzzards. They were not in any way afraid of the gliders and were on many occasions flying in the same lift as our machines within a few feet of the wing tips. We now feel that the brotherhood of the air is very strong over Stockley Hill. Although we did set the buzzards back a little when one member, flying over the valley, found a thermal taking him to 1,200 ft.; then, coming back to the ridge at this height, he saw the birds still in the hill lift at 550 ft., and they, seeing the glider so much higher, were seen to increase their efforts and circle at a terrific rate for some time, trying to reach the height of the glider, this being impossible owing to the dead air between the two.

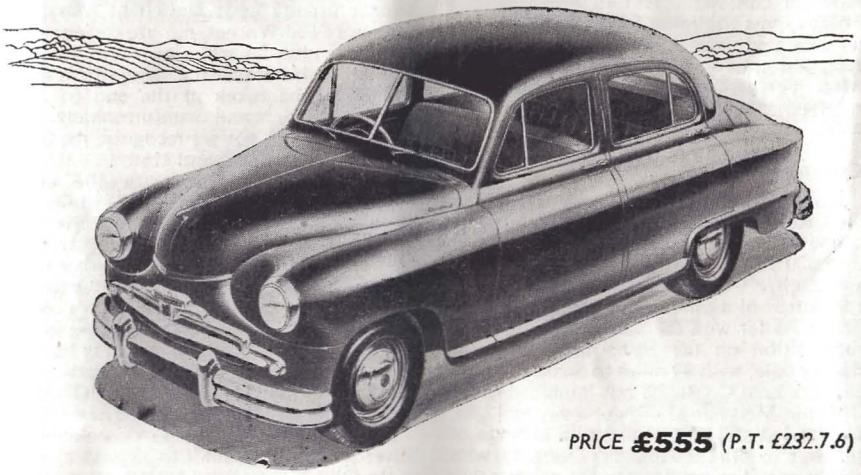
D.C.W.

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London Gliding Club

Annual Dinner

GUEST of Honour at the club's annual dinner on 27th March was Sebert Humphries, who joined the club in 1931, ran our first open instruction course in 1935, became the fourth British Silver C pilot in the same year, and flew in the National Contests at Dunstable in 1938. Before his speech was ended, the assembled company were left in no doubt that the early days were good fun, and that a lot of gliding was done before things started getting "terribly clever" after 1935 and much of the good fun began to go out of it.

Dan Smith, the chairman, drew attention to the row of four trophies—Kemsley, Londonderry, Firth-Vickers and Manio—which club members had won at the last national contests. He presented Dudley Hiscox, past chairman for many years, with a mounted metal Olympia model in recognition of all he had done for the club. Mrs. Turvey, club caterer for 23 years, received a bouquet, as did the chairman's wife.

Cross-countries

Cold-front flights are comparatively rare, but Ron Travell used one to get to Chingford on 28th March; it pulled him up to 4,000 ft. in cloud and pushed him out again, after which he went ahead of it and contented himself with simple thermals. Frank Foster won the winter cross-country competition on the 30th, just before the closing date, with 89 miles to Saxmundham, near the East Coast; he was launched in his Olympia-Meise at 12.40, got away at 12.59, and landed at 14.50, making an average of 48.1 m.p.h. On the same day Doughty, who had been in the running for the prize with a 40-mile flight on the 1st, tried to retain it by chasing off after Foster; he went as fast but not as far, making 28 miles in 35 minutes and then landing in the dead air between two cloud streets, one of which Foster had used.

A summer cross-country competition is now on, with the same handicap rules and prizes. On Monday, 19th April, the only good day of the Easter holiday, six cross-countries were done, mostly with aero-towed starts in a N.E. wind by Jack Partridge's Gemini. Dan Smith reached his goal at Christchurch, 94 miles; Godfrey Lee his goal at Eastleigh, 72 miles; Alan Stagg started by winch and landed at Hungerford, 53 miles, as late as 7.30 p.m.

Annual General Meeting

At the A.G.M. on 24th April the following club trophies for 1953 were awarded: Dent Cup to Dudley Hiscox for the most outstanding flight: Desoutter trophy to Arthur Doughty for best constructional effort: and Derry Trophy to Roy Williams for voluntary work for the club. Associate membership was reduced to one guinea.

A.E.S.

Cambridge University Gliding Club

ALTHOUGH this, the Easter (Summer) term, is probably the best at Cambridge for thermal-soaring, the budding Silver C winner usually finds himself at Marshall's with only Ted Warner; our ground engineer, to assist in his departure on a cross-country flight. This is because the awful threat of the Tripos, to be taken at the end of May, menaces all, and unfortunately the University does not yet recognise the Silver C as evidence of diligent study!

This year, however, with the added incentive of the prize for a flight to Oxford, three good cross-country flights have been made. We at last announce the winning of his silver badge by Ted Warner, after many tries at his distance leg, which he has usually been forced to attempt in the Club's oldest, least-penetrating and fastest-sinking glider, when nobody else dares to turn his back on the airfield. It is something of an anti-climax that he has now succeeded in our Olympia, by flying to Watford, a distance of 48 miles.

John Shepherd has also completed his Silver by flying 60 miles to Leicester, again in the Oly. He qualified for the other legs at the Mynd Easter camp, getting his height by climbing to 6,000 ft. in a west wave.

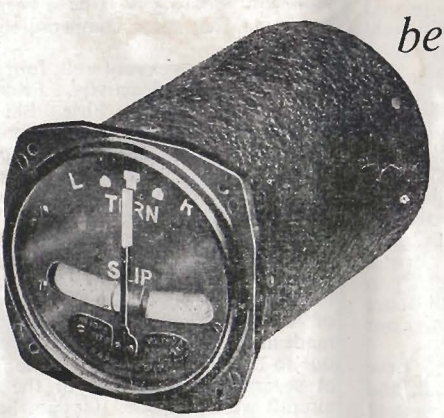
The last notable flight was by Chris Riddell, in an attempt for the Oxford prize. He was unlucky in that after reaching Oxford in about 2 hrs. he was unable to find the Oxford Club's 'drome, although he had some 5,000 ft. of height. Eventually he landed at a disused airfield in despair. The "fumble factor" was doubled shortly afterwards, when the Tiger, which was sent to fetch him, landed on a harrow and was put out of action. Two retrieves by road were made—one by a 60 ft. trailer!

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Bristol Gliding Club

OUR plans for an Easter Camp at Roundway received rather a jolt when the wind persisted in being both northerly and light, and only poor launches would have been possible from the fields at our disposal. We were, however, able to demonstrate another aspect of Roundway, by using the site as a centre from which we made daily expeditions in conjunction with the Surrey Club, to the north-facing ridge at Inkpen. Using the Prefect and Olympia, we completed 13¾ hours soaring in 14 launches in the period from Good Friday to Easter Monday, during which the wind strength on top of the ridge rarely exceeded 5 knots. Peter Collier completed a Silver C duration leg, and a regrettably large number of members had their introduction to hill-soaring conditions, to bungy launching, and to efficient derigging and trailering.

This year, Roundway itself has proved most disappointing, and the longest flight made there was 25 minutes by John Cochrane towards the end of March. We have now temporarliy closed down the site until the farmer can collect his hay some time in July. In the meantime, parties from Lulsgate have been prospecting all the local ridges, and whenever conditions permit, we intend sending a week-end flying party to each possible site. Our aim is partly to look for a more permanent site than Lulsgate (which is now fated to become Bristol Airport in a couple of years) and partly to try to provide our members with more soaring, so that we can get away from our "average" five-minute flight.

At Lulsgate itself, thermals this year have proved even more sparse than usual, and the first appreciable one did not arrive until 4th April, when the T-31 climbed to cloud base at 3,300 ft. a.s.l. A team led by Derek Stowe have now installed spoilers in our one remaining Tutor, and on 8th May Derek took it on its (and his) first cross-country flight when he toured the local seaside resorts before finishing up 11 miles from home at Weston super Mare. En route, he reached 4,600 ft. a.s.l. and found thermals plentiful until he had to go cross-wind along the coast. The only other day worth mentioning is 16th May, when, using one auto-tow line, we made over 100 launches, and converted 11 people to either Prefect or Olympia.

Applications for our courses suggest that their popularity is, if anything, on the increase, and by the end of April half of the available places had been filled. As a variation this year, we have appointed Bill Gotch as resident course manager, and he will act as general host, to relieve the instructor of most of the ground work.

Club officials for 1954 show little change from the previous year, and for the record they are:—chairman, John Cochrane; secretary, John Burleigh; treasurer, David Michell; C.F.I., John Parry-Jones; ground engineer (A/C), Doug Jones; ground engineer (M/T), Eric Smith.

M.G.

Southdown Gliding Club

UP to the present 1954 has been quite successful. Total time flown at the end of April was 60 hrs. 18 mins. for 737 launches. Soaring days have been scarce, but those that came compensated for the others.

Easter went over very well: four days, all with good thermal activity. Friday flying was carried out at Firle, Bill Jordan returning in the Olympia to Friston, where all flying was done on subsequent days. On Saturday there were several worth-while flights, both the Olympia and Tutor gaining cloud base at 3,500-4,000 ft. a.s.l. Sunday again proved soarable; notably Godley and Smith in the T-21b had a nice cruise over large areas of sea, dashing from cloud base to cloud base. Sunday also gave us a record of 94 launches in one day; an early start was made at 8.12 a.m. and finishing at 7.33 p.m. due to rain showers. But for the fact that, at several times throughout the day, all aircraft were airborne, 100 launches would have been made. Monday was again thermal weather, but to a less extent; Bill Jordan again shone with a climb to 4,000 ft.

Total flying time for Easter was 21 hrs. 32 mins. for 211 launches.

The week-end 15th-16th May was quite good, with Jim Wells obtaining his C at Firle.

On 22nd May we received a visit from the Central Council for Physical Recreation, who hope to initiate some of their members into the noble art of holding one's self up by one's braces.

On the social side, a very successful dance was held at Hayward's Heath, due largely to the efforts of Bob and Mrs. Burns.

R.T.W.

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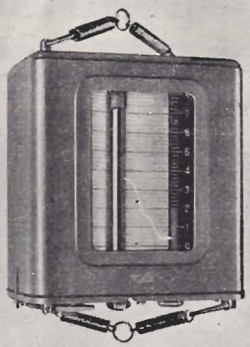
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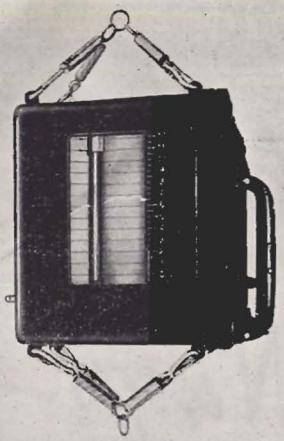
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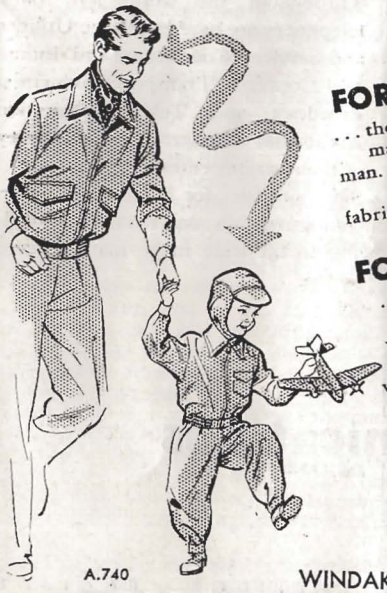




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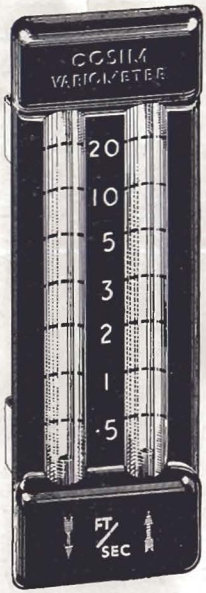
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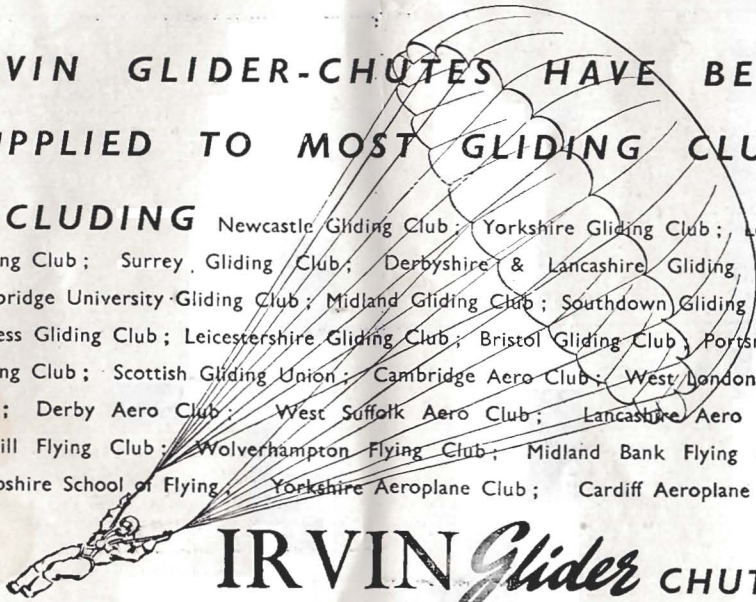
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