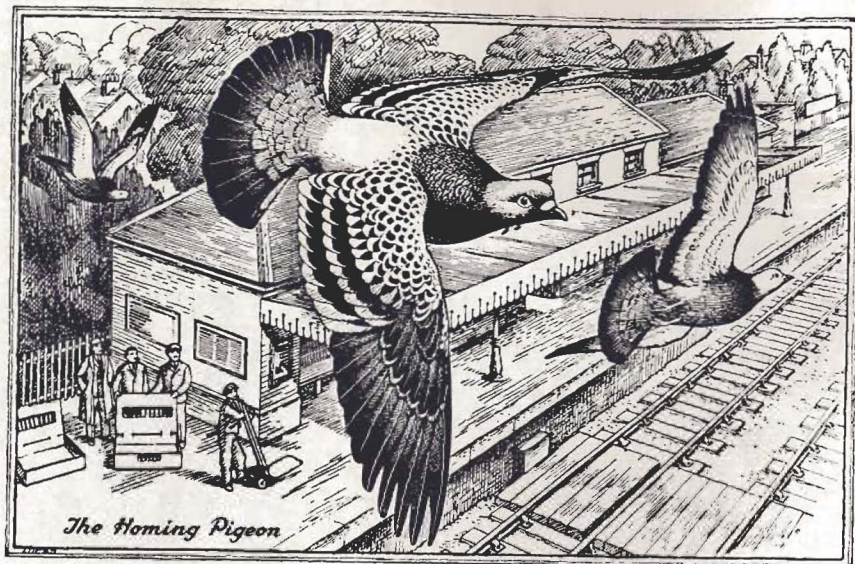


Sailplane ^{and} GLIDING

2'6

FEBRUARY 1956



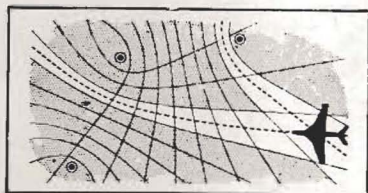


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By flying down a beam pilots can come into an airfield they cannot see and could not possibly find. With this invaluable technique man has rediscovered a gift he may once — long ago — have had: one that many creatures have in highly developed, highly efficient form.

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towards home: that he senses some "radio beam" that gives him his direction.

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SAILPLANE AND GLIDING

OFFICIAL ORGAN OF THE BRITISH GLIDING ASSOCIATION

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COVER PHOTOGRAPH. "Gliding in the East".

T-21-B Slingsby two-seater, Indian Gliding Centre—Poona. Entry for Cover photograph bi-monthly competition, F. J. Mendonca, Poona.

SAGA OF A SAILPLANE

by Philip Wills

SOMEONE asked me the other day how long a sailplane lasts. I believe the official answer is, as long as the ply doesn't dry out, and I suppose this means that it depends very much on the climate in which it is kept; but the question set me reviewing the life history of the various aircraft which I myself have owned, and one thing led to another.

My first glider was the Scud II, built for Mungo Buxton in 1931, and shared by me with him from 1932 onwards. Unfortunately, the identity of this machine has been lost. A Scud II is still flying at Dunstable, but whether or no it is my original one I do not know.

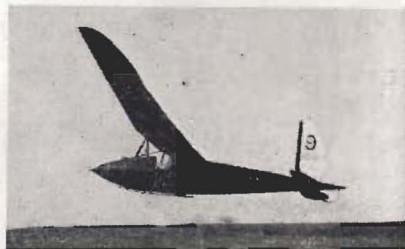
In 1934, Hjordis, designed by Buxton, was the first high-performance sailplane proper of British design to take the air. She was a prototype, heir to the imperfections of prototypes, but in her I learnt a great deal. After three years I sold her, rather unwillingly, to André Brink in Johannesburg. Unwillingly because, with no airbrakes or spoilers, and with rather poor and sluggish controls, she was unsuited to conditions on the high veldt of South Africa. I saw her last year, a rather sad and dilapidated wreck, in the roof of a hangar at Germiston airport. Her days are over.

Minimoa, 1938. A beautiful, birdlike machine, with exaggerated stability characteristics, a very suitable machine to enable one to explore the difficulties of blind-flying in unstable clouds before the days of limiting brakes. Taken over by the R.A.F. in 1940, used for various moderately warlike purposes, including a tour of fighter stations to give fighter-pilots experience in the difficulties of getting their gun-sights on to such slow-moving aircraft (I believe no-one ever succeeded). Then transferred to the nascent A.T.C., crashed in 1944, repaired after the war, owned by Sproule, Prince Bira, Lawrence Wright, and sold to Iceland, where I believe she is still flying after 19 chequered years.

The Weihe . . . ah, the Weihe. Let me try to record the history of the Weihe in more detail.

The actual time and place of her birth are shrouded in the fog of the war years. From the evidence of some of the materials used,

Bolton had a theory that she might have been built in Czechoslovakia around 1942. In any case, I first set eyes on her, in sad disrepair, in a hangar on top of the Wasserkuppe in 1944, about the month of July. Little did I imagine her as the shining and graceful sailplane from whose cockpit, on December 29th, 1954, ten years later and twelve thousand miles away, I was to survey the astounding panorama of the New Zealand Southern Alps from a height of over thirty thousand feet.



Scud II in which Mr. Wills acquired a share in 1933.

I was in a party, of whom Fred Slingsby was one, sent over by the Ministry of Aircraft Production to make a survey of any technical advances in glider design made by the Germans during the war, and we had authority to label any aircraft we thought merited investigation at home; the theory being that any machines so labelled would then be duly transported back for examination and flight-testing.

As I went round, one of the developments which seemed to me of great importance was in the field of stability and control. So rapidly does the science of aircraft design advance that many people may not realise that, up to 1939 at any rate, practically nothing was known about this all-important subject. Designers simply went on their previous experience; they had built a reasonably controllable aircraft with, say, a particularly-shaped tail, so repeated the same general shape next time, scaled up if necessary. There were no design requirements covering the subject, and no measurable flight-tests laid down, since no one knew what to measure.

My first flight in an Olympia was therefore a revelation to me; here was a machine that seemed to fly itself in all circumstances, a machine in which blind-flying in all types of cloud assumed a new aspect. I had always shared the belief that Hans Jacobs was probably the world's most gifted sailplane designer, and here was proof of it.

So I decided that one machine to try and get over to England was Jacobs' latest design, and this meant the Reihel. Unfortunately we were only able to locate one of these machines (only three had been built) and we found it had been adopted as a pet by a certain Typhoon station in Northern Germany. Alas, our officially impeccable authority proved of little avail against the ancient right of possession. We pulled all our strings—they were made only of paper. The Typhoon boys couldn't actually fly the thing, but one day they intended to come round to it. In the meantime our beautiful Reihel lay out in the sun and rain for day after day, month after month. At last our slowly-grinding wheels brought it, over two years later, to Kenley, and when we inspected it, it was ruined beyond repair by mishandling and exposure.

In the meantime we had proceeded on our journey, and one day reached the Wasserkuppe. As we drove up its beautiful green and rounded slopes to the group of buildings on the top, I was remembering the last time I had visited this lovely place, the Mecca of all glider pilots, for the International Championships in 1937. What possessed this extraordinary people, with so beautiful a homeland, to go mad once again and destroy the world, themselves with it?

The group of buildings at the summit seemed much as I remembered, except for a large new permanent building with a splendid swimming-pool in front of it. Evidently this had been the main block for whatever unit had been stationed there during the war. We started to wander through it, and in the centre came on a large chapel. Along both walls were yellow-pine pews, but the middle of the floor was taken up with a raised concrete platform, on which was reclining the more-than-life-sized concrete recumbent figure of—a dead pilot. His arms were folded on his chest, he was clothed in full concrete flying-gear, with an unopened concrete parachute on his chest. Wreaths of brown-gold artificial oak-leaves were propped

around his plinth. At the far end of the chapel a stained-glass window, lit by the outside sun, representing the Angel of Death, complete with well-developed sun-bronzed private parts, lowered down on the absent congregation. It seemed, to put it mildly, an un-British way of stimulating the right outlook in a congregation of pupil glider-pilots.



The Hjordis taking off from the Wasserkuppe at the 1937 International Contest.

The Wasserkuppe was in the American sector, and hence occupied by a U.S. Army unit, but embedded in this was a small R.A.F. unit operating a radar station, and we were accordingly accommodated by our compatriots. As we walked round, we found ourselves in a veritable Golconda of gliders. Hangar after hangar was stuffed full of gliders of all types: if we could only have transported the lot to England, our home clubs would have been in full operation two years earlier than they actually were. Alas, our terms of reference were more limited. But in one hangar I found several Weihe's, which had been Jacobs' last design before the Reihel. As I had already an uneasy feeling about the possible future of that machine, and apart from that I was struck with the brilliant simplicity of the Weihe's rigging features, I decided to label two of these aircraft.

But now I started making enquiries of our R.A.F. friends as to the likelihood of our system working, and once more doubts began to creep in. It appeared that when the Americans first arrived at the Wasserkuppe, they had seen sailplanes for the first time in their lives. As might have been expected, they had joyfully accepted them as toys with which to while away the time. A sailplane—a Weihe of course, only the best would do—was dragged out, an

American major strapped in, and catapulted off. The Weihe is a gentleman. It did its best. The major was in bed with a cracked spine; he was expected to recover. In the meantime a ukase had gone forth—no further glider flying for the occupying troops, and to make absolutely certain of no more trouble, all gliders on the field to be broken up and burnt next week . . .

I went and saw the Commanding Officer. I pleaded with him, I told him there were people in England who would give their right arms for his field full of gliders. In any case, I said, I wanted two Weihe's, and had authority to arrange for their transport to Farnborough. I hoped, therefore, he would withdraw his order for their destruction, would think again; but I could see where his thoughts were leading him. If we wanted two Weihe's in England, might not they also like them in the United States? I thought that just possibly I had saved the Weihe's, but not for Farnborough. But there seemed nothing more I could do. Our trip came to an end, and we flew back to England.

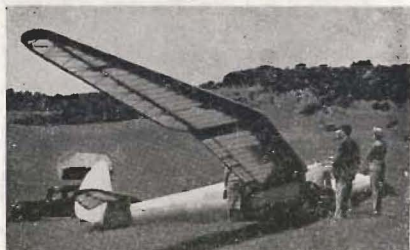
Some months went by. We had made our report, and parts of it had been approved for action. But the official machinery of recovery had, as expected, failed to work, and no machines appeared in England. Ken Wilkinson at Farnborough had confirmed that they would like certain aircraft, including the Reiher, Weihe's, and a Horten IV tailless sailplane which we had discovered. This latter machine was on a proper airfield, and at last Farnborough, in despair, sent over a Halifax and carried it away in triumph. But the grass field on top of the Wasserkuppe was much too small for a Halifax, or even a Dakota, so the Weihe's seemed doomed, the Reiher unobtainable, and my ideas about getting a jump ahead on stability and control doomed to failure.

Then one day my Air Transport Auxiliary freight section at White Waltham got a job to carry supplies to Prague. The route lay almost over the Wasserkuppe, so I decided to take one Anson-load myself, and call in on the return journey; the Anson light could easily make the landing.

Nothing had changed since our last visit. The same troops were still there, the same small British unit, the same gliders, undestroyed; so I had managed to achieve something in a negative sort of way. My two Weihe's, with my dusty labels attached,

were still in their hangar, where it seemed probable they would stay till Doomsday.

Other German pilots I had interrogated had confirmed their excellence, and I felt more than ever sure that, if Farnborough could test them and put the results at our disposal at home, we should be able to use them as a basis on which to lay down our post-war requirements and ensure a new generation of British aircraft of the first quality. (I was not to know that, a little later, Dudley Hiscox was to ensure a great step forward in the same direction by arranging for Chilton Aircraft to build him an Olympia from the pre-war German plans. The Eon Olympia, which resulted from this, ensured that once for all we at home came to know what constituted a first-class sailplane from the handling point of view.) I resolved on desperate measures.



Mr. Wills's Minimoa at the pre-war site of the Oxford Gliding Club. Photo by D. F. Greig

I had a long talk with the R.A.F. Flight Lieutenant in charge and told him my problem and he assured me that if I could get a Queen Mary trailer to the Wasserkuppe he would ensure somehow that the Weihe's would be put on it. I had a friend in the shape of a Group Captain in charge of an aerodrome in Belgium where we used to refuel our freight Ansons, and I determined to put my case before him and see if he would play. After all, if Farnborough had sent a Halifax, what was a Queen Mary? Calculation showed that a trailer of this size should be able to accommodate not only the two complete aircraft, but also a spare pair of wings, so I labelled a pair for luck. Then I took my courage and a saw in both hands, and set about one of the worst tasks of my gliding life. I sawed up a beautiful Weihe. I sawed off the wing-roots and the centre-section fittings, and put them in the back of my empty Anson, together with a complete sailplane. At least we

should be able to examine the brilliant detail design of the rigging features, and if I left the machine there it would do no one any good. But it was a cruel job.

On the way home I called in to refuel, and found my Group Captain friend in his office. To my joy, he agreed to help. He would do his best, and send me a signal at White Waltham if and when the aircraft were ready to collect at his airfield. And so back to White Waltham, feeling that I had done what I could for the time being, but of course the chances were slight. The radar unit at the Wasserkuppe, on whom all depended, might be moved at any minute, or any other link in the tenuous chain I had tried to lay down might vanish without warning.

In writing up a history like this, it is of course easy to give the impression that all my attention was focussed on getting hold of these Weihses at the time, but of course this was far from the case; in fact, I had almost forgotten about the whole thing when, a couple of months later, the signal arrived and I had to look at it twice before I understood it. "*Goods arrived, awaiting collection.*"

By now, the war in Europe was nearly at an end. Aircraft were still flowing out of the factories and across the Atlantic, and all piling up in store. The storage units were by now only running a five-day week and, at week-ends, many aircraft were ferried in by us to our home aerodromes, and on-flown the following Monday to their final destination. So I went up to Prestwick one Friday and brought a Dakota down to White Waltham which was allotted for storage in a near-by Maintenance Unit. I measured up its hold and the size of its door. It seemed Fate when I discovered that, as far as I could see, the Weihe wing would just go through the door, and just fit in the hold with two inches to spare. And so it proved. Furthermore, the Dakota just took one complete Weihe and one wing over, and in two flights, by Sunday night, the job was done.

It was more than a year later when the next fortunate chapter opened. One of the Weihses brought over had proved to be fairly badly damaged, but the R.A.F. had duly repaired and tested the other. The civil Gliding Clubs were slowly struggling back to life, and the British Gliding Association had started to function again.

Dudley Hiscox was Chairman, but I had taken on a more than full-time job in British European Airways, and had little time to spare for gliding affairs. However, I still managed to attend Council meetings, and at one of these it was reported that Farnborough had finished with the various sailplanes brought over from Germany, and it was proposed to transfer them to the Association.

The damaged Weihe seemed to be a problem, as no one knew what it would cost to repair it or even if it was repairable at all, whilst none of the clubs at that time had any



The Weihe at the 1950 British Championships at Camphill.

spare funds to undertake such a doubtful project. I therefore proposed that, if the Council approved, I would purchase the remains from the Association, and this was agreed. This was at a time when people were still thinking of high-performance sailplanes in terms of £300 apiece, so when I got a bill for repairs of £250 I did not seem to have done so well. However, the work was done, and I never regretted it. For two years I had much joy from her, and did many flights, including a height record in a gigantic cumulo-nimbus near the Long

Mynd, described elsewhere.

Just after this flight she again went in for a renewal of Certificate of Airworthiness and my feelings were indeed mixed when it was found that previous inspections had not revealed what may have been a deliberate piece of sabotage by those who had been originally forced to build the aircraft for their German masters. The spar-booms and webs were hardly glued together at all, and when the wings were completely unskinned each spar peeled down to four almost undamaged pieces of wood! Yet in this condition she had uncomplainingly carried me through extreme turbulence and many hours of flying over a period of two years. This is the sort of thing that makes one believe in high safety-factors.

As for the other aircraft, the second Weihe went to the Surrey Club, who have done excellent work with her ever since. The spare pair of wings and the sawn-off fittings and tailplane were rebuilt into a complete machine by Bolton and, as was the Horten IV, sold to the United States, contributing their small share to the dollar shortage. And the B.G.A. technical committee co-opted Ken Wilkinson and with the knowledge acquired from these and other tests laid down the stability and

handling requirements for gliders which were eventually incorporated by the Air Registration Board in Section E of their requirements and duly formed the basis of our existing pre-eminent aircraft.

A small grant from the Ministry enabled us, amongst other things, to finance the flight trials necessary to plot a Polar Curve for the Weihe, and everyone knew how good an advanced sailplane had to be to be good: it had to be better than the Weihe.

When eventually the Slingsby Sky appeared and proved to be the best 18-metre production sailplane the world had yet seen, my Weihe, from which so much benefit had been derived, went off to start a new life on the other side of the world. Painted a brilliant red, maintained by Dick and Helen Georgeson with loving care, I can see no reason why she should not continue to grace New Zealand skies with her slender beauty for another decade or more. Born in the dark days of war, under the tyranny of repressed Central Europe now with new worlds to conquer in the extraordinary air of free New Zealand, where we may well read one day it has broken the world altitude record, what could be a more unlikely or a more romantic history?



Unit depicted is in use at Lasham Aerodrome

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Cloud-Flying Made Easy

by Mickey Gilbert

A LOT of nonsense gets written about cloud flying. Now just take the article that was written in the last edition of the *Lasham Newsletter*. Throw it in the wastepaper basket and start afresh with me.

The chief thing to worry about in cloud-flying is the instruments. All of them. They have to be read. Even if you don't know what they mean. So start reading them all systematically next time you go into a cloud. Read all round from Left to Top Centre to Right to Bottom Centre to Left again. Get the idea? Get your eyes rotating round the instrument panel in a circle. Practise this for a few moments, going round and round and round. That's better. Now recover from the resultant spin and try to get back into the cloud again. Only this time switch on the electrics. They don't work? Well, hard luck!—get a glider with some batteries in it next time.

The next exercise is to start thinking about what the instruments are reading. That altimeter needle, for instance, that keeps rotating in an anti-clockwise direction. Yes, it probably means that you are rotating too. So do another spin recovery and get cracking again. The next thing you come to is the variometer. Note its reading. Up or (more likely) down. There's nothing you can do about it, except remember it for the Line Book later on.

Now the Turn-and-Slip. Very tricky this one, as it is really two instruments in one, which makes it twice as difficult as the other instruments, which is really rather cheating. Now one of the needles tells you if and when you are slipping and the other tells you if and when you are turning. As you will never remember which one is which until you are very experienced, I should advise you to just look at the needles and leave it at that. You will probably find that in no time at all they are both hard over in the same direction. That means you are spinning again, so just get straight and level before you try another cloud.

The next instrument you notice is the A.S.I. This is supplemented by the noise in your ears, which alternates erratically between a soft murmur and a loud scream. The noises are not quite synchronised with

the A.S.I., but otherwise they do help a bit. Note the way the speed doesn't seem to decrease when you pull the stick back. Then it decreases too much and won't increase when you push the stick forward. Then it goes up a bit and stays steady wherever you push the stick. This is exasperating. It also means you are in another spin, so just get out of it and look around for a new cloud.

Lastly you come to the most important instrument of all, the Artificial Horizon. This is designed to make instrument-flying easy. In clear air you can see your own aircraft wings, etc., in relation to the horizon. You can move the wings, etc., around in relation to the horizon. The instrument is designed to show you just that, when you are in cloud. It has a little diagrammatic aircraft with little diagrammatic wings and it has a little diagrammatic horizon. You move the little aircraft around on the little horizon. Only you discover it is not the aircraft that moves at all. The aircraft stays put, and the horizon moves around, which is all wrong and not what you understood at all. Just about the time you make this discovery, the horizon moves right over to the top right-hand corner, sulking away where you can hardly see it, and nothing you do will persuade it to come and play again. This is yet another spin. So back to straight and level. Back to the cloud. Back to the Altimeter.

On second thoughts, the most important thing about cloud flying is spin recovery.

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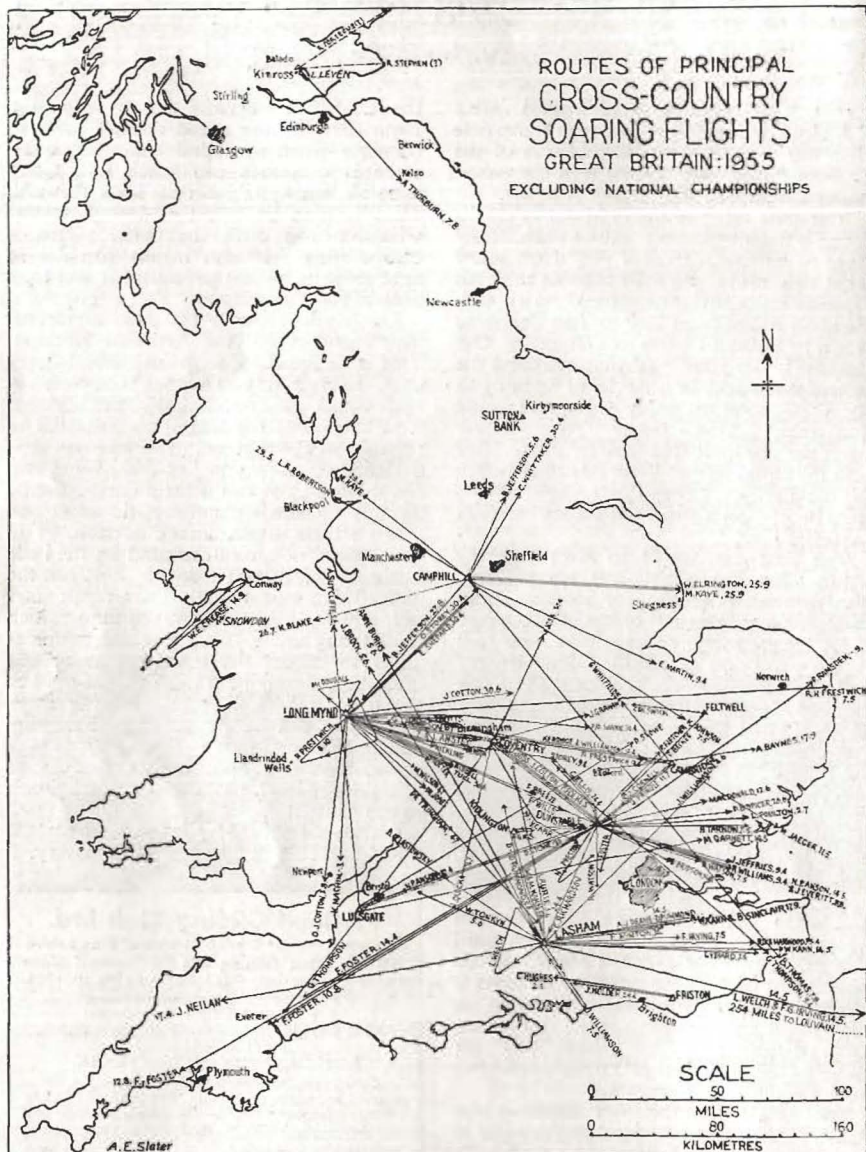
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1955 Cross-Countries



The accompanying map includes all miles in Great Britain during 1955 which cross-country soaring flights of over 30 have come to the Editor's knowledge,

except those made from Lasham during the National Championships from July 23rd to August 1st. They are mostly represented by straight lines from start to finish, the actual route not being shown in detail, and the cross-channel flight of Lorne Welch and Frank Irving necessarily goes off the map.

Some of the more notable flights are described in the ensuing pages; accounts of some others have already been published or will be later. One notable feature is the number of club-to-club flights. Another is the great number of flights on particular days, notably April 9th, with two-seater goal and speed records from the Long Mynd

and a feminine distance record from Lasham; and June 5th, when many experienced pilots gave 300-kilometre goals to the north which they were unable to reach, only to be outdone later in the day by two beginners owing to some inexplicable meteorological change, and the result was another feminine distance record.

News of cross-country flights in the Air Training Corps does not come to aviation journals, but A.T.C. gliding news is allowed to be sent to local newspapers, so if they were informed of cross-countries we should hear of them and could include them in the next map.

Camphill to Ferryfield

by Bernard Thomas

THE noon forecast in Saturday's *Times* showed a cold front along the Humber-Severn line with a N.N.W. wind behind. On Sunday morning, August 7th, the sky was completely covered with thin cloud which showed no signs of breaking up until after noon. The wind was almost along Bradwell Edge and machines fell out of the sky as fast as we could launch them.

The prospect improved and we rigged the Sky more in desperation than hope. I declared Ferryfield, set my altimeter at 1,250 ft.—usually a good way of ensuring a quick circuit—and was launched into a thermal at 12.44 p.m. Having reached 4,000 ft. on the altimeter I was soon at Matlock searching for lift, as usual. Two good thermals took me to 7,000 ft. in cloud, but from that point to the Thames the lift inside cloud was not worth struggling for.

The first hour seemed to indicate an 8° drift west of course so that navigation (*sic*) presented little or no difficulty. I reached Bedford at 3.30 p.m., an average speed of 35 m.p.h.

Letchworth and the Ponders End Reservoirs kept me on course for crossing the Thames at Tilbury at 5 p.m. The average speed for this section worked out at 40 m.p.h. and for the distance thus far, 37 m.p.h.

Two years ago I crossed the Thames with 3,000 feet at 5 p.m., only to be sunk, utterly and completely, at Sittingbourne. This time I intended to get to Ferryfield even if I had to push the Sky along the road to do it.



Bernard Thomas in the Slingsby 'Sky' sailplane in which he made this flight.

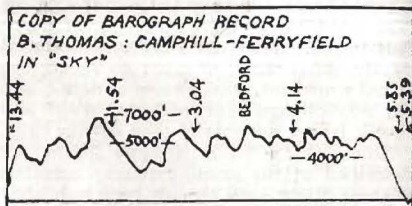
Consequently I failed to reconsider the situation and make the best use of the opportunities which became increasingly obvious.

At 4,000 ft. the sky appeared to be seven-eighths overcast. Cloud base was 6,000 ft.

and the rate of lift between 4,000 ft. and 6,000 ft. was 18 to 20 ft. per sec. It was necessary to fly between 70 and 100 m.p.h. to keep out of cloud in the Control Zone. I arrived at Ferryfield at 5.27 p.m., having covered the last 40 miles or so in 27 minutes—an average of about 86 m.p.h. Even at that time of the day, it would have been better to have kept further to the east and attempted to cross the Channel.

At Ferryfield there was a light N.E. wind and I was fortunate to catch sight of a Bristol Freighter going in to land on the west-to-east runway. No other aircraft being in sight, I came in at 70 m.p.h. from about 3,000 ft. with full brake all the way. To avoid causing trouble I landed at the south end of the south-north runway and pushed the Sky off the tarmac.

I must confess I had a cool reception and a broadside from the Control Office for



landing on a P.P.O. airfield. All very justified, no doubt, but rather deflating. On my way into the reception hall, however, a youth asked me if I was a Mr. Wills, by any chance. Of course, I had to say "No", but at that moment I felt that I had arrived—not just landed at Ferryfield (P.P.O.).

The distance worked out at 197 miles; elapsed time, 4 hrs. 43 minutes; average speed 41.77 m.p.h.

BEGINNER'S LUCK

by Anne Burns

SUNDAY, June 5th, was certainly a field day for beginners at Lasham. "Mac" Mackenzie managed to stay up for five hours in the neighbourhood of Lasham before the sea breeze downed him; and Jeremy Brock and I, both on our first cross-country flights, ended up in Shropshire with 130 and 134 miles apiece. It would be hypocritical not to admit that a certain spice was added to the occasion by the fact that we had both flown considerably further than the pundits. Not that we were left in doubt as to the reason; our late start had resulted in unusually favourable met. conditions, whereas the pundits, starting on an average two hours earlier,* had outrun the good conditions or come to grief in the Thames clamp.

Met. conditions looked particularly promising that day. According to our local expert "Mac" Mackenzie, an unstable S.S.E. wind of 10 to 15 knots was covering almost the whole of the British Isles. Cumulus started to build up by about 10.00 hours at Lasham, although in the lower-lying parts of the country it was

probably very much later in starting. An inversion at about 7,000 ft. was insufficiently strong to spoil the excellent



Mr. and Mrs. Burns beside their Eon Olympia Sailplane.

Photo Ev. Standard.

* "No record distance flight has ever been made from Lasham starting before noon"—(saying attributed to Wally Kahn).

soaring conditions which developed as the day went on.

Coming to my part in the 'day's doings,

I must confess that, although I had read all the available literature on the value of preparation and planning in cross-country flying, my flight was, despite good intentions, almost entirely lacking in these two respects. Looking back, I think the absence of a flight plan may have been in some ways an advantage; by making no attempt to map-read I was able to concentrate solely on staying up. True, I didn't always know where I was, but, like Christopher Robin's bird, I was prepared to say when the wind blew me away: "That's where I wanted to go to-day!"

My husband and I had only bought our Olympia Blue-O a few weeks before, and the instrumentation was in a transition stage—a magnificent display on the panel but no connections at the back, neither turn-and-bank nor total energy—our only secret weapon a sensitive accelerometer adapted from a type used in aircraft for counting gusts. I had shared in what was to be the mainstay of my flight, a most helpful briefing from the C.F.I. Derek Piggott; but my husband was flying first that day, and after seeing him disappear with Tony Deane-Drummond in the direction of Basingstoke, I had no more thoughts of flying myself, not even bothering to look at a map. And so when, two hours later, Blue-O made a most generous and unexpected return and the Tiger was ticking over at 1s. a minute, there was hardly time to do up my straps, let alone get the map out from under the seat cushion, where it remained for the next five hours despite all efforts to retrieve it. The Tiger, piloted by a lunchless Derek Goddard, was soon circling in strong lift and I cast off just before 14.00 hours (B.S.T.) at 2,500 ft. with only 500 ft. to climb before attaining the requisite height for going away.

There are a number of memorable occasions in gliding, not least of which is the first time one turns downwind away from one's home site. With my heart in my mouth I turned away, praying for just one thermal. With such good conditions I could, of course, hardly fail, and I was soon circling over Basingstoke although still between 2,500 and 3,500 ft. After Basingstoke things improved, however, and with Greenham Common coming up on my port I was up to 4,500 ft. And now, over the Thames and Cotswolds, life began to look much more pleasant: open country spread out before me studded with aero-

dromes, I was up to cloud base at just under 6,000 ft., the lift was strong, and things looked really good. How often I'd watched Bill Bedford lazily circling over Farnborough—and now, here was I; my confidence, however, was due to be short-lived.

I had had to move east on two occasions as my line of clouds had begun to peter out (on the west I was restricted by a wide gap—perhaps the oolitic limestone belt noted by Ann Douglas in "Advanced Soaring"). Finally, two clouds failed to produce lift and I was down to 2,000 ft. Reluctantly I turned out into the gap towards an aerodrome, later to be identified as Delford. The air was horribly dead and I abandoned all hope. It was not until I was on my final cross-wind leg that my second stroke of luck occurred: a thermal started by a convoy of lorries (my late start I consider to be my first stroke of luck). After an uncomfortable ten minutes or so I was up again at 3,000 ft. under a newly formed cloud and, what was more, on the other side of the gap.

More lift over Worcester and I was able to move up the Severn Valley, finding strong lift under largish cumulus over heavily wooded country. Finally the line of clouds up the Severn gave out and I flew east again towards some cloud on the outskirts of Birmingham. This proved to be very broken and mixed, and I hung about for some time in poor stuff wondering whether I could cross Birmingham and wishing the golf course didn't involve such a cross-wind landing. Eventually a slightly stronger thermal took me half-way across and I was able to make it.

It was now about 6 o'clock, and things were very much calmer and the lift correspondingly weaker. My main concern was to ensure that I landed at an aerodrome, as I was feeling far too shaky for my first field landing. (I had been turning left almost continuously and found it very difficult to turn right.) I flew from aerodrome to aerodrome, occasionally circling in weak lift, until my third and last stroke of luck occurred—an aerodrome hove up with the letters TH. This was my brother-in-law's station and a very tempting landing spot for me. There was still one more cloud ahead—half-heartedly I nosed out towards it but soon beetled back to land at Ternhill at 18.40 hours—as it turned out later, five minutes short of my five hours.

Hardly had I touched down before my brother-in-law and his wife drove up. It was a wonderful relief to be in such competent hands. Blue-O was parked in a hangar of Provosts, telephone messages were sent, and the uninvited guests—my husband had arrived at midnight with the trailer—were most hospitably entertained for the night.

Hardly had we got going the next morning before another trailer closed in behind us. It was Jeremy Brock. We greeted each other like voyagers on an Arctic expedition. Jeremy, keeping further west to start with, had been able to fly part of the way under a cloud street. Like me, he had come up the Severn Valley, but had flown straight on to land at Shawbury, to complete his flight in the fast time of 3½ hours.

On looking back, I can see that my

thanks are due to a large number of people. I should, however, particularly like to thank the instructors and tug pilots at Lasham who, braving the icy conditions in the Tiger's open cockpit, towed me around in the winter months so that I was able to take advantage of opportunity when it arose in the summer.

It is interesting to speculate whether a Gold C distance was possible from Lasham that day. The best chance would seem to have been a start at about 13.00 hours. With 5½ hours' possible soaring time an average speed of 32.5 m.p.h. would have been sufficient (Jeremy Brock averaged about 38 m.p.h.). It would have been necessary, however, to keep slightly north of the wind vector followed by Jeremy and myself, in order to avoid running out of land. On the whole it seems quite a possibility.

HILL BOUND

by W. E. Crease

"A NORTH-WESTERLY airstream covers the British Isles," said the voice of the announcer as I sat up in bed.

"Just the day for an out and return," I said to my crew as we sat down to breakfast.

By the notable efforts of Dave Clayton's Jeep, by dint of some manhandling and *much* argument, we were at last rigged and ready to launch a thousand feet above the Menai Straits.

Below us the hill dropped away to the little village of Aber in a slope of more than Mynd-like proportions. Behind the mountains of Snowdonia reared up in peak and gully and rock-face until they disappeared into cloud. Far away to the south-west, the twin pinnacles of Yr Eifl (The Rivals) marked the start of the Nevin cliffs.

Attached to the end of the bungee, the Jeep trundled off below me. I hoped it would be able to stop. I heard Dave Carrow grunt as he held back to the limit. Then, in two skips and a jump, we were airborne and skimming over the Jeep at 70 I.A.S. to cushion on the updraught beyond.

Ten green! Not bad! I slid off towards the north-east where, some five miles away, Penmaenmawr falls 1,500 ft. almost sheer to the sea.

The gap between the Aber ridge and Penmaenmawr seemed rather large—they always do!—but I slid into the lift level with the top and was rapidly swept upstairs. From 2,700 ft. a.s.l. I headed back for Aber where, behind the foreslope, Moel Wnion (known to us as The Onion) rises into a superb hog's-back to 1,900 ft. It was all just too easy, but I wasn't grouching about this. There would be plenty before the end of the afternoon that would make me sweat a bit.

At 3,000 ft. I hit cloud—drat these thermals! They'd no business to be forming so much cloud right on the coast. I don't care for cloud when the peaks are sticking up into it only a mile or two down—wind. I used the brakes and stayed out.

My next objective was Carnedd-y-Filiast, the end peak of the Glyder (how suitable!) ridge some four miles to the south-east across the Nant Ffrancon valley. It looked a bit unpleasant, as there were foothills in front of it which might mask the lift. However, I had previously earmarked a landing field (quite 100 yards long!) so off I pressed. The lift did not come till I was close to the slope and some 200 ft. below the top. However, when I got to it, it was good and soon shot me up to cloud-base again.

From there to Eilidir Fach was easy.

From Eilidir Fach to Moel Eilio is another biggish gap with the same situation of masking by foothills. Some downdraught in the gap gave me a bad moment, but as soon as we tucked well into Eilio, up we went to cloud-base again.

The next step was to Mynydd Mawr which I remembered from the ground as one of the most savage rock bowls in North Wales. It didn't look less so as I sailed into it from the air, but the lift was superb and two circuits of it put me back to cloud-base ready to jump to Garnedd Goch.

Garnedd Goch is a really nice-shaped mountain and I had time to breathe while I settled down to plan the next bit of the trip.

This is a five mile gap to The Chessmen—so christened by us because their names in Welsh mean Red Peak and Black Peak. These peaks form the ends of a two-mile ridge which rises 1,700 ft. in one clear sweep of scree and rock, straight off the coastal plain.

Five miles cross-wind at, say, 300 ft. per mile meant arriving at about 1,500 ft. a.s.l.—lower if I met any downdraughts. I told myself firmly that even if I got there at a 500 ft., I couldn't fail to climb up such a superb face. All the same, I felt nervous!

In fact, I got there only just below the top and climbed quickly back to cloud-base before pushing on to Yr Eifl.

These "Rivals" are really the most remarkable sea cliffs I have ever seen. And there is definitely *no* landing for some six miles. Since, coming back, I might have to arrive low and climb up them, I made a very careful study of them before pressing on for Nevin.

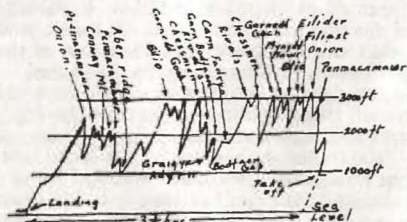
It was all downhill now and I scudded along at 70. I had intended to make my turning-point a lump of hill behind Nevin called Garn Bodfaen, but now, four miles beyond it, I could see a lovely cone-shaped hill, Carn Fadryn (1,250 ft. a.s.l.). To reach it would be easy and I *thought* I could get back.

I reached Fadryn at 1,800 ft. a.s.l. and found that, due to its cone shape and isolated position, 1,800 ft. was about the limit of its lift. I played with it for a few minutes—enough to show it would hold 1,800—then set off back to Bodfaen. This was the lowest yet—1,200 ft. a.s.l. only, when I reached Bodfaen. However, this is a very nice hill and I was soon back at 1,800 ft. and pressing on for The Rivals.

The beginning of the cliffs leading to The Rivals is a headland called Graig-yr-Adyrn (The Birds Rock). It deserves its name, for certainly nothing other than a bird could get foothold there. True precipice is rare anywhere in this country but Graig-yr-Adyrn drops 500 ft. as straight as a plummet into the waves at its foot. Although at 1,400 ft. when I rounded it, it still gave me the "Willies"—quite illogically, for I had not the least need to worry. From there to The Rivals the green ball never dropped below 10.

I began to feel much happier. It seemed to me it was in the bag. I sang love songs to the Olympia, I felt so fond of her.

I didn't stop at The Rivals, but went straight on to the Chessmen. I wanted to see what they were good for. It seemed to me they might produce up to 6,000 ft. or even more. But back at 3,000 ft. I was into cloud again! The thermals were developing even out at sea!



Looking back, I should, of course, have gone up through the cloud and would probably have been able to sit in hill lift above the tops. There was no ground above 2,500 ft. within ten miles of me, so I should have been perfectly safe. But so firmly had I impressed on myself before the flight that I must not, under any circumstances, go into cloud, that the thought, now, never even entered my head.

Instead, on reaching cloud-base, I pressed off without further thought for Garnedd Goch.

Note here the error of over-confidence. Had I troubled to think, I should have seen that to cross a five-mile gap from 3,000 ft. to reach a 1,700 ft. hill fully open to the sea wind is one thing. To cross the same gap to a 2,300 ft. mountain with ground at 1,000 ft. in front of it is quite another.

When I eventually reached the face of Garnedd Goch I was just 500 ft. above the ground, with the mountain sticking up another 800 ft. above me. Decidedly nervous, I tucked myself in to the face, but the lift was there all right and a couple of short beats on the west end of it took me back to 2,000 ft. a.s.l.

Then came the most startling moment of the whole flight. As I set out to extend my beat to the north-east, flying some two spans from the hill and barely a span directly above it, I rounded a spur to find at the other side not a continuation of gentle, heather-covered mountain, but an enormous rock bowl. In a split second, the gap to the ground below me dropped away from fifty feet to fifteen hundred and as I peered down seven or eight hundred feet of naked rock to the screes below, I very nearly dropped the controls and shoved my hands over my face.

However, as I cleared the edge and flew out into the bowl, the sense of vertigo disappeared as fast as it had come, especially as the green ball shot up to 20 ft./sec. and held there. In one circuit I was out of the bowl and another took me to cloud-base.

After that, I had only to skip to Mynydd Mawr, then to Eilio and round by the foothills to the Aber ridge.

The trailer was waiting for me at the foot, but no sign of crew, and I decided I could push on to the limit of the lift in the other direction. So straight along the Aber ridge to Penmaenmawr, rounding it well below the top (I had lost all qualms about soaring below the top of sea cliffs by now). Regain

height to 2,000 ft. on Penmaenmawr and a sweep over the sea to Conway mountain. Along Conway mountain, turn over the river, back round the Conway bowl to see how good it is (the answer is "very"), back round by Penmaenmawr and scream back to Aber at 100 I.A.S.

Still no crew! I regained height over the Onion, had ten minutes aerobatics and came in to land by the road.

Two hours later my crew returned from an expedition into Anglesey!

* * * *

Taken over all, *the* outstanding feature of the flight was the scenery. To see it coming up in one endless panorama of lake and peak and pass was like climbing forty mountains in a day. I shall never forget crossing the Llanberis valley, Lyn Padarn brilliant below with gulls dotted all over it, startlingly white against the blue water. Beside and above me, peak after peak towering into cloud and, for full measure of beauty, lying ahead and to starboard and moving with me along the mountains, a complete circular rainbow with its paler shadow lying alongside it, a double ring of vivid colour against the black rock and purple heather beyond.

Not less lovely was flying down the cliffs of the Nevin Peninsula—blue sea on both sides and the waves creaming along the yellow sands.

Anyone can have their six hours in cloud, their Gold distance and Diamond height. I shall be very happy to remain hill-bound for the rest of my days.

Coventry to Lympne

by George Thompson

SATURDAY, April 9th, promised well from the start. Vic Carr was urging me to have a bash, since I hadn't attempted a proper cross-country since my Silver C distance of 42 miles from Bramcote in the 1947 Competitions. I felt that I would like to make an exercise of it by trying to cut across wind as much as possible, and there was some talk about making for the Lympne area, though no specific goal was given. No special preparations were made. I carried my ordinary half-million map, reaching as far as N.W. London, and didn't

feel that a track line was called for.

The aircraft was the Leicester Club's Olympia, until recently in use at Dunstable. The London Club handed it over to us in beautiful condition, only the instrument panel needing to be fitted up to our own liking. Unfortunately we haven't yet obtained a compass and the lack of this cost me a bit of time in the early stages.

Winch-launched at 11.26 to 1,250 feet under a sky full of cumulus, I scatted with some rather elusive thermals, gradually losing height. Meanwhile the Tutor and

Viking were launched and began soaring. At 500 ft. I began to feel a bit "chocka" and was making to join the circuit and have another try when it came along, tight but strong. I climbed up past Tutor and Viking (John Quick in the Viking said afterwards that he didn't join me in case I felt he was pushing me out—he'll learn the methods in due course!). Cloudbase was 4,000 ft. and I made another 1,100 ft. before the lift dropped away. I got out of that one easily by straightening up on the turn-and-bank when the machine was pointing towards the lightest area of the cloud. This brought me out on the sunward side as desired.

Continuing southward, the next thermal took me into cloud again, but this time I didn't get out quite so easily and lost some of the height gained inside cloud owing to the lack of a compass. The next two clouds I tried on my southward passage refused to play and at 2,000 ft. I had visions of landing less than 30 miles out, when off we went again.

Just before reaching cloudbase this time I noticed that clouds had formed over many square miles around me. Being daft I went inside at 4,400 ft. and lost the lift at 4,900 ft. Straightening up as before, but without any lighter areas to help, I flew on and on and on, down and down and down. This time we came out on the side away from the sun and so turned 180° and plunged back in. Bits of lift and bits of sink kept me averaging a fairly constant height, and eventually I came out of the south side at about the same moment as I dropped through the bottom. Henceforth no more cloud flying, I decided.

Little Horwood was the next thermal source and while circling here a fortunate shaft of sunlight drew my attention to Dunstable, which I knew should be somewhere near. South again towards a cloud street west of Wing and stretching right past Dunstable.

This settled the dilemma that I had just begun to feel in regard to negotiating the Metropolis. To pass it on the west side meant a hard cross-wind battle with the risk of being carried over the built-up area if the going should prove difficult—though the final run to Lympe should be an easy downwind dash—whilst the north-east passage entailed the uncertainty of crossing the Thames Estuary somewhere with the probability of poor thermalling. I hadn't at this time realised how far out of my way the

south-west run would have taken me, so the Dunstable cloud street was providential.

I sailed over Dunstable at 4,600 ft., watching four machines on the hill, and just downwind of the club saw a Sky and an Olympia circling hard between 2,000 and 3,000 ft. Laughing gaily at those two Jacks I forged on till the street ended just past Luton.

Now there was a relatively more difficult region ahead, past St. Albans, Ponders End and east of the reservoirs. Then southward again, but the clouds ahead were much less frequent and didn't appear to offer much activity. The river was plainly in view and I was going down quite fast when a flash of silver below drew my attention to a T-31 landing at an aerodrome marked H.C. (Hornchurch, but by this time I was off my map).

A trembling of the aircraft marked the onslaught of a weak thermal by the aerodrome which saved me from further thoughts of landing there. We crept up quite slowly to just over 3,000 ft., then to 4,000 ft. near Tilbury and so across the river to Rochester where I soon met a snorter which had me at 5,600 ft. in no time. From here to the best height of the flight—5,750 ft.—then pushed off in a generally south-east direction, but not finding strong enough lift to raise my interest. The coast came into view and I began to debate whether to try to fly down Dungeness to Ferryfield or to continue to Lympe. Decided that the latter was easier and just as far, and ignored some promising-looking clouds north of Lympe since they couldn't take me anywhere. Over Lympe at 2,000 ft. and I went out to sea by 100 yards or so to look at England from the outside again.

Another thermal at 1,400 ft. on the way back to Lympe had a strong core and could probably have been worked up, but the Channel crossing didn't seem to be on, with the wind being well across the required track, so I left it after a couple of turns and went into Lympe. A couple of runs across the field to ensure that there were no "landing forbidden" signs out, and landed close to control tower. Up walks a policeman who cautions me that anything I say will be taken down and may be used in evidence, etc., and that the aerodrome is closed since last October.

The retrieve behind Vic Carr's little "Popular" had us back at Baginton by 08.00 next morning.

A Russian Glider Design Competition

by R. A. G. Stuart, M.A. (Cantab.)

A DESIGN competition was recently held in the U.S.S.R. for a two-seater training glider to replace the well-known Antonov A-2 which, after 20 years' good service, is now no longer of the required standard. The competition was organised by DOSAAF and invitations to participate were sent to many designers and organisations. All entries had to be submitted under slogans, so that the designers' names should not be known till after the judging. The chief qualities sought were simple construction, low all-up weight, long life and good flying qualities.

The first prize went to the "XXX Let" ("30 years"), designed by B. N. Sheremetev who is already well known for his previous designs. It is a high-wing monoplane of mixed construction. The fuselage is of welded steel tubes with pine bodywork and fabric covering. The wings and struts are wooden. Sheremetev chose steel-tube construction for the fuselage in order to prolong the life of the glider, but decided not to use metal for the wings because of the greater complication that would be caused.

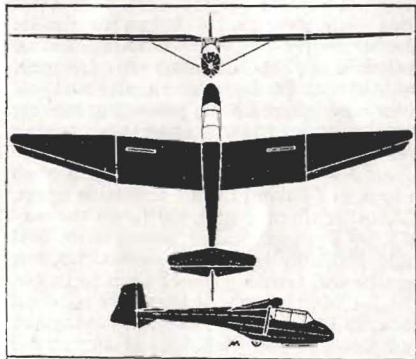


Fig. 1. The XXX Let ("Thirty Years"), designed by B. N. Sheremetev, which won first prize in the Russian two-seater trainer design competition.

Like several other Russian gliders the XXX Let has swept-forward wings to ensure correct equilibrium whether there is only one person aboard or whether there are two, but unlike most of these other

types the sweep is compound, and indeed on the leading edge of the outer section it is practically cancelled by taper, though on the trailing edge the taper accentuates it. The ailerons occupy the whole trailing edge of the outer sections. The centre sections, though slightly swept forward, have no taper and are fitted with spoilers at about 25% chord near their junction with the outer sections. The fuselage is rather like the German Doppelraab in shape and carries a skid with rubber shock-absorption, behind which is a single wheel, the latter being just aft of the wing-bracing strut. The tail unit is very angular and the fin extends below the fuselage. The tailplane is mounted on top of the fuselage, and the elevator, which is in one piece, has a small cut-out for the fin leading edge.

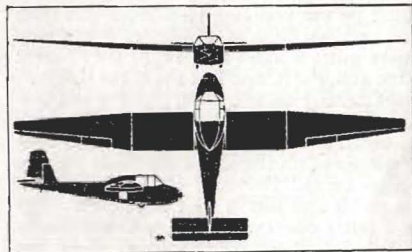


Fig. 2. The N2-53, designed by N. S. Trunchenkov, A. A. Loshakov and V. A. Korchagin, of Novosibirsk, won second prize.

The winner of the second prize was the N2-53, designed by N. S. Trunchenkov, A. A. Loshakov and V. A. Korchagin of the Novosibirsk branch of DOSAAF. All the designers are quite young, which augurs well for the future. While Sheremetev's design is a tandem high-wing monoplane, the Novosibirsk type is a side-by-side mid-wing monoplane, so it does not seem that the Russians have any definite preference for either layout. The construction is entirely of wood. This type is fitted with novel braking flaps in the fuselage sides, but it is difficult to see why these have been adopted as their efficiency is considerably less than that of spoilers in the wings. Probably the designers thought they were simpler.

The N2-53 suffers from the defects in-

herent in the side-by-side layout, namely the large fuselage width and the consequent increase in drag resulting in loss of performance, and the necessity of carrying ballast when the aircraft is flown as a single-seater, thus negating the extra performance which would be gained by decrease in weight. In an attempt to alleviate the latter defect, the designers have staggered the seating by 10 cm., the starboard seat being set back by that amount. However, this results in the restriction of longitudinal seat adjustment by 5 cm. for each seat, which is not very convenient.

The wings have parallel-chord centre section and tapered outer sections. They are rather reminiscent of the Yakovlev cargo glider, as is the whole layout of the N2-53. The fin has nearly all the taper on the leading edge, and the tailplane, which is of rectangular form, is mounted low so that the elevator, which projects behind the fuselage, has no cut-out for the rudder. Unfortunately the tail unit is largely blanketed by the wing at high angles of attack, and the wide rear fuselage has the airflow disturbed by eddies from the wing too. The ailerons are in two sections, the outer ones being of much larger span than the inner ones, and occupy most of the outer section trailing edge. The landing gear consists of two wheels mounted at the sides of the fuselage belly, level with the wing leading edge.

According to the terms of the competition, two examples of each of the preceding types will be built for evaluation. Of the three types that follow, it was recommended that the designers should carry out certain modifications, and none had a firm order placed. However, it was suggested that they should be constructed privately and then submitted for evaluation with the

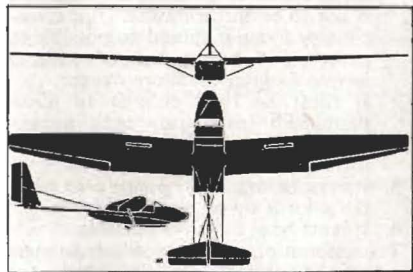


Fig. 3. The Za Mir ("For Peace")

prizewinning designs after the modifications had been incorporated. It would then be possible to make a practical test of their worth.

The first of these was another side-by-side design called "Za Mir" ("For Peace"), which is of somewhat rustic appearance, having an open cockpit with windscreen and being of twin-boom layout. The construction is of wood except for a few metal parts used for strengthening. The fuselage is very wide and is slab-sided, and the seats are not staggered. The wings are generally similar in design to the XXX Let, but are of higher aspect ratio. There are horizontal cross-bracing wires from the rear of the fuselage nacelle to the tailplane leading edge. The idea of choosing the twin-boom layout was to avoid the disturbed airflow around the rear fuselage which arises in the N2-53, but the aerodynamic losses caused by the twin-boom layout probably counterbalance

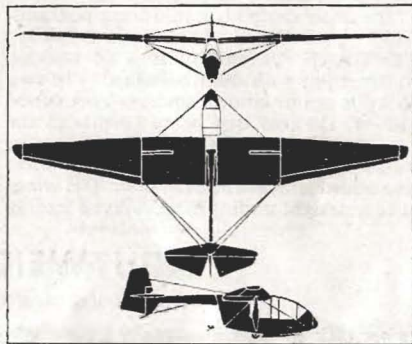


Fig. 4. The Komar ("Gnat").

this. The undercarriage is formed by a skid with a wheel at its rear end.

The "Komar" ("Gnat") is of pod-and-boom type and is a high-wing monoplane of wooden construction, the end of the boom forming the rudder king-post. Four wires attached to the outer edge of the wing centre-section ensure the rigidity of the boom and the horizontal position of the tailplane. There are also two wires bracing the nose to the wing strut attachment point.

Seating is in tandem under a long canopy with no step-up. The rear pilot's seat is under the wing and, though he has good visibility, his access to the cockpit is far from easy. He enters through a small door under the wing and above the undercarriage

forging, and his access is hindered by the bracing and by the narrowness of the opening. This could be remedied by sweeping the wing forward and moving the wing attachment back to behind the bulkhead aft of the rear seat, an alteration which would probably improve the aerodynamic qualities too.

The wings at present have a rectangular centre section, tapered outer sections and rounded tips. Flaps are fitted under the wing centre section, and the ailerons occupy the whole trailing edge of the outer sections except for the tips. Taper is much more marked on the trailing edge than on the leading edge. Spoilers are fitted at about 30% chord on the centre section at the junction with the outer sections. The tail unit is angular, rather like that of the XXX Let, but with more taper on tailplane and with large elevator cut-out. The landing gear consists of a skid with rubber shock absorption with a wheel aft of it.

The other design is a mid-wing pod-and-boom type called "Aktivista Dosaafa" ("DOSAAF Activist"). It is of wooden construction with dural ailerons. The two cockpits are in tandem under a long raised canopy, the rear one being level with the ailerons. The rear fuselage is braced to the wings by two wires, and four other wires give added strength and rigidity. The wings have a straight trailing edge, tapered leading

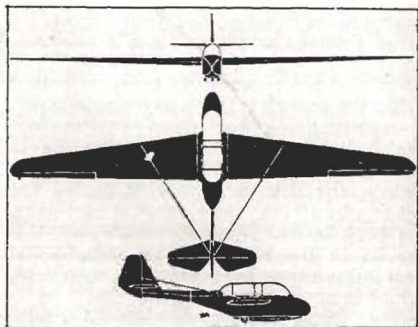


Fig. 5. The Aktivista Dosaafa, named after the promoters of the competition.

edge, and rounded tips. The landing gear consists of a central skid and two wheels mounted at the sides of the fuselage belly. This design is, like most of the others, of simple construction, but the visibility from the rear cockpit is poor. However, this could be remedied by fitting transparent panels in the fuselage.

All the projects submitted were of quite a high standard, and it is interesting to note that of the five mentioned above there are three with tandem seating and two side by side. It remains to be seen which type will prove the best in practice.

LIGHTWEIGHT OXYGEN

by A. J. Deane-Drummond

THE task of providing really lightweight and safe oxygen equipment for gliders is a difficult problem to solve. The few gliders equipped with oxygen in the past have mostly relied on heavy ex-R.A.F. equipment which weighed about 25 lbs. for 750 litres of oxygen. The full bottle weighed nearly 15 lbs., and therefore most pilots preferred to remove it when flying on "normal" days, and as a result were caught out when conditions changed during a flight.

Opinions differ on the ideal requirements for a glider oxygen set, but few will disagree that the following are fundamental:—

1. It must be safe and provide at least an hour's worth of oxygen plus 25% reserve for flying at, say, 25,000 ft. Routine tests before take-off, slight filling errors, or small leaks when the

whole system is under pressure, mean that bottles are frequently only three-quarters of the nominal capacity at take off. Descent at fairly normal airspeed from 25,000 ft. to 10,000 ft. takes about 45 minutes, if the height is not to be thrown away. For cross-country flying it should be possible to make use of three such clouds without having to land for more oxygen.

2. It must be light enough to allow permanent installation with a negligible effect on the glider's performance.
3. It must be simple to operate even when the pilot is flying on instruments.
4. It must be as cheap as possible.

The amount of oxygen necessary to meet the first requirements will depend on the efficiency of the economiser system and

the flow control arrangements. The normal R.A.F. system of a two-flow setting is simple, but grossly wasteful of oxygen except when flying at near the upper limits of each setting. Most pilots have little difficulty in flying up to 15,000 ft. without oxygen, although I find it is highly desirable to start oxygen at a low flow rate at 10,000 ft. in order to avoid the splitting headaches and slight nausea which otherwise result. A two-flow system therefore requires about 600-700 litres of oxygen, but with a four or five-flow system the nominal oxygen capacity can be cut down to 400 litres, with the same safety factors.

The weight requirement is again a matter of opinion, but most pilots are prepared to carry up to 10 lbs. of oxygen equipment permanently installed and not feel compelled to throw it out when high flying is improbable.

For the last two years my immediate superior has happened to be Sir John Hunt, with whom I discussed these problems a year ago. At his suggestion, I approached Normalair Ltd., who had developed and produced the ultra-lightweight oxygen sets for Everest and Kanchenjunga. These were a long way ahead of anything that had been produced in the world up to that time, and were largely instrumental for the teams' successes.

A trial set was produced for me just before the 1955 Championships and almost

exactly filled the bill. For a total weight of about 9 lbs., a 400-litre bottle (at 1,800 lbs./sq. in.), a multi-way flow controller, and a pressure gauge/contents meter, complete with all necessary piping, was installed in the Skylark 3 in a few hours. The heart of the set is in the flow controller, which is a beautifully engineered mechanism in light alloy and only weighs about ½ lb.

The weather during the Championships was unfortunately not suitable for high flying and only once did I climb above 10,000 ft., when no difficulties were experienced.

In conclusion, a word of warning may not be out of place. Flight in gliders in large storm clouds is one of the most exhilarating branches of soaring, and sooner or later most pilots dabble in it. Your oxygen equipment may be just as important to your continued existence as the main pins holding the wings together. Inspect and check both just as carefully before each flight.

Note:

The figures for oxygen requirements quoted in the article are based on the following:—

Height	Additional Oxygen
10-15,000 ft.—	1 litre per minute
15-20,000 ft.—	2 litres,, "
20-25,000 ft.—	3 " " "
25-33,000 ft.—	5 " " "
33-40,000 ft.—	10 " " "

Gliding Certificates

NOVEMBER C CERTIFICATES

Name	Club or School	R. A. M. Stirling-Baker	Army	W. J. Elder	No. 642 G.S.
R. Ashworth	RAF	R. D. Ruffett	London	D. J. Hewings	No. 87 G.S.
J. C. Currie	Derbyshire & Lancs.	J. Skotnicki	Polish Air Force Assn.	J. Eyre	No. 642 G.S.
P. C. H. Berthelsen	Coventry	W. G. Scull	Avro	P. J. A. Parker	No. 87 G.S.
S. A. Fentum	2nd T.A.F.	Ernest M. Woodhams	Coventry	K. D. Harries	No. 84 G.S.
Denise J. D. Brown	Southdown	G. H. Bridger	Southdown	J. A. Smith	No. 26 G.S.
B. K. Sacre	London	A. G. Burne	R. Engineers	D. Welburn	No. 26 G.S.
G. A. A. Houlton	Cambridge	B. F. Barrow	Southdown	Yvonne H.	
				Middleton	Surrey
				J. C. Dee	RAF Brüggem

B CERTIFICATES

Many of these pilots gained A Certificates on the same day; the remaining A Certificates are listed separately and have been held over.

R. Ashworth	RAF	S. A. Fentum	2nd T.A.F.	E. Atkinson	No. 188 G.S.
J. C. Currie	Derbyshire & Lancs.	Lilias I. S. Fraser	Derbyshire & Lancs.	W. Danksin	R.N. Fulmar
P. C. H. Berthelsen	Coventry	E. O. Jones	No. 1 G.S.	S. R. Duncan	R.N. Fulmar
R. G. Bush	No. 22 G.S.	D. J. Pinch	No. 49 G.S.	Marjorie J. Hay	Surrey
A. Chapman	No. 44 G.S.	D. Pullein-		P. H. Ranson	Southdown
D. E. Cole	No. 84 G.S.	Thompson	Bristol	W. G. Walter	Bristol
L. M. Courtenay	No. 123 G.S.	A. T. Rogerson	No. 186 G.S.	W. R. Babb	No. 188 G.S.
J. Cronin	No. 123 G.S.	F. E. Rowley	No. 31 G.S.	M. S. Boatswain	No. 87 G.S.
E. W. Cropper	No. 123 G.S.	T. H. Stubbins	No. 22 G.S.	Denise J. D. Brown	
G. Duthie	No. 22 G.S.	M. B. Turner	No. 22 G.S.	R. F. Burch	Southdown
		R. J. White	No. 611 G.S.	A. Crossley	No. 146 G.S.
					No. 186 G.S.

T. A. Dredge	No. 87 G.S.	F. Richards	Coventry	J. E. H. Bennion	No. 186 G.S.
E. J. Read	Home	R. Blacklaws	No. 84 G.S.	D. A. G. Breton	No. 612 G.S.
	Command	J. Bowyer	No. 143 G.S.	R. J. Brown	No. 89 G.S.
D. L. Parsons	No. 87 G.S.	J. Caughy	No. 1 G.S.	M. D. P. Fasey	Bristol
D. C. Stewart	Lahore F.C.	J. D. Davidson	No. 5 G.S.	T. E. Frost	No. 612 G.S.
R. E. G. Winwood	No. 42 G.S.	E. R. Kirk	No. 615 G.S.	J. H. Gadsby	No. 68 G.S.
B. Cash	R.N.	M. J. Knight	No. 143 G.S.	A. F. Gibbons	No. 5 G.S.
	Portsmouth	R. A. M. Stirling-	Army	D. G. Harris	No. 31 G.S.
G. H. Hartopp	Blackpool & Fylde	Baker	No. 143 G.S.	E. Harrison	No. 31 G.S.
S. R. McCoy	Blackpool & Fylde	J. W. Truelove	Moonrakers	D. M. H. Du	Boulay Surrey
A. J. Stunge	No. 613 G.S.	W. S. L. Thompson	No. 5 G.S.	C. J. R. Hunt	Woodbridge
H. Talbot	No. 613 G.S.	A. D. Buchan	No. 31 G.S.	B. R. Hyland	Home
A. P. Witherup	Blackpool & Fylde	M. J. W. Dickinson	No. 143 G.S.		Command
J. P. Walsh	No. 68 G.S.	G. Kirk	No. 42 G.S.	M. J. Kelly	No. 68 G.S.
R. Broughton	No. 24 G.S.	P. S. Newth	Oxford	A. L. Lake	No. 130 G.S.
W. G. Chambers	Winchester	D. H. Rowe	No. 68 G.S.	L. T. Lawrence	No. 89 G.S.
	C.C.F.	J. W. D. Stubbs	No. 188 G.S.	K. R. Milner	No. 43 G.S.
T. J. F. Gregory	No. 130 G.S.	R. H. Christian	Derbyshire & Lancs.	M. S. Parker	No. 89 G.S.
T. F. Jones	No. 68 G.S.	A. O. Ellefsen	No. 42 G.S.	H. A. Pitt-Roche	Surrey
T. G. Parker	No. 126 G.S.	P. Harris	No. 188 G.S.	Daphne A. Poynter	Surrey
L. A. Locke	No. 84 G.S.	R. W. Lynch	Oxford	R. J. Ridgway	No. 45 G.S.
C. Taylor	No. 188 G.S.	I. W. Scroggs	No. 614 G.S.	R. D. Ruffett	London
A. W. P. Bateman	No. 23 G.S.	P. G. Codd	No. 2 G.S.	D. A. Sanger	No. 89 G.S.
L. J. C. Eva	No. 84 G.S.	J. W. Mabon	Surrey	J. Simon	Bristol
D. Evans	No. 45 G.S.	M. H. R. Pertwee	No. 631 G.S.	J. Skotnicki	Polish Air Force Assn.
C. B. B. Hunt	Bristol	R. Ryle	No. 130 G.S.	W. E. Swift	No. 631 G.S.
B. P. Noble	Exeter G.S.	A. A. F. Watkins	No. 89 G.S.	W. G. Scull	Avro
A. E. Read	No. 89 G.S.	R. M. Wiltshire	Surrey	D. E. J. Welch	H.C.G.I.S.
B. K. Saere	London	K. G. Kling	No. 44 G.S.	Gabrielle M.	Seth-Smith Army
A. J. Sheppard	No. 614 G.S.	R. A. Sear	No. 89 G.S.	G. W. Childs	No. 89 G.S.
J. P. Tubbs	No. 22 G.S.	J. A. Whelan	No. 611 G.S.	S. H. Ashurst	No. 31 G.S.
F. J. Wheeler	No. 49 G.S.	J. M. R. White	Southdown	J. C. Gibson	Blackpool & Fylde
M. J. Bray	No. 22 G.S.	L. A. Wren	No. 89 G.S.		
G. A. A. Houlton	Cambridge	J. V. Williams			

DECEMBER C CERTIFICATES

Name	Gliding Club or A.T.C. School	Name	Gliding Club or A.T.C. School	Name	Gliding Club or A.T.C. School
D. S. Hill	London	A. Byrne	No. 644 G.S.	R. Hutton	RAF Brüggen
T. Whitebread	RAF	G. B. Browne	RAF Fenland	G. Sewell	No. 31 G.S.
	Geilenkirchen	D. C. Stringer	No. 24 G.S.	R. Gater	No. 632 G.S.
D. C. Stringer	No. 24 G.S.	A. Burnett	No. 5 G.S.	B. E. Grafton	RAF
H. M. Glassborow	Southdown	K. Fuller	Southdown		Hawkinge
R. Hutton	RAF Brüggen	P. F. Harper	No. 611 G.S.	G. A. Kidd	No. 632 G.S.
R. B. Warburton	Avro	D. Hughes	No. 631 G.S.	R. C. Forrow	R.N.
J. J. Reeve	No. 48 G.S.	R. B. Preston	No. 84 G.S.		Portsmouth
E. F. Topsfield	No. 122 G.S.	Vivian J. Walter	Bristol	W. C. V. Phillips	No. 68 G.S.
J. E. Elliott	London	Joan M. Day	Bristol	C. W. Piper	No. 621 G.S.
A. C. Hall	No. 642 G.S.	M. F. Davidson	No. 31 G.S.	D. E. Lennard	Army
N. S. M. Cox	Newcastle	D. R. Gilmour	No. 89 G.S.	C. J. Williams	No. 623 G.S.
A. B. Lawrence	Surrey	P. E. Le Marchant	Oxford	A. J. Turley	No. 633 G.S.
M. J. Pearce	Bristol	R. A. David	No. 5 G.S.	R. Turgoose	No. 642 G.S.
G. A. Pilkington	No. 642 G.S.	M. R. Martin	No. 89 G.S.	A. M. Moran	RAF Fenland
A. J. F. Whitby	Derbyshire & Lancs.	C. W. R. Catt	No. 89 G.S.	R. A. Perkins	No. 22 G.S.
		C. C. Hearson	No. 45 G.S.	J. F. Wilson	No. 84 G.S.
		T. C. Hickey	RAF	R. A. Parrett	London
			Gütersloh	P. Hay	No. 5 G.S.
			No. 31 G.S.	A. C. Smith	No. 106 G.S.
			No. 634 G.S.	P. M. Gardiner	No. 642 G.S.
			No. 89 G.S.	R. J. Powell	No. 89 G.S.
			RAF Fenland	G. Bruce	Aberdeen
			No. 642 G.S.	R. Burns	Southdown
			No. 44 G.S.	N. Palmer	No. 615 G.S.
			No. 49 G.S.	D. A. P. Hughes	Derbyshire & Lancs.
			No. 644 G.S.		
			Derbyshire & Lancs.	J. A. Robinson	No. 632 G.S.
			Lancs.	G. H. W. Slaymaker	RAF Brüggen
			Cambridge	Gaynor M. Rees	Derbyshire & Lancs.
			Southdown	M. R. Taylor	Perak F.C.
			No. 614 G.S.	R. B. Warburton	Avro

B CERTIFICATES

P. C. Crech	London
D. S. Hill	London
Anne Ince	Surrey
T. Whitebread	RAF
	Geilenkirchen
D. M. Alsop	Surrey
W. Southcombe	No. 68 G.S.
B. J. Harrison	No. 612 G.S.
C. Hurst	No. 68 G.S.
T. A. Taberham	No. 611 G.S.
B. Cadman	No. 45 G.S.
A. W. Bright	Imperial Coll.

SILVER C CERTIFICATES

No.	Name	Club	Date of completion
545	R. L. Maltby	College of Aeronautics	26. 9.55
546	Anne Burns	Surrey Gliding Club	8.10.55
547	A. Aldott	London Gliding Club	27. 6.55

318 Miles—and all in Texas!

by Commander Nicholas Goodhart

THE thermals in Texas are much touted by Texans and the imminence of my departure from the United States made me determined to find out for myself whether these Texans just talk "big" or whether the thermals really are as good as they are cracked up to be.

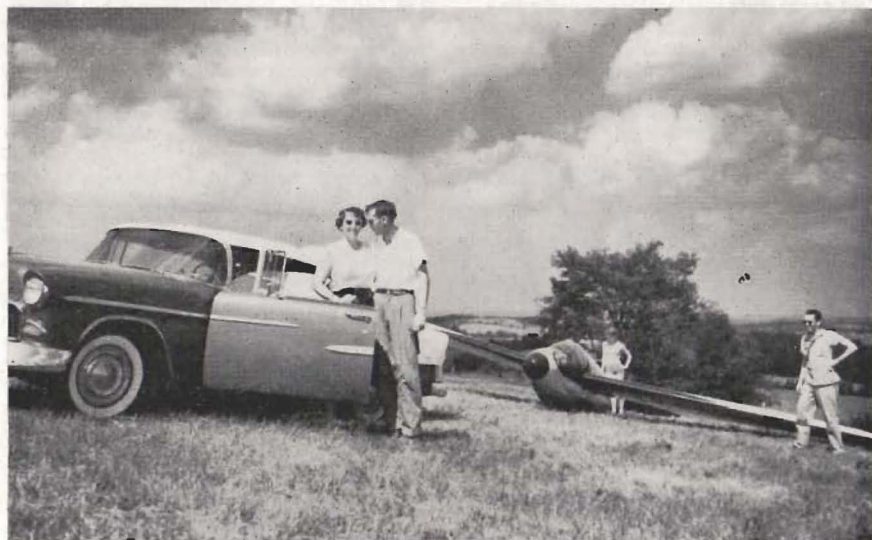
By a fortunate coincidence it was necessary for me to make a duty visit to Dallas, which is the headquarters of the Texas Soaring Association, so I planned to complete the visit on a Wednesday evening and then take two days' leave, giving me a maximum of three days in the area. Despite August being reputedly the best month for thermals in Texas, I was not very optimistic that in so short a time I would meet up with adequate conditions to try for Diamond C distance. It therefore came as no surprise when Thursday dawned with unsuitable conditions.

June and Wally Wiberg, with whom I was staying, had arranged for me to fly the Texas Soaring Association's Weihe, and Wally had available maps, barograph and parachute while June provided cookies and a water

bottle and, most important of all, volunteered to crew. So all I had to provide was myself. Even the towplane was organized, since Wally worked adjacent to the airfield and could get off at any time I wanted to go.

Friday morning was clear with a little wind from the south-east. This was a good omen, so we began to get ready to go. By 9.30 the sky was covered in cumulus at about 2,500 feet, but the general impression seemed to be that the lift would not yet be adequate. However, we continued getting the ship ready and an hour later all was prepared, except that I had underrated the power of the Texas sun and was badly in need of a hat. Fortunately, Dick Johnson (of world distance record fame) happened by at this moment and offered to lend me his gliding hat. What better portent of success could one have than this! Finally all was ready and take-off was at 10.45. I took great care to drop the wheels from a reasonable altitude, never having flown with droppable wheels before, and I am glad to say they came off all right.

The next five minutes I occupied myself



June and Wally Wiberg together with their air-conditioned Chevrolet. Leaning against the 1-23 is Betty Jeanne Reynolds who helped June crew for me.

in assessing my chances. Forecast wind direction was good, being nearly dead on track and of the order of 15 to 20 knots. On the other hand, the early development of cumulus had already reached excessive proportions and large areas of the sky were blanked off completely. The barograph was ticking comfortably behind my head so I knew that was all right. I checked the turn-and-bank and that was okay, though I had no idea of the state of the battery. Variometers were working satisfactorily: one was a standard Cosim and the other a "Memphis", this latter being a standard 2,000-feet a minute rate-of-climb modified to give far greater sensitivity. In fact, it appeared to be more sensitive than the Cosim.

I had declared Amarillo Air Terminal as my goal, which is 3,604 feet above sea level, and since Grand Prairie Airfield, from which I had started, is only 529 feet above sea level, I had no problems whatever from the 1% rule and I was, therefore, in no hurry to release. However, at 2,700 feet a.s.l. we hit a reasonable thermal and I released, making sure that I was on the opposite side of the airfield to my goal. The time was 10.50. Thermal strength at 200 feet per minute was nothing outstanding.

The sky was already getting over-stuffed with tired-looking cumulus, and as I slowly circled up to cloud base at 3,500 feet, I wouldn't have bet a nickel on my chances of making 100 miles, let alone 300. During the next hour or so it became apparent that there was little difficulty in staying up, though rates of climb in excess of 300 to 400 feet per minute were very rare indeed. Through the relatively few gaps in the general cumulus cover, I could see big build-ups towards the north-west where I was headed, and soon found myself up against a band of overcast somewhat in the nature of a small front lying athwart my track. Looking at the ground, a small patch of sunlight was visible about seven miles to the left, and as I had just come out near the top of a cumulus at 10,000 feet I decided to try and penetrate the overcast area by the sunny patch. This turned out to be successful, but about 15 miles on the other side I came upon a large area of clear blue sky which firmly blocked my progress. Having already deviated to the south-west, I went north around the hole and found adequate lift all around it.

By now I was two hours out and averag-

ing only about 35 miles an hour. An elementary calculation showed that I would never make it. My cruising speed must increase. I did not have a table of best speeds to fly between thermals, but had been using 55 to 60 m.p.h., so I decided that this must go up a bit and I must really concentrate on the thermals and extract the better rates of climb. Fortunately, for the next couple of hours good conditions existed with thermals averaging as much as 400 feet per minute and no difficulty whatever in finding lift when required.

By four hours out, things were beginning to look definitely hopeful. My cruising speed had increased. Conditions were quite good, and provided I could keep flying until after 6.00, there was definitely a hope of making it. As time passed, there was one other item which was beginning to impress me more than somewhat. The particular item in question was the "back of my lap", which was making it painfully clear that I should have paid more attention to adequate cushions before setting off.

About this time my hopes were somewhat dashed by the appearance of another minor front. If it took me as long getting past this one as the previous one, all would be lost, but fortunately a good thermal got me up to 12,000 feet odd just near to it, and without much deviation of track I pushed through towards a similar sunny patch that had saved me before. Sure enough, the expected thermal was there and I climbed back to 8,000 feet. There was still a big dead area in front of me, but I reckoned I had enough height to get through to the next sunny patch. With a light heart I set off gliding towards it. I reached it at 4,500 feet a.s.l., but by this time the ground had risen to over 2,000 feet. With perhaps 2,500 feet in hand, I began to look for the expected thermal, but there wasn't even a ripple and inevitably I continued towards the ground, which was fortunately a well cultivated region with unlimited landing places.

I had reached the stage of picking fields when I saw what appeared to be a farmer carrying out some fantastic operation with a monster implement in a ploughed field. The dust was whirling madly to such an extent that I could not actually see the farmer or determine what gargantuan tool he was using. But *faute de mieux*, and because the dust appeared to be rising in a column from the whirl, I headed towards it.

As I approached, turbulence increased rapidly and it suddenly dawned on me that there was in fact no farmer and that this was a heaven-sent dust-devil. On entering the dust there was a terrific heave and in no time at all I was spiralling upwards under extremely rough conditions at 1,200 feet per minute. This was the only dust-devil I saw and it could not have come at a more opportune place and time. It took me up to about 10,000 feet and again I was away with good thermals under scattered cumulus, and shortly afterwards I was happy to see the British distance record mark, which I had made on my map, pass underneath. By 5.00 the thermals began to get very weak.

I had not marked a distance scale back from Amarillo on my map, so I did not know exactly how far I had to go, but I could see that it was going to be tough and go. Of clouds ahead there were none, but there were still large areas of very weak lift about and the wind must have been blowing all of 20 knots, making it well worth while to circle even in zero sink. And so I drifted on from 5.00 until 6.00 o'clock, making eternal circles without appreciable gain of height but always drifting towards my goal. By 6.00 o'clock the goal was in sight but the lift was finally petering out, so with the speed back to 42 miles an hour I sank slowly downwards with the lovely wind carrying me rapidly onwards. Five miles short I had perhaps 600 or 700 feet. Was I to be robbed at the last minute for want of a miserable 100 to 200 feet of altitude? But once again the Fates were kind to me and quite suddenly I ran into a little thermal which gave me a good 100 feet per minute climb. In no time at all I was over the field and wagging my wings for permission to land. An immediate green from the tower, and I dropped in to the happiest landing of my life alongside the air terminal building. The time was 6.30 and I had been 7 hours and 40 minutes in the air.

It was with the greatest of pleasure that I unfolded myself from the cockpit and eased the agonizing pain in my seat which had been nagging me steadily for the previous three or four hours. I made a mental note to be *much* more careful about cushions in the future.

My first steps were to find a telephone and check with my crew, who to my surprise I found were only some 70 miles away and therefore should be expected in an hour and a half. And sure enough, at 8.00 o'clock

they drove in, apologizing for having taken so long, i.e. having only averaged a little over 40 m.p.h. including telephoning, eating and a 20-minute delay in one city for a parade!

None of us was familiar with the Weihe trailer, so it took us some two hours to get the ship satisfactorily stowed and we were back on the road again at 11.00 p.m., fed and with landing certificate duly signed. By 6.30 the next morning we were back at the Wiberg's house and the whole thing was over.

Looking back on the flight, there are one or two points of outstanding difference a compared with British soaring. On this particular day the thermals were not of outstanding strength. However, the high cloud



This map gives a general idea of the scope for cross country soaring in the U.S.A. The British Isles are inset to the same scale for comparison.

base rising from 3,000 feet a.s.l. to 8,000 feet a.s.l. during the latter half of the flight made finding the next thermal a comparatively easy matter. On several occasions climbs to over 10,000 feet a.s.l. were easily made and no doubt greater heights could have been reached. The character of the country was virtually constant throughout the flight, consisting as it did of dryish-looking flat farm land interspersed with occasional areas of "bad lands", i.e. heavily eroded and unused desert-like areas. The latter half of the flight was near to two large, almost-dry river beds, which were the only outstanding landmarks throughout the trip other than occasional lakes and reservoirs.

Conclusion

The Texas thermals that I met certainly didn't live up to what I had been led to expect. What they should brag about is their hospitality—it's superlative!

CORRESPONDENCE

TRAINING OF LEFT-HANDED PUPILS

Dear Sir,

We have been interested in the recent correspondence on the training of left-handed pupils in the T-21 and we would suggest that the obvious solution to some of the difficulties mentioned is to fit a second spoiler control for the left-hand seat.

This second spoiler control has been supplied as an extra from the earliest days of the T-21 and has been fitted to many of our export machines. A modification kit is available at a low price which will allow the second control to be fitted to any existing machine. The modification is simple to install and should not present any difficulty to the average ground engineer.

J. C. REUSSNER,
FOR SLINGSBY SAILPLANES LTD.

Dear Sir,

THE FIRST BRITISH PRIMARY

I was very interested to read in the December issue of *SAILPLANE AND GLIDING* Mrs. Haddock's article about the Kent Gliding Club's "Columbus". It so happens that, in April, 1953, I was on an A.T.C. gliding course at No. 162 Gliding School, Hamsey Green, Warmingham, Surrey, and there I saw this venerable machine, which had been resurrected for training duties. My memory is a little dim, but I think "Columbus" was, at that time, painted blue and silver. It was used for ground slides, and was, I believe, restricted to such "flights" on grounds of age and runcibility compared with the Daglings we also had there. I have a feeling that "Columbus" did not last long after April, 1953, but whether his passing was from natural causes or otherwise I can not recall.

BILL TONKYN.

Imperial College Gliding Club.

SAILPLANE INSTRUMENTS

Sir, We have read with interest the article entitled "Instrumentation in Club Sailplanes" by Mr. O. W. Neumark in your December issue.

All Turn and Slip Indicators supplied by us for sailplane use are specially calibrated to give the following indications at an air speed of 50 m.p.h.:—

Rate				Degrees per min.
1.	..	..	..	450.
2.	..	..	..	900.
3.	..	..	..	1,350.
4.	..	..	..	1,800.

Whether such an instrument is for a 12 or 24 volt D.C. supply is at the choice of the purchaser, who need not thereafter attempt to calibrate the instrument by the somewhat precarious trial-and-error method of playing with rate spring tension.

Since identically the same parts are used in the powered aircraft instrument as in the 12-volt type, it is incorrect to state that, with the former, cost was no object, whilst with the latter the aim was to keep cost down. The instruments are identical except for the armature winding of the gyroscope and difference in rate springs. It was therefore possible, by large-scale manufacture for the R.A.F., to produce extra parts to make instruments for sailplanes, thus giving the latter the benefit in price of large scale production.

It is unfortunately true that, because the R.A.F. is now using our latest Mark Indicator, substantial quantities of the obsolete type are available at ex M.O.S. Stores at scrap prices. However, these are neither unused nor in perfect condition and are not up to the latest modification standard. They are not suitable for flying unless overhauled, modified and released to A.R.B. requirements.

H. M. WHITCOMBE
p.p. R. B. PULLIN AND CO., LTD.

Phoenix Works, Great West Road, Brentford, Middlesex.

Sir,

THE FAUVEL TAILLESS SAILPLANE

The information I gave came from a well-known French pilot and not from a Swiss one. M. Fauvel is as fully entitled to quote favourable reports of the flying qualities of his sailplane as others are to criticise. It was certainly unfortunate that the pilot who spun it on releasing from the launch, did so because he had an artificial leg.

A. H. YATES.

SCHARFOLDENDORF 1955

by J. S. R. Salmond

ONCE again for an all too short period "der romantischer Ith" regained something of its former glory when the Association of 2 T.A.F. Gliding Clubs recently held their annual competitions at the magnificent ridge site of Scharfoldendorf,

Clubs assembled on Monday, May 23rd. The following morning the site, 1,140 ft. a.m.s.l., was in cloud. Wednesday was devoted to two-seat Kranich checks for the many who had never flown at Scharfoldendorf before. The next two days were set aside for club practice flying.

As in previous years aircraft were entered in three classes: A, for any type; B, for any three Weihe and Rhönsperbers; and C, Grunaus only. Class C pilots had to have less than fifty hours' flying and gliding and were not to be qualified Service power pilots. Clubs could enter up to six aircraft, of any class, but a full team comprised one aircraft from each class. For team points the best-scoring aircraft from a particular class counted. Most aircraft had two pilots flying on alternate days. Where there was only one pilot, he could fly for his team each day, but had to declare in advance whether his odd or even flying days would count for the individual prizes.

Eight clubs entered, but for various reasons several combined to field complete teams, which they had not previously been able to do. Thus Gütersloh and Hameln became "Hamersloh", and Wahn, Sylt and the new H.Q. Club at Wildenrath became "Wasywild". We were sorry that other commitments prevented the Royal Netherlands and Belgian Air Forces from sending teams. Entries were therefore:—

Brüggen: Meise, Minimoa, Grunau.
Geilenkirchen: Weihe, Meise, Grunau.
Hamersloh: Minimoa, Grünau, Grunau.
Oldenburg: Weihe, Meise & Rhönbussard (B), Grunau (C).
Wasywild: Meise, Grunau (B), 2 Grunau (C).

The competitions actually began on Whit Sunday, May 29th, in anticyclonic conditions which persisted for the next two days also, with a moderate lapse rate. This year we operated only from the old Long Launch, and no more perfect setting for gliding can be imagined. A huge meadow thickly carpeted with cowslips and purple

Ladysmock, it is set on top of the twelve-mile limestone ridge clothed in beech forest, with similar foothills of the Harz mountains rolling away on all sides.

The task for all classes was an out and return race to the Army Club's site just north of Hameln, 30 km. away.

In class B, Fg. Off. Dave Brett in Brüggen's Minimoa just failed by half a kilometre to qualify, and Fg. Off. John Boyle (Geilenkirchen Meise) fell a little



further short. All the Grunaus in classes B and C were scattered within five or six kilometres. In class A four aircraft got away, almost together. After a bitter struggle against a 90-degree cross-wind which very soon became an almost direct headwind of 10-15 kt., all reached the goal, Capt. Whittington-Jones in Hamersloh's Minimoa landing there just after 5 p.m. Fg. Off. Salmond in Brüggen's Meise was the first back, scraping in only because for the last two miles the ridge crest sloped gradually down at roughly the same angle as his minimum-sink glide-path. Sgt. Rip Kirby (who was to fly every day) arrived nine minutes later in Geilenkirchen's Weihe. Fg. Off. Derek Ellis was not far behind but unfortunately just couldn't make it, so had to land Oldenburg's Weihe opposite the site in the valley, and so lost his bonus and speed points. All had done the second lap

at an average speed of 60 km/hr., but over the whole flight Sgt. Kirby (2 hrs. 14 mins.) won with an average speed of 27 km/hr. Salmond (3 hrs. 30 mins., 17 km/hr.) had struggled for over an hour after the launch before being able to get away.

Observers were stationed at turning points. They changed sheet signals every half hour and kept a look-out for aircraft. Pilots had to orbit the point three times and report the exact time and signal. There was no ground acknowledgement of recognition, and on the whole this system worked very well.

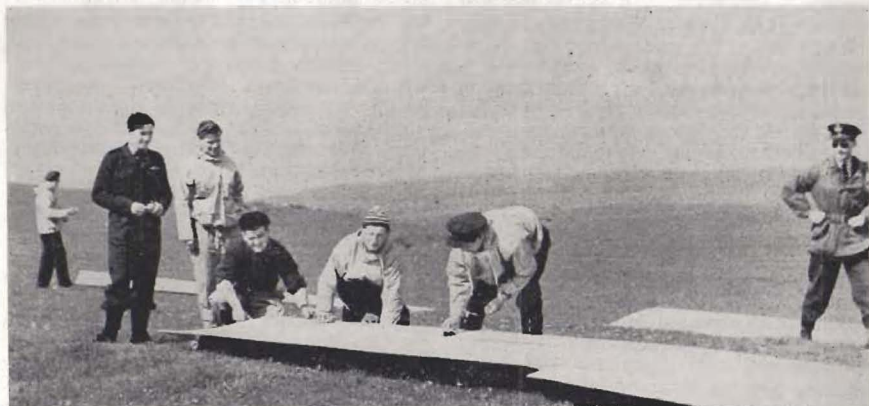
The next day, Whit Monday, there were again great crowds of German enthusiasts taking a very lively interest in the proceedings. They included members from two of the four local German clubs who now control the site and with their two Grunau Babies, pod-and-boom Cumulus and two-seat Rhönlerche—all brand-new and largely built by themselves—they shared launches with us. The surface wind was light and variable but generally easterly. Lenticular above the cumulus indicated a wave, but no one contacted it.

The Class A task was to fly as many circuits as possible of a Silver C 57½-km. triangle, with legs roughly N.N.W., E. and S.S.W. Flt. Lt. John Brownlow in Gütersloh's Minimoa and Sgt. Bill Cumpston in Oldenburg's Weihe had to land on reaching the second turning point after three hours. Sgt. Kirby in Geilenkirchen's Weihe landed back at the site with cramp, having flown two circuits in just under four hours, so when Flt. Lt. Phil

Fabesch arrived overhead in Brüggens Meise with plenty of height in hand after three circuits in just under six hours, he was called in by radio to save a pointless retrieve.

The Class B task was a free goal flight, gain of height also to count. Everyone went downwind, more or less S.W. Cpl. Woodman in Oldenburg's Meise won, overflying his goal, 65 km. away near Kassel, by 3 km. Everyone else had been too greedy, and no others landed near their goals. Sgt. Rex Minter in Geilenkirchen's Meise went 62 km., halfway to his goal at the Mohne Dam. Three other aircraft—Brüggens Minimoa with Sgt. Jim Blundell, Oldenburg's Rhönbussard with Lt. Pete Williams and Wildenrath's Grunau with F. S. Petter—went 26 km. Capt Simon King (Hamersloh Grunau) thought conditions so bad that he didn't bother to declare, and then had to descend from 4,000 ft. to do so! He eventually went 27 km.

Class C. Grunau had an endurance task, landing back on the site, with one point per minute after half an hour. S.A.C. Merrall (Geilenkirchen) did a most creditable 5 hrs. 19 mins., having been on the approach at 4½ hrs.! Flt. Lt. Abbott (Brüggens) was next with 3 hrs. 50 mins. L.A.C. Magee (Oldenburg) unwisely landed after 3 hrs. 6 mins., and then landed in the valley after a further hour. L.A.C. Anderson (Sylt) did 2 hrs. 43 mins. It was on this day that Major "Ticker" Workman (Hamersloh), orbiting under a Minimoa, suddenly realised that he was gaining height in spite



The Meise of the winning Brüggens team has its wings "simonized".

Photographed by K. M. CROWSON.



Bruggen's Minimoa at Rhein-Main airbase, Frankfurt, after Fg. Off. D. E. Brett's 227 km. flight, with its crew who arrived ten minutes after it. Photograph by D. E. BRETT.

of the 3 m./sec. down on his vario, and began to wonder about those countless quick circuits at 5 down he had been worrying about over the previous four days!

The next day, the 31st, the second Class A pilots had a go at the triangle. Fg. Off. Salmond (Brüggen Meise) got a strong thermal off the first launch of the day. He arrived at the first two turning points before the observers but managed to establish his claim by radioing back the numbers of Friesian cows, and trees in an orchard, respectively. After being saved on the third leg at nought feet by a sniff from a quarry, he went on to complete two circuits and two legs in 5 hrs. 24 mins. Sgt. Kirby landed Geilenkirchen's Weihe at base after one circuit, but then went on to do another round and two legs, so tied for first place. Fg. Off. Derek Ellis (Oldenburg Weihe) completed two circuits and one leg, missing his Silver C five hours duration by one minute. These three were all forced down within ten minutes and two miles by the down-draught from a passing cumulonimbus. Cpl. Williams (Wahn Meise) completed one leg.

Endurance and height was the order of the day for B Class. Fg. Off. Brett (Brüggen Minimoa) with the second launch of the day also contacted that first thermal and won with 5 hrs. 51 mins. and a gain of

2,850 m., just missing his Gold C height. Cpl. Balchin (Oldenburg Rhönbussard) was next with 5 hrs. 22 mins.; then Fg. Off. Boyle (Geilenkirchen Meise) 3 hrs. 50 mins., Cpl. Greenall (Wahn Grunau) 4 hrs. 1 min. and Fg. Off. O'Hare (Hamersloh Grunau) 1 hr. 29 mins.

Only two Grunaus qualified for the free distance flight in class C. Cpl. Howarth (Wahn) went well away 134 km. to Lingelbach in 3 hrs. 5 mins., and Cpl. Dave Clewer (Brüggen) just missed his Silver distance with 46 km.

June 1st dawned rather bleak and unpromising, with the anticyclone slowly weakening, so it was decided to have a make-and-mend day. The decision was regretted later on when for a while an active wave system was observed in the stratus layer overhead, with at least five separate waves.

Thursday, June 2nd., brought back the anticyclonic conditions for another three days. Hamersloh decided to replace their Minimoa, temporarily out of action, by their Weihe.

There were some very free distances in class A. The 10-15 kt. N.E. wind took Sgt. Kirby (Geilenkirchen Weihe) 137 km. in 2 hrs. 41 mins. to Nieder Klein near Marburg; Sgt. Bill Cumpston (Oldenburg Weihe) 148 km. in 4 hrs. 15 mins. to Ebsdorf; F. S.

Walker (Wahn Meise) 217 km. to just west of Frankfurt in 5 hrs. 39 mins.—a flight notable for its late take-off (1.46 p.m.) and landing (7.25 p.m.); and Flt. Lt. Fabesch (Brüggen Meise) 227 km. in 6 hrs. 25 mins. to Rhein-Main Airport south of Frankfurt, where he was "batted-in" by a little yellow truck. He had travelled part of the way in company with a German Meise.

The second shift in class B tried endurance and height. Cpl. Woodman (Oldenburg Meise) won with 5 hrs. 25 mins. Then came Lt. Williams (Oldenburg) and Capt. King (Hammersloh).

In class C only one Grunau went further than 20 km. This was Flt. Lt. Archie Abbott, Brüggen's Accountant Officer, who with a total of 17 hours' gliding to his credit literally sweated out 167 km. and 5 hrs. 3 mins. to Herbornseelbach, a small village near Giessen. He only landed then because he was uncomfortable and mistakenly believed he was well over his five hours. It was a struggle nearly all the way; until radio contact was lost he had at least three times described where he was going to land! This flight is believed to be a 2 T.A.F. record for Grunau.

Next day, Friday, June 3rd, there was a free goal task, with similar weather conditions. Sgt. Kirby (Geilenkirchen Weihe) again won with a 213-km. flight to his goal at Wahn airfield just south of Cologne. He wasn't under arrest very long, once it was realised that a glider couldn't very well give way to a formation fly-past, even though it was for the A.O.C.'s annual inspection. Brüggen's Meise was the only other A class machine to get away, though Fg. Off. Salmond was forced down after doing only 87 km. to just south of Kassel.

Fg. Off. Brett (Brüggen Minimoo) avoided the dead ground in the Kassel area by going round further to the east, and survived a dampening alto-stratus patch to reach Rhein-Main where he too was "batted-in". Air Traffic asked that any other Brüggen aircraft should file a flight plan first, and promised to listen out for them on the R/T. Cpl. Bill Greenell (Wildenrath) and Fg. Off. O'Hare (Hammersloh) also did very well by going 145 km. to Werne and 103 km. to near Medebach respectively in Grunau. Fg. Off. Boyle (Geilenkirchen Meise) flew 57 km. to near Bad Lippspringe and Cpl. Balchin (Oldenburg Rhönbussard) 38 km. to near Brakel.

The second C class shift flew an

endurance task. By landing in the valley after 2 hrs. 18 mins. Cpl. Howarth sacrificed a commanding lead to Sgt. Hensby (Geilenkirchen) 1 hr. 21 mins., and Cpl. Clewer (Brüggen), 1 hr. 19 mins.

On Saturday, June 4th, there was a race N.W. to Bückeburg Airfield, a distance of 54 km. Surface wind was N.N.E., 5-10 knots. In class A, Flt. Lt. Fabesch shot in first at 135 m.p.h., Brüggen Meise's limiting speed, after 1 hr. 9 mins.—an average speed of 46 km./hr. F. S. Walker (Wahn Meise) arrived after 1 hr. 37 mins. (32 km./hr.), and Sgt. Bill Cumpston (Oldenburg Weihe) landed just 100 yards short of the airfield.

Sgt. Jim Blundell (Brüggen Minimoo) had not quite enough height to scrape over the final ridge, but got his 1,000 points with 44 km. to Westerdorf. Capt. Simon King (Hammersloh Grunau) achieved 23 km. In class C, S.A.C. Merrall (Geilenkirchen) won with just over 20 km.

Sunday was devoted to further essential instructor-training in the Kranichs. The competition picture was by then quite clear with Brüggen well in the lead, and winning for the second year in succession. However, there were ties for first places in both A and B classes, and so on Monday a fly-off was held to decide these, points not counting towards team totals. A goal flight to Kassel airfield (74 km.) was eventually chosen, with points for height to count if both contestants arrived. Forgetting to switch on their barographs, Flt. Lt. Fabesch and Sgt. Kirby both had to land, the latter leaving lift of 4 m./sec. Brett waited for Fabesch to climb up again and then Minimoo and Meise set off together, about a mile apart, each desperately sniffing for the all-too-sparse lift in the rapidly overclouding sky, and calling the other over by radio when some was found. In this manner Fabesch just scraped into the airfield, whilst Brett

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fell short by only 7 km. Sgt. Kirby and Cpl. Woodman (Oldenburg Meise) both got away later, but conditions had deteriorated. Sgt. Kirby did well to get within 19 km. of the goal, landing near Hann Munden. Cpl. Woodman flew nearly half way, to within 40 km. at Northeim. Kranich flying continued.

Tuesday's wind direction (south) made flying impossible. On Wednesday, June 8th, Mrs. Pretty, wife of A.V.M. W. P. G. Pretty, C.B.E., Air Officer Administration at Headquarters, 2nd T.A.F., very kindly presented the prizes. The retiring Chairman, Air Cdre. G. B. M. Rhind, spoke of the serious financial and equipment problems still facing the Association. Incidentally, the reason 2nd T.A.F. did not enter a team in the U.K. Nationals was that of cost. The money is quite rightly considered to be better spent keeping the sport alive in 2nd T.A.F. for the airmen for whom it is chiefly intended, especially when finances are so precarious. Herr Fricker, president of the local German club, looked forward to continued and even closer co-operation.

Operational Notes.

Oldenburg's Weihe was fitted with an Irving total-energy venturi, and all Brüggén's aircraft with Temple-type ones. The latter's Meise and Minimoa also had flush nose-pitots.

The most interesting aspect of the competitions was Brüggén's pioneering use of radio. After experiments over the previous two months the best position for the calculated eight-foot wire aerial was found to be under the keel, stretched between the main and tail skids. No damage was ever caused to it by landings on grass or plough. Similar aeriels were mounted horizontally on the roof of each retrieving vehicle, which also carried ten-foot vertical folding aeriels for extreme-range work. Each aircraft set was installed immediately behind the seat and together with battery (changed daily after a long flight) weighed 30 lbs.

The extra weight was well worth while, quite apart from the improved penetration it gave. Each aircraft with its vehicle operated on a different frequency. Pilots often sent waggons on their way before they themselves left, to give them a chance to negotiate the very bad roads in the vicinity. If contact was temporarily lost, touch could often be maintained via Base Ops. who, with an identical set, monitored all channels,

receiving progress reports and passing them on if necessary. (On one occasion they had an air-to-ground range of 55 miles!) Each crew-chief kept a log, noting time and height when his pilot called on entering or leaving each thermal and passing back the average rate of climb. With this information the pilot then entered his optimum cross-country speed chart. This method left the pilot that much freer to concentrate on really accurate flying. Retrieving time, of course, was cut to a minimum. Oldenburg used radio in their Weihe once, too.

Another Brüggén innovation was the use of rubber hot-water bottles for relief on long flights. These proved more satisfactory than anything yet tried.



Prizewinners in the 2nd T.A.F. contests:
(back L-R) Sgt. G. Kirby (Geilenkirchen), Sgt. W. Cumpston (Oldenburg), Cpl. W. Greenall (Wildenwrath).
(front L-R) SAC K. Merrall (Geilenkirchen), Fg. Off. D. E. Brett (Bruggen), Flt. Lt. J. P. Fabesch (Bruggen), Flt. Lt. J. A. Abbott (Bruggen).
Photograph by K. M. CROWSON.

Conclusion.

The 1955 Competitions were undoubtedly the most successful of recent years, due mainly to the interest and variety of tasks and ideal weather. Some idea of the conditions can be gained from the fact that 53 Silver heights, 26 distances, and 11 durations were flown. Five Silver C's were completed. There were 393 competition launches, giving 238 hrs. 2 mins., and over the whole period 667 launches giving 289 hrs. 59 mins.

We were very grateful to Warrant Officer Crowson and his staff for suffering us so gladly and making it possible to revisit the old haunt, and to the German clubs for their co-operation. Special mention must also be made of the tireless, uncomplaining

efforts of those unsung heroes—the competition staff and team crews.

Results and Trophies

Team	Points
R.A.F. Brüggén (Challenge Shield)	11382
R.A.F. Geilenkirchen	8857
R.A.F. Oldenburg	5425
"Wasyld" (R.A.F. Wahn, Sylt and Wildenwrath)	4451
"Hammersloh" (R.A.F. Gütersloh and R.E. Hameln)	1853

Class A Trophy: Flt. Lt. J. P. Fabesch (Brüggén), average 1,000 points. Runner-up: Sgt. G. Kirby (Geilenkirchen), av. 1,000 pts. (decided by special contest).

Class B Trophy: Fg. Off. D. E. Brett (Brüggén), av. 667 pts. Runner-up: Cpl. B. J. Woodman (Oldenburg), av. 667 pts. (decided by special contest).

Class C Trophy: SAC K. Merrall (Geilenkirchen), av. 667 pts. Runner-up: Flt. Lt. J. A. Abbott (Brüggén), av. 564 points.

Prize for the most outstanding performance:

Flt. Lt. J. A. Abbott (Brüggén): 176 km. in Grunau on June 2nd.

Prizes for most outstanding performance in each Class:

A.—Sgt. G. Kirby (Geilenkirchen), 213 km., June 3rd.

B.—Col. W. Greenall (Wildenwrath) consistently good performance with inferior type sailplane.

C.—SAC K. Merrall (Geilenkirchen), consistently good performance.

Gliding Efficiency Trophy: R.A.F. Oldenburg. Awarded annually to the club which has made the best efforts to promote and popularise the sport of gliding and soaring, particularly amongst non-flying personnel. During the past year the Oldenburg Club has had a most successful year's flying, and although no officer of R.A.F. Oldenburg takes and active interest in gliding, the airmen members of the Club, particularly Sgt. W. Cumpston, have overcome many difficulties to keep their Club in being.

BOOK REVIEWS

The Sky my Kingdom: by HANNA REITSCH. Published by The Bodley Head, London, 1955. Price 12s. 6d.

I FIRST met Hanna at the International Gliding Championships held in 1937 at the Wasserkuppe, and later, when she came to England, she spent a few days at home with us. Her reputation amongst gliding folk of all countries was by then immense, and one was immediately attracted by her small birdlike person and personality, her obvious courage and her enthusiasm for the air, which was clearly an integral part of her make-up and in no way founded on the desire for personal publicity which is by no means absent in such people.

Then came the war, and immediately after the defeat of Germany I was one of a party (Fred Slingsby was another) sent over to investigate what technical developments had taken place there during the war in the field of motorless aircraft.

Amongst other of our pre-war gliding acquaintances, I was particularly anxious to find Hans Jacobs, who I still think of as the most brilliant sailplane designer the world has so far seen; in addition he was to my mind one of the nicest men I had known, and certainly in no way sympathetic to the National Socialist outlook. At length we ran him to ground in a small wooden house near Darmstadt, where he and his wife had at length come to rest after the final downfall.

Whilst his wife went to make us a cup of tea, I started questioning Jacobs as gently as I could; he of course was suffering from the general state of collapse and despair prevalent. Suddenly he asked me if I knew anything of the fate of Hanna Reitsch. I was able to tell him that she was alive and well, a prisoner in American hands.

As I said this, for the first time he cheered up a little, his face seemed to flush with excitement, and he uttered a great cry to his wife in the next room: "Hanna lebt!" I realised then with absolute certainty that this man, who had been involved in the war on the wrong side, but who was certainly as innocent at heart as anyone could be after being engulfed in such a complicated devilry, really loved Hanna for what she was.

And now she has written this book, which is a fearful story of how a human being possessing various outstanding qualities can be caught up and used to further the interests of terrible and wicked people. The writer of an autobiography always starts off under a

disadvantage; the reader suspects that he or she will omit faults and exaggerate virtues, and rationalise actions in retrospect as springing from admirable motives. In spite of that, I finished the book with a feeling that Hanna had given us a picture of herself as honestly as she was able.

She emerges as a freak, of course, but one to be admired and pitied. A woman with all her instincts sublimated into a passion for the air, and for flying; with indomitable, well-nigh unbelievable courage; with a blind loyalty for "her side"; and far too simple a character to penetrate the tortuous miasma which Nazism threw around the minds of her and her people.

When as a girl she cycled to the Galgenberg in a fervour of enthusiasm for her first ground-slide in a Primary glider, she in fact put the tips of her fingers into the remorseless and gigantic machine of fate which in 1945 brought her through the smoke and flames of burning Berlin into Hitler's Führerbunker, and a little later to the seven graves at Salzburg, where her family had committed suicide before the arrival of the invading Russian army.

This is an extraordinary book—it is sad to have to say that the writing is not equal to the story itself, but it would be too much to expect that it could be. If a Brickhill could have been found to write it for her, Hanna would have ranked with Bader as one of the heroic figures of the century. But the writing is adequate, and the book should not be missed. It was Hanna's blind loyalty and simplicity of mind and character which put her extraordinary and admirable qualities at the service of evil. God save any of us from such a fate again.

PHILIP WILLS.

Great Airmen: by Wing Commander NORMAN MACMILLAN. Published by G. Bell & Sons, Ltd., London, 1955. Price 12s. 6d.

EACH of the 20 chapters in this book gives a condensed history of the flying career of some airman who has made notable contributions to aviation progress. They are arranged more or less in chronological order except, curiously, the first one, "Heading for Space Flight", which must have been transferred from the opposite end of the book to help it to sell.

In this first chapter, rocket-driven aeroplanes ascend to over 90,000 ft. and then glide down at 275 m.p.h. to a spot-landing on a dry lake, touching down at 180 m.p.h. This is such a difficult feat, especially for a power pilot, that two Sabres had to fly alongside and "helped to talk him down at the best approach angle for a successful dead-stick landing on the huge lake-bed, whose appearance of depth assumed false values after flight at great height".

Philip Wills is the subject of Chapter 14, and the highlights of his soaring life are well selected and accurately described. Like other chapters, it is a recital of facts; the author does not obtrude his own personality, a fact which may disappoint readers of his early inspiring book "Into the Blue". But the bare facts of all these pilots' careers are fascinating enough to reward the reader for his outlay.

A.E.S.

Studies for Student Pilots: by MICHAEL ROYCE. Published by Pitman, London, 1955. Price 25s.

THIS book is mainly about power flying, but anyone who studies it will find it is packed with information of great value to a glider pilot, specially one who considers himself knowledgeable in all matters to do with flying. It is divided into five sections: Meteorology—Theory of Flight and Airframes—Navigation—Instruments—Piston-type Aero Engines; even the chapter on aero engines should be read by a glider pilot who runs a car and takes an interest in its welfare.

If you are an intending power pilot holding a Student Pilot's Licence, and hoping to get your Private Pilot's Licence, this book is the complete answer. The price is high, but if you do not buy it you would almost certainly have to buy three or four other books in order to cover the same ground, which might well cost you more in the end. Furthermore it is so compact, even with its 280 pages and 150 diagrams, that it can be carried in the pocket. This is achieved partly by its being written with a careful economy of words, almost as "notes" for a lecture, though as such they would be very comprehensive notes.

The system of numbering the paragraphs is good, and makes for easy reference in

the text; but I was worried, and momentarily baffled, by several mistakes in references to diagrams, and to page numbers in the index. For instance on page 137 the text refers to Fig. 95b, but in fact this figure has nothing to do with the subject in question; a similar mistake is to be found in the text referring to Fig. 79.

Being an inquisitive glider pilot, I had not been handling the book for long before I turned to the index to see what the author had to say about thermals. Here I found a most satisfactory item: "Thermal, centring on a, p. 264." But on turning to page 264 I found a careful explanation of boost for the engine. Unfortunately the glider pilot's boost, although admittedly to be found in a thermal, cannot be turned on by a manual control! Actually this subject is dealt with on page 270, but in the beginning there is no indication that the author is explaining how to fly a glider, rather than a powered aircraft. On page 271, with reference to the altimeter, he says: ". . . . it is one of flying's greatest satisfactions to see it winding up." Surely this should have read: ". . . it is one of gliding's greatest satisfactions . . ." This would indeed be true.

In conclusion, I am sure the author will forgive me for making these minor complaints; they do at least show that I could not find anything more serious to criticise. Michael Royce is a man whose love of the air and flying, in all its forms, is inborn, stimulating, and highly infectious; a sort of aerial myxomatosis, which attacks all "rabbits". Whatever may be the age, sex (!), or ability of his pupils, he conveys to all of them his tremendous enthusiasm. His contribution to the gliding movement has been considerable, and all who take a real interest in either power flying or gliding should read this book.

A. F. GOTCH.

Up and Down

Flying Wing Trophy

M. Charles Fauvel, designer of the AV-36, has founded a challenge cup for international competition, to be awarded annually for the longest flight each year in an AV-36 on either a straight or triangular course. The longest flight known in 1955, so far, is one of 192 kilometres by L. Saucedo in Algeria; the four next longest were made in Canada.

* * *

Internal Lift

Dr. Alexander Lippisch, designer of a famous series of gliders from the Zögling and Prüfling to the Professor, Wien and Fafnir, is now in the United States and has turned from the utilization of external lift to the design of a sort of "flying fuselage with an internal lift-inducing propulsion system, able to ascend vertically without the use of propellers."

* * *

Meteorological Lectures

A series of 12 lectures on "Recent Developments in Meteorology" is being held on Thursdays from January 12th to March 29th inclusive, at the Meteorological Department of Imperial College, Huxley Building (opposite the Science Museum in Exhibition Road, South Kensington), each starting at 6.30 p.m. The fee is 2s. per single lecture or 15s. for the course.

Forthcoming lectures are: F. H. Ludlam

on precipitating clouds (Jan. 26), rain formation and rainmaking (Feb. 2), snow formation (Feb. 9), hail formation (Feb. 16); Dr. R. S. Scorer on mountain waves and clear-air turbulence (Feb. 23 and March 1); Dr. Goody on upper air rocket research (March 15 and 22) and the meteorology of Mars (March 29).

* * *

Gliding Newspaper

Manchester *Daily Dispatch*, which ceased independent existence in November to become merged with the *News Chronicle*, has done much to foster British gliding since Terence Horsley, then its correspondent, went up as a passenger in the first "evening thermal" to be discovered in Britain at Camphill in 1936. The *Dispatch* then offered a £100 prize for the first flight from Camphill to Blackpool, which was only won last year by L. R. Robertson, and sponsored the entry of a Falcon III in the International Contest of 1947 in Germany. Later, when Lord Kemsley acquired it, the Kemsley Flying Trust was founded and housed in its offices.

* * *

Gliders for China

After the presentation of two gliders from Poland to China last summer, a party of Chinese gliding instructors went to Poland and completed a course of training in November. Polish blue-prints are now being supplied to a Chinese glider factory.

"ORPHEUS"

An Out-of-this-world Trailer

by Ken Machin

Introduction

The following design study is submitted as an entry in the SAILPLANE AND GLIDING trailer competition. This design incorporates considerable practical experience, and represents the culmination of the series of fourteen trailers built by the Cambridge University Gliding Club since the war. Two of these trailers still exist.

The designer wishes to express his indebtedness to Mr. M. Neale, of the Imperial College Gliding Club, whose specification in the December issue of SAILPLANE AND GLIDING proved a constant source of inspiration, and also to Mr. David Carrow and Mrs. Barbara Carrow for

The specification calls for a device to catch mud; while the designer is not clear what this mud is wanted for, he has made provision to meet this requirement as follows. A set of deflector vanes are fitted, which cause a stream of air to impinge on the wheels, thus carrying the mud into a forward-facing "catcher". A blower is provided for use when the trailer is stationary. The spare mud (see specification) is carried in a stowage on the roof.

There is a reversing lock, operated by the same key as the trailer doors (see below). The hand lever and ratchet for parking purposes has a pointed lower extremity; it may be driven into tarmac of soft concrete,

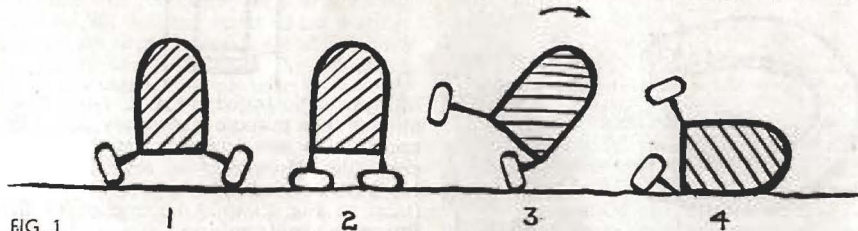


FIG. 1

helpful discussions, and for preparing the workman-like detail sketches. The complete trailer can, of course, be drawn by any car.

General

In order to give the greatest possible opportunity for original fumbles, the trailer, like the specification, has been left as open as possible, and only those items considered to be vital have been included.

Summary

The trailer is designed to carry an Olympia, Skylark II, Skylark III, K-1, Kranich or five AV-36s.

To ensure minimum size it is recommended that the construction of the trailer be put in the hands of a reliable firm of contractors.

The desirable unladen weight of the trailer is 6 cwt., but it does in fact weigh $7\frac{1}{2}$ cwt.

The wheels are 13 in. to 14 in., fitted with 5.00 to 5.50 tubeless tyres (14 in. and 5.50 at the beginning of any retrieve; 13 in. and 5.00 at the end).

and the trailer attached to it by means of a chain.

The trailer is covered by a durable and weatherproof Third-Party Insurance Policy. The doors may be fixed in an open position by applying an oxy-acetylene torch to the hinges. They will not thereafter close, but the specification does not require this. Both doors may be operated by the same key, which is therefore 29 feet long. The doors are mounted on the port side, so that only in exceptional circumstances do they increase the width of the trailer on the starboard side. (For Continental use the towbar can be attached at the opposite end of the trailer.)

The trailer is turned on its side for loading (Fig. 1), thus eliminating the need for jacking arrangements, however simple, robust and accessible.

The trailer is fitted with lights and reflectors. The position and size of the lights, and the brightness of the reflectors, comply with the Road Traffic Acts.

Since the overall width does not exceed six feet,* the special streamlined sidelights with sloping fronts to deflect hedges, called for in the specification, are not fitted. Thus the expense (£12 17s. 6d. per pair) of this item is saved.

When the trailer is electrically connected to the towing vehicle, the resulting spark is utilised to ignite the Calor Gas interior illumination.

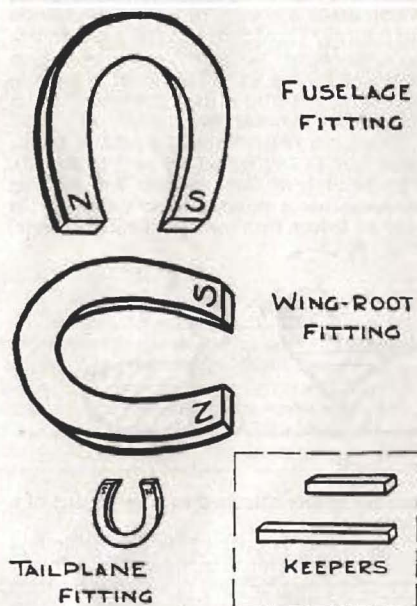


FIG. 2

As specified, a 3-pin 5-amp. round pin rubber plug (total, 15 amps.) is fitted; this carries stop and tail lights, the flashing indicators being operated by a radio link. A hydrogen balloon is securely attached to the cable, which when disconnected rises to a vertical position, so that the trailer cannot be rested on it.

The tow-bar is fabricated from multiply-vulcanised synthetic rubber, thus allowing a relative angle of 80° to the average car (i.e. the trailer nearly vertical), and with certain types of car as much as 350° (the "jack-knife" case).

The simple, functional and reliable

* Except, of course, for the tailplane, when carried.

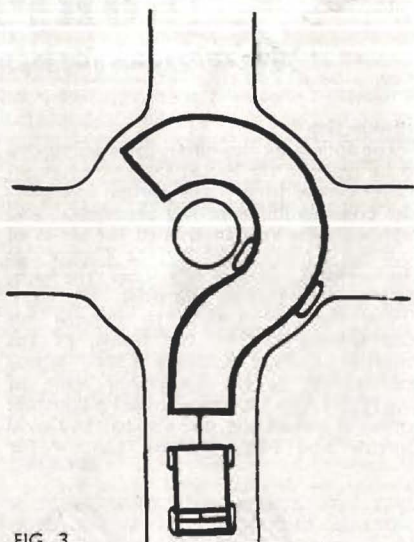


FIG. 3

fittings are illustrated in Fig. 2. No explanation of their purpose is necessary, and their approximate positions are variable. One precaution, however, is essential when loading American sailplanes; the keepers (inset to Fig. 2) must be applied to the fittings to avoid confusion.

The total material costs are estimated at £97; the immaterial costs have so far defied estimation.

Conclusion

The above summary demonstrates the extreme flexibility of the design (and of the trailer—see Fig. 3). It is hoped that the judges will give credit for the construction of the trailer, as at the moment the designer's bank manager will not.



FIG. 4

A FORTNIGHT AT LA FERTÉ

by Philip Gaskell

I ARRIVED at La Ferté-Alais on August Bank Holiday with 97 hours in my log book, hoping that I might be allowed to attempt a 300-kilometre cross-country. The site, which is about 25 miles south of Paris, turned out to be an airstrip on some high ground, with hangars, a bunkhouse, a wet canteen and nowhere to wash except a rain-water cistern. There were some twenty gliders, including three Breguets, three Air 100's, a Milan (Weihe), a Kranich II, two Nord 2000's (Olympias) and three training two-seaters, the rest being intermediate single-seaters.

I was given a dual check by the C.F.I., Monsieur Lepanse, as a result of which I had to agree with him that my flying lacked precision. In particular, on tow I let the Caudron 801 wallow about like a skittish elephant; in thermals my angle of bank did not remain constant; and my approach lacked the finesse that only practice can give to a series of very low S-turns followed by a down-wind landing. I was put on the two-seater list, and my hopes of doing a cross-country began to fade; nor was I cheered to learn that another Englishman, who had done 160 hours at his own club, had been kept on the two-seater at La Ferté for a whole fortnight.

As it turned out, however, my luck was not so far out as I thought, for in five dual soaring flights from aero-tow, and six winch launches learning the S-turn approach, my flying received some much-needed polish which was to stand me in good stead later; and I was able, moreover, to observe the French technique of instruction at first hand.

The three instructors at La Ferté, Messieurs Lepanse, Péchaud and Landon, are all professionals who have been army or navy pilots, and then passed a stiff gliding instructors' course; they are, besides, fine soaring pilots, especially Lepanse, who is in the international class. Ab-initio courses are of two sorts. In the standard course the average pupil does 100 to 120 dual trips, mostly circuits from the winch but including several soaring flights from aero-tow, and then goes solo on the "radio-Grunau", a Nord 1300 equipped with a short-wave receiver through which the instructor talks the pupil round his first few

circuits. In the *cours mixte* the pupil first does seven hours dual in a powered aircraft to learn the elementary evolutions, and then goes on to a two-seater glider, from which he can expect to go solo after some 80 trips. The instructors insist on precision at all stages, particularly when circling; they point out that circles in a thermal cannot be truly circular unless the ball is always in the middle and the angle of bank and airspeed are kept as constant as the thermal will allow; and that, if they are not circular, time and height will be lost recentring. (I would suggest that in England, although we generally keep ball and airspeed where they should be, not enough attention is paid to constant angle of bank.)



The take-off parking area at La Ferté: in the foreground a Breguet 901 and Breguet "Lavisette" prototype.

These very high standards are, of course, chiefly made possible by the large financial subsidy and the excellent thermal weather which the French clubs enjoy. But, although the average English pupil could not as a rule afford to have 120 circuits before going solo, and although English clubs have not the facilities to give a pupil—as this French club does—six dual circuits in a row without getting him out of the two-seater, yet we could protect our pupils from the results of insufficient training by insisting on further dual instruction when they approach the Silver C stage. We could scarcely hope, what with the weather and the cost of aero-tows, to give everyone instruction in thermal soaring; but we could, by polishing up circling technique,

give everyone a better chance of making good use of thermal conditions when they meet them on their own.

Dual instruction is paid for by time, and works out (for the French) at about 2s. 6d. a winch launch. Solo soaring, however, is paid for simply by a large annual subscription and a small charge for aero-tows, with no charge for time. The average club member at La Ferté does 80 hours soaring per year, which, if we include the normal amount of *stages* (the French equivalent of our camps) and the cost of retrieve from cross-countries totalling 300 km., will cost him about £40, or 10s. an hour inclusive. If he does more flying, however—and a number of members each did over 100 hours last year, the maximum being 185 hours—it will not cost him much more, and the cost per hour may work out at little more than 6s. Foreigners pay rather more; but the cost of a fortnight at La Ferté, including entrance fee, *stage* subscriptions, board and lodging, the cost of a retrieve from a 300 km. cross-country, and as many hours flying as the weather will allow, works out at about £25, plus dual instruction (if any) at £2 10s. per hour and aero-tows in excess of five per week at 10s. a time. It is possible, therefore, to do 25-30 hours flying at about £1 per hour inclusive.

If I have given the impression that La Ferté-Alais is a glider pilot's elysium, where no work is done and about which no adverse word may be said, I should add that everyone works very hard in a flying day lasting from 8.0 a.m. to 8.0 p.m., and that there are some things they do that I found perfectly hair-raising. The launching and landing conventions, for instance. Here is a plan of the airstrip:



Whatever the direction of the wind, aero-tow launches always run from A to B, and glider landings after tow from B to A. This ensures that little time is wasted pushing gliders about, and that everyone learns to land in all wind conditions; but a certain



The take-off parking area at La Ferté, showing Air 100 sailplanes and a Storch tug.

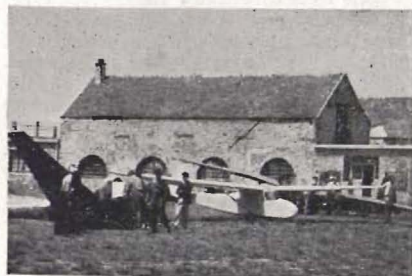
amount of confusion is inevitable. Then there is the S-turn approach; I had never tried it before, but I was soon convinced that it is dangerous when more than one glider is on the approach at a time. Finally, there is the alarming custom that the gliders (and parachutes) are never D.I.'d. One of the arguments used by the French in support of this practice is that the machines are always going away, when they get derigged, and then inspected during the subsequent rigging. But this does not apply to the intermediate gliders, which might (one feels uneasily, as one is hustled into the cockpit, the tug panting at the other end of the cable) have had an unreported heavy landing last time at the other end of the strip; and although one may resolve always to inspect a machine before flying it, it is not always easy to do so.

After three days of dual, I went solo on the Emouchet. Then I was promoted to the Castel 310P, on a day of almost cloudless thermals. Determined to show the French that I could fly, really, I stayed up for seven hours, and was rewarded by promotion to the Nord 2000, an Olympia in shape though not in penetration. On the eighth day of my stay the C.F.I. asked me if I would like to try a cross-country, though perhaps "asked" is the wrong word; what he actually said was "Would you be ready to start on a goal flight to Clermont-Ferrand airfield in an hour's time", and I doubt if there was a question-mark at the end of his sentence.

Dazed and delighted, I rushed off to sort out my R.A.F. half-million maps, sweaters, sun-glasses, chocolate and Kwells. Clermont, I found, was 315 km. away to the south; and, since I was to fly a tired old

Nord 2000 that had no blind-flying instruments, and as I had no previous cross-country experience, but for doing 45 miles for my Silver C two years before, I thought that my chances of getting there were pretty thin.

Still in rather a whirl, I was towed off at 10.47 local time under a sky of four-eighths cumulus, and released in what I thought was a thermal but which in fact was not. I flew back to the strip and circled as delicately as possible in no sink at 300-400 ft. Here the training began to pay off, for without it I should probably have landed and wasted half an hour getting another tow; as it was, I was able to hang on for ten minutes until a thermal arrived and took me up at 6 f.p.s. to cloud base, then at 4,500 ft. a.s.l. I crossed my fingers and set off downwind at 60 m.p.h. Twenty km. away I was wishing I had stayed at La Ferté, for the clouds seemed to have nothing under them but feeble patches of no sink. I wasted twenty minutes here before finding a thermal good enough to take me on my way. From this point to the Loire (from 25 to 100 km.) the lift improved to 3-6 f.p.s. and I was able to keep between 3,500 ft. a.s.l. and cloudbase, now at 5,000 ft. a.s.l. I continued to fly between thermals at 60 m.p.h. unless they were very weak, since the machine seemed to penetrate quite well up to that speed, whereas the rate of sink increased alarmingly if I flew any faster.



A Castel 310-P about to be towed off at La Ferté: with Breguet 900 on left and Kranich II on right.

After crossing the river, and for most of the next 100 km., the clouds were less active; they spread out in limpid grey patches, their bases down to 4,500 ft. a.s.l., with rare thermals of 3 f.p.s., or less, underneath them. I was soon down to 1,000 ft. above

some frighteningly small fields, wishing once more that I had never started. This may have been the dead point in the cycle of cloud formation; or it may have been an effect of the great river, for another pilot crossing to its downwind side elsewhere on the same day reported similarly adverse conditions, and I was told later at La Ferté that it was a phenomenon they had experienced before in the same place.



A pundit's-eye view of the airstrip at La Ferté. The tug landing strip is on the left.

Photographs loaned by M. Lepanse

As I struggled on from cloud to cloud I was comforted to find that the navigation was proving much easier than I had anticipated. The Loire and the Allier were splendid landmarks and occasionally there were woods with odd-shaped lakes in them which were clearly recognisable. With these aids, railways and towns were easily fitted into the pattern, and I always knew where I was.

Soon after passing the 200 km. mark, conditions improved. Although the clouds did not look much better than they had done in the bad patch, thermals were much more frequent, and often as good as 9 f.p.s. Further, although the hills below were rising to over 1,500 ft. a.s.l., cloudbase was going up too. I was able to cover the last 100 km. in under an hour and a half, staying mostly at about 6,000 ft. a.s.l.

I saw what I hoped was my airfield while I was still some way off, but to be on the safe side I maintained height until I arrived overhead at 6,500 a.s.l., when I did some very careful map-reading in order to be certain that it was in fact Clermont. It was, and as I opened the brakes to spiral down, I saw an Air 100 land below me; this was Jacqueline Bouillon, who had started from La Ferté half an hour before me. I touched

down at 4.29 p.m., and ten minutes later Francine Abadie, the nineteen-year-old French lady champion, landed in the red Breguet 900, having abandoned (on account of a faulty watch) her attempt for a 500 km. goal. With a diamond-studded gal on each side of me I settled down to a happy evening improving my French in the bar of the airport hotel.

I had covered 196 miles in 5 hrs. 42 mins., at an average speed of 34.4 m.p.h. The wind, 10 knots at La Ferté, had almost completely dropped at Clermont, so that my still-air speed may have been just under 30 m.p.h. It had been a good cross-country day; four gliders set out from La Ferté for Clermont, and two got there; three others attempted 500 km. goals, and, although none of them succeeded, one did 480 km.

The weather deteriorated at La Ferté the following week, but I was able to have a couple of soaring flights in the Air 100, the most delightful glider that I have ever flown ("planeur très classique", as the French point out); and one in the Milan, the French-built Weihe, which climbs very fast, but which is as heavy and lumpish to fly as the Air 100 is light and delicate.

Back in England after my holiday, gliding friends would ask if I'd done any flying this



M. Lepanse, who has flown in World Championships, in the Breguet 901 at La Ferté.

summer, and I would intimate that I'd got half my Gold C and a Diamond for goal. "I say, that's pretty hot stuff. Where?"—"In France, actually."—"Oh, in France. I thought you meant a real Gold C." I could only say that they had better go to La Ferté and try it themselves; and I was able to add that, if they did, they would at any rate get a wonderful holiday, with cheap flying, admirable food and drink, and the encouragement of the friendliness and singleness of purpose that characterises gliding people everywhere.

THIS GLIDING

Mr. Punch on Blizzardy

"Last week's headline 'Nine Trapped in Blizzard' was fine and seasonable. More than four million breakfasters, reaching for another piece of hot toast, read with relish of the glider pilots 'trapped by snow' on the top of a Shropshire hill, whipped by 'howling blizzards,' their path to safety 'blocked by six-foot drifts piled up by the gales.' After reading on below the useful map, however, breakfasters found that the imperilled party was not actually clinging by its teeth to an exposed col, but 'warm and snug' in its Midland Gliding Club clubhouse, with 'phone, radio and bar.' They turned sullen and abrupt, and banged out to brave the bus-queues, the traffic, the sleet, the ice-patch, the smog."—*Punch*.

A SPIN ?

"Drifting to the south of Norwich, he (a glider pilot) was unable to gain enough speed to keep airborne and, after circling, landed at Burlingham. . ."—*Eastern Daily Press*.

Imagination Takes Flight

"One likes to imagine the curious types in the Ministry of Agriculture and Fisheries going home at week-ends to grow things and catch fish. To imagine the people at the Air Ministry gliding involves a greater stretch of the imagination. . ."—*Aeronautics*

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Details from Secretary

Round Tour in Waves

by R. H. Prestwich

ON Saturday, October 8th, I had no plan at all, merely being content to fly around. However, I had a map in the cockpit, the oxygen was on—in fact, all was set for great things, if I so desired.

It certainly looked wavy, and although most aircraft were at 800 ft. above the hill, Ted Stark in Blue-O was reputed to have disappeared near the Stiperstones. After bungeeing I headed for the north end and luckily flew straight into 7-8 ft. sec. up, at 2,500 ft. a.s.l. Heading steadily northward, I climbed through a hole in the strato-cumulus into brilliant sunshine. Cloud cover was almost complete with a few clear holes indicating waves. Two of them downwind looked interesting, so, abandoning thoughts of lunch, I flew north-east at 70 knots to have a look at Shrewsbury. As I have seen it before on numerous occasions, I turned round when three miles south and had a look round. During the previous few minutes I had been slowly levering my sunglasses and handkerchief out of a trouser pocket. Finally they were all out, one glass cracked, the handkerchief torn and the pilot choking and in knots! However I could now look dead into the sun. Over the Black

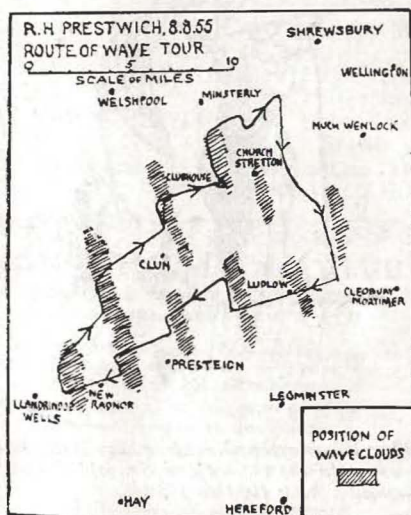
Mountains were some glorious waves like great poached eggs. If I pressed on, I would be there in an hour and a bit.

I fairly hared off along my wave, changed for another over Wenlock Edge and arrived over total cover at 6,000 ft. a.s.l. A little gap in the clouds revealed Ludlow a mile or two westwards. Directly south of me conditions were poor, but there was quite a hopeful little string of waves in a west-south-westerly direction, although the holes were almost filled up with wisps of strato-cumulus.

I put the speed up to 75 knots and flew for them. Nothing happened over the first one, so I kept on, dog-legged along the second one, then again along the third one. Supersonics meanwhile had reduced the height to 3,200 ft. a.s.l. and I just brushed the top of the third wave before catching the lift of 5 ft./sec. A gap in the clouds showed a single-track railway with a river, running through a valley, giving me a definite fix. I also noticed on top of a hill a most well-defined old camp, with two circular mounds round it; anyone interested please contact.

Lift became poor, so again I flew forward, through the cloud this time, until I found 8 ft./sec. lift just north of New Radnor. This did healthy things to the altimeter and I climbed quickly back to 5,000 ft. a.s.l.

For almost 1½ hours I had been so intent on speed that I hadn't really been watching the weather. The wave systems were dying, and the amount of cloud was decreasing fast. However, I flew forward once more until I was about four miles east of Llan-



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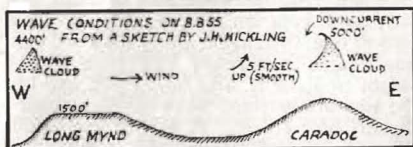
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Write to the Secretary for further details

drindon Wells, and took another look. Definitely there was only one move left: "Home, James"—and fast. The wave behind me was still good, so I flew northwards for a time along it, then turned downwind again just north of Clun.

Another wave presented itself, albeit looking a little tattered. I started to soar along it when I realised that I didn't need any more height, as I still had 3,000 ft. in hand. This time the nose was well down, and in no time at all the clubhouse was 700 ft. below me. I went straight in and landed after being airborne nearly 2½ hours. I had come back from Llandrindon Wells in just over 20 minutes, losing 2,900 ft. on the way for a distance of 24 miles.



Cross-country flying on waves evidently can be an extremely rapid process. On this flight I only did one beat along a wave, and that was over the Stiperstones. In all the other waves I flew steadily at about 55 knots along them, and 70-75 knots when flying into wind. It evidently must pay to be in a hurry! This, incidentally, is the third time that I have tried hunting the Black Mountains. Each time the weather has changed during the flight.

Going upwind in waves takes quite a bit of time. In conditions giving small waves, performance is particularly important, as occasionally a wave doesn't work, necessitating a long upwind glide. It is peculiar the way that some waves don't work. With cumulus it is a question of backing your fancy with a degree of certainty. Sometimes an excellent-looking wave cloud isn't there when you arrive, whilst at other times lift appears over a flat expanse of total cover with no wave-cloud recognizable as such. Sometimes the wave clouds have a nice top with a definite radius of curvature. At other times they look like a line of cumulus and on these occasions the wind's horizontal component is almost absent in the lift. My wave from Wenlock Edge to near Cleobury Mortimer was like this, although the hole had filled up at its southern end. In fact, enormous variations of wave flying are the

main attraction, like shooting for snipe and geese at the same time.

Weather and Flight Details

Take-off at 13.00 hrs. in Skylark II; flying time, 2 hrs. 15 mins.; distance, approx. 80 miles.

Winds: at 1,500 ft. a.s.l., W. 15 knots; 3,000 ft. a.s.l., W.S.W. 20 knots.

Cloud base 2,600 ft. a.s.l.; cloud tops 4,000 ft. a.s.l.; strato-cumulus 8/8, dispersing to 2/8. No high cloud.

Wave length: approximately 5-6 miles.

Approximate times: Long Mynd to Shrewsbury, 20 minutes; Shrewsbury to near Ludlow, 30 minutes; near Ludlow to near Ll. Wells, 60 minutes; near Ll. Wells to Long Mynd, 20 minutes.

This is how Emmwood depicted Philip Wills in the 'Evening Standard' series 'Sportsmen in the City'.



When it is playtime for Mr. Philip Wills, he goes up in the air. He was world gliding champion from 1952 to 1954.

When it is work-time, his interests are at sea. He is chairman of a City shipping firm.

B.G.A. NEWS

Records Homologated

BRITISH NATIONAL OUT AND RETURN:
Lt. Cdr. G. A. J. Goodhart on 8.1.55,
Narrowmine-Garema-Narrowmine,
Australia, in Olympia, 197 miles.

BRITISH NATIONAL DISTANCE AND GOAL
FLIGHT: Cdr. H. C. N. Goodhart on
19.8.55, Grand Prairie, Texas, to Amarillo
Air Terminal, in Weihe, 318.3 statute miles.

UNITED KINGDOM TWO-SEATER SPEED TO
100 KM. GOAL: W. A. H. Kahn and B.

Sinclair on 17.9.55, in Eagle T.42, 39.8
m.p.h.

BRITISH NATIONAL SINGLE-SEATER SPEED
OVER A-200 KM. TRIANGLE COURSE: G. H.
Stephenson, St. Yan-Autun-Moulin-St.
Yan, France, on 28.6.55, in Olympia IV,
44.6 k.p.h. (27.7 m.p.h.).

B.G.A. Ball

This will be held on Friday, March 16th,
from 8.30 p.m. till 2 a.m. Tickets, £1 each,
may be obtained from the B.G.A. or from
Clubs. Any profit will go to the fund for
the British team in the 1956 World Cham-
pionships.

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Club and Association News



In spite of the Winter season in England, news from the Clubs still flows in with a regularity which cheers the Editorial heart. Congratulations are offered to the Newcastle Club on its 25-year record of gliding progress. Space, unfortunately, does not permit the printing of all the many items of news, but it is hoped that Club correspondents will not feel that the pruning has been too severe. The reports of gliding activities in Finland, the Middle East and Australia are welcomed. Contributors sending photographs are asked to bear in mind the necessity for strong contrasts in light and shade to ensure satisfactory reproduction. Good wishes to all Clubs for the Soaring Season 1956.

GODFREY HARWOOD,
Club & Association News Editor.

OBITUARY NOTICE

The London Gliding Club has suffered a most grievous loss by the sudden death of Mrs. Violet Turvey, who passed away in hospital on December 11th, after a short illness.

Mrs. Turvey, the widow of the Club's patron Tom Turvey of Lockington Farm, Totternhoe, ran the Club catering as a labour of love and was beloved by all members. The catering grew to its present proportion from the homely teas prepared for Club members over twenty years ago in the fine old-world lounge of the farm. Then of course we had no Club house and our one-and-only glider was stored, de-rigged, in a barn there.

These original tea parties undoubtedly were a big factor in keeping Club members together in those critical days of our history.

DUDLEY HISCOX.

The Kronfeld Club

Writing this in December, by the time it appears in print the first series of Lectures will have finished and we will have started on a further series, a list of which appears below.

Attendances on Wednesdays have been very good and between 50 and 60 people have turned up for the films or talks. The Christmas Party held on December 21st attracted a record crowd and at least 80 people were present at some time during the evening.

A telephone has now been installed, the number being TATE Gallery 8740.

The Committee are very keen that the maximum use is made of the facilities offered by the Club and that it is used, as originally intended, as a Meeting place for

Gliding Pilots on weekday evenings and, therefore, are only too pleased to receive suggestions for possible improvements or innovations which will attract potential members. In this connection there is probably going to be an Exhibition of

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Photographs put on by Members of the Vintage Aeroplane Club in February.

All suggestions or enquiries as to membership should be addressed to The Hon. Secretary, The Kronfeld Club, Basement, 74, Eccleston Square, S.W.1.

Lecture Programme

All lectures will commence at 8.0 p.m.

- Feb. 1st "Parachuting" by Flt. Lt. Hays.
8th "World Gliding Championships" by Ann Welch.
15th "Flight Assessment by an Amateur Pilot" by John Fricker of "The Aeroplane".
22nd Films: "The Seamew", "Model Flight" (Shell); "Finland Blue White Wings" (Finnish Air-

lines); "Handley-Page Aircraft"; "The Comet".

- 29th "On Cumulus Clouds" by Dr. Scorer, with films.
Mar. 7th "Ukra-light Aircraft, Ancient and Modern" by H. Best-Devereux.
14th "The Kites, Gliders and Aeroplanes of Col. S. F. Cody" with lantern slides by G. A. Broomfield.
21st Vickers Films: "The Supermarine", "The Viscount"; Shell Film: "Mediterranean-Cape Rally 1953"; Admiralty Film: "Seahawks R.N."
28th To be announced.

AUSTRALIAN NAVY

THIS Association was formed towards the end of 1954, and promptly set about the task of raising money to buy equipment. As may be seen in the photograph of the rudder of the T31, the efforts were successful, and by the end of May this year this aircraft was at the Naval Air Station at NOWRA (100 miles South of SYDNEY) waiting to be flown. Unfortunately, just two days before it arrived, the Association's Chief (and only) Instructor, Lieutenant Commander Tony Goodhart, had to go North to DARWIN, SINGAPORE, BANGKOK, and various other places on Naval duty; so that it was not till the end of July that flying was started.

As a measure of enthusiasm for the sport it is interesting to note that no less than 33 members joined the Association, and paid their subscriptions, in Winter when there was no glider to fly.

In the four months since flying has been under way rather over 800 flights have been made in the T31b, and so far eleven members have gone solo and qualified for "A" and "B" Certificates, two of which have managed their "C's" and one of these recently achieved Silver "C" height.

The aerodrome used by the Association is far from ideal, as the runways are the only safe landing places; everywhere else is either very rough or marshy and is criss-crossed with open storm drains which, in places, are 10 feet wide and 8 feet deep. The surrounding country is typical Australian 'bush'—which means gum tree forest with trees 100 feet and more high and so closely packed that there is not any chance of flitting between them.

The Association is about to embark on a course for eight cadets from the R.A.N. College; these cadets have volunteered to spend ten days of their leave learning to fly, and the Association hopes to send them all home for Christmas with "B" badges—if not "Cs."



On the rudder of this T31, property of the Royal Australian Navy Gliding Association, appear the names of the contributors to the fund set up for its purchase.

BRISTOL

SINCE the last summary the gradual seasonal changeover has taken place; the soaring has given way to training circuits, aircraft mods, and commencement of work on our winch and trailer projects.

Steady progress is being made at Nympsfield, our future home, although, as can be well imagined, with such a huge task in front of us, there seems little to show for the labour put in to date. The barn is tidier, the charlock crop raked off our 80 odd acres and a 500 yard electric fence erected to contain the sheep at present grazing there.

John Parry-Jones (C.F.I. and a member of the Nympsfield Sub-Committee), has worked extremely hard on the project; getting approval from all the Ministries concerned, making friends with the local farmers, surveying the site, negotiating for a hangar, planning clubhouse layouts, etc., etc. The more we hear of his plans for the full utilization of the site when flying is not taking place, the more we feel we are shareholders in a farm!

Foundations for the new hangar are under way and a start has been made by the club members on the removal of a large section of stone wall adjoining the road along the ridge. With the stones removed from the wall an entrance will be made in the form of a large funnel to facilitate the entry and exit of trailers from the rather narrow road.

The trailer and winch projects mentioned earlier are in various stages of construction in our workshop at Lulsgate—one trailer is in a quite advanced state. This trailer, an open frame type, has been designed to take the T21, which will no doubt need retrieving from the "bottom" occasionally, while the other, a fully enclosed trailer, will be built to accommodate Olympia, Prefect, Tutor or T31. At the same time, the Olympia Syndicate has started to build a closed type trailer for their aircraft. A good start has been made on the winch which will be a four-wheeled trailer type; the stripped down and greatly modified chassis of our old Silver Ford launch car being used for the purpose. This was to have become the club's second winch, but a farmer friend of the club who has already "lent" us a tractor for cable retrieves and farming work, has also promised us other equipment which includes a winch!

The pace of the flying at Lulsgate has now

slowed to the normal winter level, and certificates naturally fall from Silver C's and C's to a steady trickle of A's and B's. Since September we have seen 'C' thermal flights from John Ashford and "Olly" Leach in the Prefect and 10 A's and B's by other club members, including three lady members.

On Saturday, December 10th, our Christmas Party was held for the last time at the Lulsgate Clubhouse, and a rousing farewell was had by all; although no doubt touched with a trace of sentiment for the older club members. A. B-P.

CAMBRIDGE

As a result of our open meeting at the beginning of term and of vigorous exhortation by present club members, we persuaded sixteen people to join the club this last term and nearly all of them were candidates for *ab initio* training. Unfortunately we have been rather unfortunate as regards weather of late and weekday flying has often been cancelled due to bad visibility or low cloudbase. We can only hope that next term will give us more of a chance to continue training.

Despite the generally unfavourable conditions, a certain amount of soaring was done in October, though mainly by the more experienced members of the club. Roger Austin climbed to 2,600 feet from a winch launch on October 16th and several members had extended circuits on that day also. The final effort was on the last Sunday of October when Peter Neilsen was winched to 700 feet in the Olympia and was able to reach 2,500 feet in a flight lasting 45 minutes, thus showing new members the shape of things to come for them if they only persevere.

This being the social season, we had a large informal party at the end of term and apart from dancing and drinking we persuaded Ken King to show us all his gliding film, which brought back many memories, and he also showed an incredibly demoniacal film, made before the war, about the possibilities of dropping bombs from aeroplanes. We were also treated to a fine new gliding song, sung and composed especially for the occasion by Ken Machin and Alex, called "Gliding in six easy lessons". Several of the old favourites were also given a repeat performance.

So there we are, a rather unfortunate

term as far as decent weather is concerned, but we hope that after Christmas the clouds will go up and the visibility lengthen out to make every day a flying day.

D.M.S.

COVENTRY

OUR third annual dinner dance was held on the 9th of December in the clubhouse of the Coventry Aeroplane Club. By contrast with the previous year's function which was held in one of the pubs in Coventry, this arrangement proved very popular and just under a hundred tickets were sold. The dinner was followed by the presentation of the club trophies by Mrs. Gregg, the wife of our chairman.

The Coventry Evening Telegraph trophy for gliding progress went to John Quick who in the short space of one year had taken his "A", "B", "C" and two legs of his Silver "C", at the same time gaining sufficient experience to warrant his appointment as instructor. The Founders' Trophy for progress by a pilot of the fairer sex was presented to Cathy Liqueurish, and the Jimmick trophy for the outstanding flight of the year went to Gerry Harrison for his flight in the Olympia of 5½ hours early in the year. The Chairman, Dr. Gregg, had a surprise presentation for the C.F.I., George Thompson. This was a three part presentation consisting of two maps and a map case in recognition of the two longest flights of the year (Baginton to Lympne, 140 miles and Edgehill to Honiton, 115 miles) and also the highest flight of the year (9,300 ft. in a cu-nim).

The evening's entertainment included topical skits by Jimmy Joss and Michael Hunt, who as the Western Brothers cast liberal doses of disrespect in all directions, and by Vic Carr and John Quick, who bemoaned the fate of two trailer drivers doomed to spend long hours retrieving aspiring Gold "C" pilots while others more fortunate than themselves hogged the thermals.

This social event heralds a new era in the relationship between the Coventry Gliding Club and the Coventry Aero Club: an agreement has just been made whereby the superb clubhouse facilities of the latter will be available to all the members of the Gliding Club. This arrangement will solve one of our most pressing needs, namely sanitation, and we hope there will be no more embarrassing encounters in the private

washroom of the aerodrome manager. The club hut will still of course constitute the focal point of all our flying activities but many members will appreciate the drinking and other social facilities which will be afforded by the Aero Club's premises.

At the time of writing, 13th December, the year's total flying exceeds 5,200 launches for a total flying time of 776 hours. This means that we shall have just about doubled the number of launches and more than trebled the number of hours done in 1954. This has been achieved on 104 flying days as against 107 in 1954: it is in the soaring days, 81 this year compared with 27 last year, that the real difference in the climatic conditions is shown up. Admittedly this latter comparison is modified by the fact that the only soarable aircraft we had last year was the T.21, whereas this year we have the Tutor, Viking and Olympia as well, but on the other hand it can be said that apart from the time of its annual C. of A. the T.21 is always out and about and doesn't miss the soaring if there is any to be had.

This year has seen our first efforts at cross country flights of which we have done 20 for a total distance covered of 1,020 miles. Happy landings were made in all

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cases and retrieving crews, generally run by either Vic Carr or John Quick, did their noble work with cheerful thoroughness.

The Nissen hut workshop is proving of great use and will prove even more so when the heating has been laid on. John Colvin, our active house secretary, is at the moment installing two slow combustion stoves.

On the transport side we have had a much needed replacement engine fitted in the single drum winch and work is proceeding apace on the two drum winch, which although it has already seen service, needs a lot of mods. before it can be accepted for general use. The biggest job here is to arrange a clutching system so that only one drum need be driven at a time. Incidentally, we use narrow, large diameter drums without pay-on gear; this is an easier job to arrange, although the rather high rotational inertia does have a detrimental effect during cable retrieving.

It is difficult to forecast what 1956 will

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bring as our plans for the future are governed by so many unknown quantities; however, enthusiasm among club members is as high as ever and many of us are pleased to notice that we still have growing pains.

M.S.H.

CROWN AGENTS

THERE is little flying activity to report in this issue. Our members fly at the Lasham Gliding Centre and take part in the other normal activities of Club life there. The first event of the 1956 season is the 'Social Evening', held at the Crown Agents' Office at Millbank, at which John Furlong has kindly arranged to show a film. This event, due on January 16th, will have taken place before these notes appear.

J.E.G.H.

DERBYSHIRE & LANCASHIRE

SINCE the last notes went to press in mid-October, there have been no cross-country flights, if one excludes landings made, deliberately or otherwise, in fields 'at the bottom' within a few miles of Camphill. (Reluctance to ask tactless questions makes me unable to state into which category to put the landing south of Great Hucklow made by our chief instructor; imbued with the true photographer's determination to 'go in close' while getting pictures of a building on the south edge, he reached a height from which even the Sky could not regain the landing-field in the prevailing north wind.)

There have been several wave days, none very spectacular; on October 29th rather unusual wave conditions were experienced. There was a strong W. wind—about 45 knots at 2,000 ft.—with a wispy low cloud sweeping over at 700 ft., and stationary banks of higher cloud over the west side of the Bradwell valley and also extending East from the soaring edge, leaving the usual 'hole' over the valley. Typical smooth wave lift was found up to 2,500 ft. (heights above take-off) level with the top of the cloud bank, and from the front of the main cloud several tall anvil-shaped towers about 500 ft. high stood up, pointing *into* wind. In front of these, but not inside them, there was extreme turbulence, periods of a minute or less of 20 f.p.s. up followed by 20 down, leaving an intriguing wavy trace on the barograph record. The maximum height reached was only 4,000 ft. A visiting

London Club pilot was caught out when the hole was suddenly covered by low cloud, and landed safely at Litton, a few miles to the South.

On November 13th there was enough thermal activity to enable several pilots to fly, in an East wind, across to Mam Tor, four miles N.W., for some hill-soaring, and then, using thermal, to get back upwind to the club. On November 20th, Ernest Martin in the Sky and Ken Blake in the Skylark II went a couple of miles N.W. for some N. wind soaring on Siggett edge, finding much turbulence and poor lift. As the Sky was approaching to land in the normal field at the bottom, some cattle which had been grazing placidly well downwind of the landing area, took it into their heads to rush up the field, and the wingtip of the Sky hit one just as the machine was about to touch down. The Sky slewed round and was extensively damaged; the cow apparently escaped unhurt. (Moral; although "cows usually stay still during the landing"—The Soaring Pilot p.134—they don't always.) December 4th brought strong West wind and wave which took Mick Kaye to 2,600 ft. That day the newly-acquired club Skylark II was taken up for its first flight by Gerry Smith.

The year not yet having ended, full statistics are not available, but a few points may be of interest. So far this year we have had 19 A and B certificates, 14 C's, five Silver C's, and one Gold C plus Diamond. There are seven ladies flying solo in Tutors, five having gone solo this year, one last year, and one has taken up flying again after an interval of many years. Never before has masculine supremacy here faced such a challenge.

Social activities continue. Bonfire night passed without the loss of a machine, there was a film show on November 19th, and an admirable Christmas Dinner and party on December 17th. There are other events to come, and we look forward to a notable one on March 24th, 1956, when there is to be a dinner and dance at Buxton to celebrate the 21st anniversary of the formation, by amalgamation, of the Derby and Lanes. Club. (For more than a year before this happened, members of the Derby and the Matlock gliding clubs, and the Gliding section of the Manchester Aeronautical Society, had in fact been flying at Camphill.)

Our Chairman Basil Meads has what must be a unique record. He has been

Chairman ever since the formation of the club, and was, it is believed, Chairman of the above mentioned Manchester gliding club before that. We hope for a full turnout of club members for the celebrations.

A.H.B.

FINLAND

GLIDING in Finland appears to be a highly popular sport, judging from an account sent in by Jussi Soini of Helsinki. During the first half of July the Finnish Flying Association organised a soaring contest at Jämijärvi Flying school at which five of the ten or more Finnish clubs were represented. The weather was good and a total of 2,037 kilometres was flown, six pilots completing the distance leg for their Silver "C".

The contest was won by the Turku flying club, 490 points; second was the Tampere



Miss Inkeri Siltavuori, a qualified architect, remained airborne on July 28th, 1955, for 9 hrs. 14 mins., the whole time in dry thermals, thus setting up a record for Finnish women's duration. (Note: Duration records are no longer recognised by the F.A.I.—Ed.)



Jamijärvi gliding site in Finland. From l. foreground to r. background:—The school block, a hangar, the clubhouse and technical building, two more hangars, the runway through the forest, Jamijärvi Lake and village.

club, 450 points; third the Technical High School Students' club with 424 points.

Space unfortunately does not permit reproduction of a most interesting account of a Komar glider, of Polish construction and similar to a Grunau Baby, which, flown by Teuvo Temonen, was caught by the up-draught beneath a cu-nim and broke up in cloud at about 10,000 feet above Tampere airport. The pilot landed unhurt in a spruce tree after a flight of only 17 mins. The Komar is used normally only for training and ridge soaring, and has no dive brakes or more than basic instruments.

Jamijärvi, the scene of the soaring contest, is an extremely good site for thermals as the school lies on a large gravel ridge. On one occasion two Weihs, one PIK-13, an Olympia, a Kranich II and two PIK-5's were all airborne together and compiled a total of 50 hours flying time. Two flights lasted over nine hours each. Miss Inkeri Siltavuori holds the women's Finnish duration record—9 hrs. 14 mins.

Jussi Soini, our contributor, was a visitor to the London club at Dunstable in 1953.

KENT

As announced in the last issue, a Club is being formed to serve enthusiasts in the Kent and South-East London areas. We hope in the near future to enlist the support of the local Press, and arrange a public meeting to elect a provisional committee. If you live in this area, or know of any glider pilots likely to be interested, please contact Hugh Gardiner, of No. 1, Devon Gardens, Birchington, Kent. W.A.H.K.

LONDON

LAST October was a good month, and the Club flew just over 117 hours from 558 launches. The recently acquired Tiger Moth did some five hours' aero-towing on the first of the month, but has not been very busy since. Certificates gained included, Butt, Miss May Marven and Miss Duthy, Brain, Parrett and Minns—"A" and "B";

Ruffett, Kerzycki, Simler, Dr. Elliott and K. Smith—"C". Ruffett is an ex-fighter pilot who has already shown himself to be quite a pundit with Link trainers and has overhauled ours very effectively, which, considering its condition was a noble effort.

Flying was less during November, totalling 71½ hours for 278 launches, but during the bad weather much good work was put in on the site and buildings by Ron Arbon and helpers aided by the loan from another member of a concrete mixer which enabled new paths to be laid. The red Tutor has been fitted with spoilers and has been flown a lot. This mod. has turned what was an excellent hack machine into a very handy Club intermediate, and landings in small fields should now be much easier and safer. It is intended that all our Tutors will be converted to spoilers in due course, and we may see some more Silver "C's" done on them, as older members may remember that the late Jack Hanks did his entire Silver "C" on one some years ago.

During December occurred a grievous double event, namely the death of two of the Club's oldest friends and supporters Capt. Lamplugh and Mrs. Violet Turvey.

P.F.

MIDLAND

FOR the most part October and November were very quiet months at least so far as the weather was concerned. Much training flying was done and Gillian Vernon, Marjorie Hobby, Peter Clay and David Smallwood all soloed successfully.

Weather in December has proved, so far, to be just the opposite, starting with a sparkling day on Saturday the 3rd, with summer strength thermals and also a magnificent cloud street which lasted several hours and produced lift of the 600 ft./min. order. David Lowe did his 5 hours. The 4th was rather unique in that lift which was absent below 300 ft. (above hill) extended to 4,000 ft. a.s.l. with a wind strength of nil to W/10 knots. Wind in the valley was variable but in places was south easterly, lift could only be found in the usual hill soaring position.

December 10th brought the long awaited gale force westerly and four Skylark II's made easy work of it all, even though one had to fly at 50 KNOTS to maintain station and anything up to "105 KNOTS" to get anywhere. Hill lift on this day was a genuine 4,000 ft. a.s.l. and in the late even-

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ing one Skylark reached 9,400 ft. before the wave died out. The club Olympia was the only other type to fly, but not with the same agility, it was noted, as its young cousins. Frank Mott gained his Silver C height.

By an unexpected freak change of weather the party was marooned in the Clubhouse on the following day. As widely reported in the daily papers—even *The Times*—a blizzard started during the night and by mid-day the snow was drifted so deeply that attempts to descend from the mountain top were frustrated, and cars had to be abandoned. Fuel for heating ran low, but fortunately food supplies held out until, after 22 hours, the party was able to find its way down on foot to Church Stretton 5½ miles away. We hope that the wide publicity given to this adventure will result in an increase of members in the coming season.

Unless we have exceptional weather in the few remaining days of December, flying hours from the site will not exceed last year's record. At present totals are 2,250 hours from 5,500 launches on 135 flying days.

Looking forward to 1956 we have, on the social side, the club's annual party and dinner on January 1st, and Dance in March. We hope for at least as good weather as last

year, and when the still summer days arrive so productive of thermals at the Mynd, we hope to possess a secret weapon from Germany to launch any TWO SEATER to 2,000 ft. downwind. Our fleet will be the best we have ever had, and includes a substantial proportion of high performance aircraft, due in no small way to the efforts of Teddy Proll our ground engineer.

The Easter Rally will be held from March 30th to April 3rd inclusive, and all interested people should get in touch with the Secretary as soon as possible.

NEWCASTLE

IN spite of the fact that the clerk of the weather has not been favouring us lately—fog, rain and gales being the order of the day—flying has still been going on, with 233 launches and 14 hours 54 minutes flying time for the period from October 28th to December 4th. We feel this is not bad going on a flat site with only one winch.

During the rare spells of suitable weather there have been four first solos, by L. Cullinan, Brian Marley, Dr. C. Ungley and J. Miller. Latterly the weather has been too bad for the early stages of solo flying, and these four found themselves back on the T 21b—nevertheless Dr. Ungley has recently qualified for his "B".

The gypsy meeting proposal referred to in the last issue is progressing satisfactorily. In order to reduce the preliminary work to a minimum a circular has been prepared by the soaring site committee asking members to state definite dates on which they would be willing to attend these meetings. Arrangements will be made according to the promised support.

Potential members of the advanced flying group have been cheered by the news that an Olympia has been finally located and purchased. Road and weather conditions permitting, it was expected at Usworth by the end of 1955. A surprising event at Usworth recently was the appearance of Charles Meakin who, after several years as an Associate member, arrived for what was to be, one gathers, his first flight. After a cable break the ensuing circuit was so much enjoyed that he is said to be thinking about becoming a pilot member. The Treasurer asks other Associate members please to copy this example.

The main social event of the past two months was our Silver Jubilee Dinner

GLIDING BALL

FRIDAY, 16th MARCH, 1956

at Londonderry House

Tickets £1 (inclusive of cold supper) from this Office or Gliding Club.

The proceeds of the Ball are being given to the fund for sending the British Team to France to compete in the 1956 World Gliding Championships.

So please come and bring your friends.

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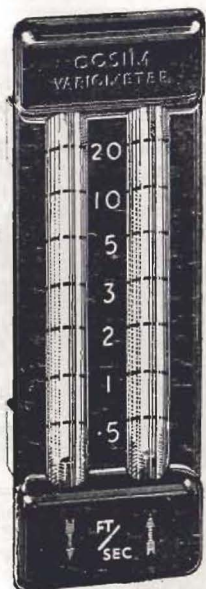
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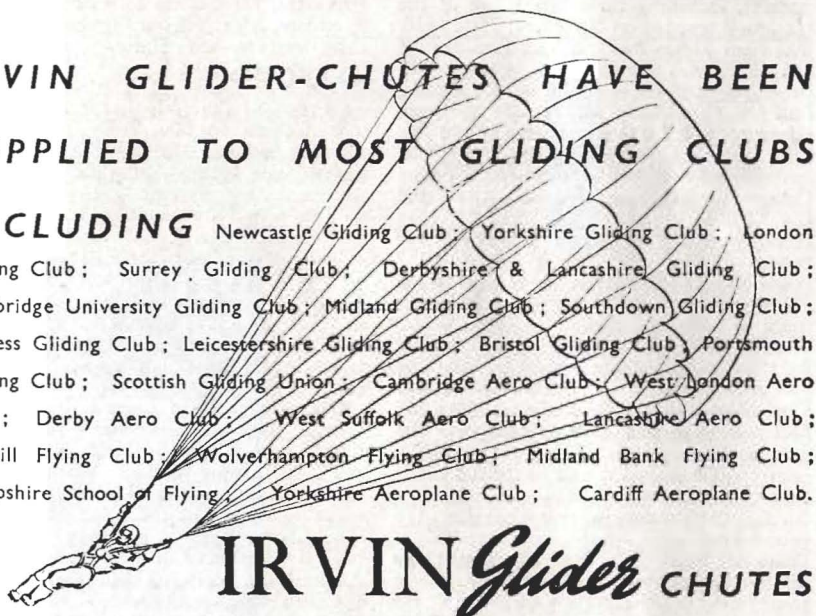
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IRVIN *Glider* **CHUTES**

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The top table at the Newcastle Gliding Club's Silver Jubilee Dinner. The Chairman, A. P. Miller, replying to a Toast. Seated, from l. to r.:—S. C. O'Grady, F. N. Slingsby, Hon. Denis G. Berry and B. A. G. Meads. In foreground, the Siam Trophy held for 1955 by the C.F.I., Andy Coulson.

which was held at the Douglas Hotel on November 25th. Over 50 enthusiasts were present, including three who were at the inaugural meeting on November 25th, 1930. The Hon. Denis Berry, a Vice-President of the Club, was the guest of honour, and other guests included Mr. B. A. G. Meads, and Mr. F. N. Slingsby. A cake had been specially made for the occasion by a pre-war pilot member, Roland Clark. It was embellished with plaques showing the open Camcraft training glider used in 1931, and the T.21b in use to-day. Gliding scenes in colour were also shown on each side of the cake.

Mr. Slingsby in proposing the toast of the Pioneers made reference to the remarkable flight by Noel McClean in the Helm Wind, when he achieved the British altitude record for the Club in a Grunau Baby without any special preparation. In reply Pat Miller, our Chairman, outlined the history of the Club and gave statistics showing that over the quarter-century the Club had enrolled nearly 1,000 members and interested many times that number in the sport.

After the showing of two Club films the proceedings were wound up by the Hon. Denis G. Berry, who also produced some interesting statistics showing that gliding to-day cost less than in the early days. He read a message of congratulations from his Father, Viscount Kemsley. Other messages

received from those unavoidably absent were from Viscount Runciman, the President, Sir Claude D. Gibb, our Vice-President, Alex. Bell our London representative, and Dr. A. E. Slater. L.C.

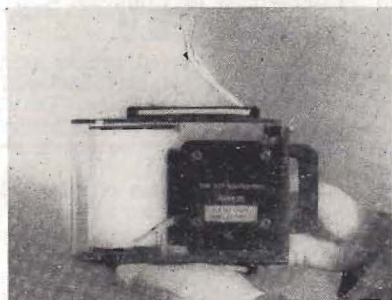
OXFORD

ALTHOUGH the absence of a club solo machine for the early part of the summer certainly curtailed the activities of some of our members, the blow proved by no means catastrophic. In fact several soloists found the subsequent extra 'dual' distinctly beneficial.

Some of us managed to visit Lasham from time to time and a return 'courtesy call' by Derrick Goddard and Ted Hargreaves enabled us to give them a 1,200 ft. launch with Chris Wright's prototype winch, from which height they officially opened the day's soaring.

There have been quite a lot of good soaring days at Kidlington. As early as March the Club Sedburgh climbed to 6,000 ft. in nine minutes; whence for the next 40 minutes the two occupants took turns to fly whilst the other thawed out. The Tutor struggled up to over 4,000 ft. on several occasions and even the T.31 was up for an hour, and only came down because the instructor couldn't stand the draught. We would also draw attention to the stout efforts of George Varley and Ray Stafford-

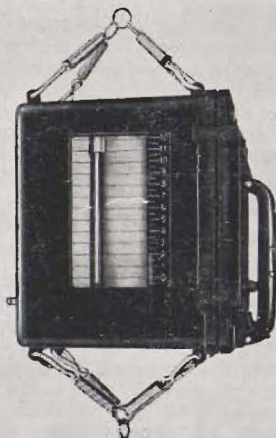
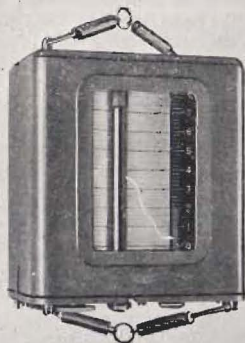
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Allen in the National Competitions when they came 6th in the team awards and 15th in the general category; Ray's flight to Exeter of 109 miles established a new distance record for a member of the Oxford Club.

The club's two-drum winch has a replacement engine and will now launch all-comers in top gear. Anita Schmidt's new Grunau IIb recently made its debut. As a launch of 1,200-1,600 ft. is usual for this machine, it is not surprising that the winch driver had the unique experience of watching it break through cloud out into the sunshine above.

The return of the Club G.B. early next year complete with wheel, spoilers and belly-hook, together with the promise of a member to produce a vehicle to tow its trailer, has started plans for cross-country trips a trifle more ambitious than Oxford's Port Meadow! Rumour has it that an Olympia may be available as well, so that the outlook for next Spring is distinctly hopeful.

John Gibbons has taken over the office of Secretary as well as his other duties on the resignation of Eric Stow, and we are particularly indebted to Dick Everard for his tireless work on our equipment. In the meantime some members are utilising the longer evenings to devise a suitable insignia to distinguish the club's equipment.

Finally we extend a cordial invitation to any gliding types passing over or through Oxford to call in at Kidlington for a natter and perhaps a trip round our factory chimney.

D.W.H.R.

R.A.F. CYPRUS

THE R.A.F. has had a gliding club in the Canal Zone for some years, although it has been compelled to change its scene of activities from station to station. It is at present at Abu Sueir, where it has met with some difficulties due to an increase in powered aircraft flying, thus preventing use of the runway for motor-towing. It is expected that the Club will move to Cyprus in the Spring, and in this island better soaring conditions seem to exist. Equipment includes a T.31, Cadet, Tutor and Prefect, the latter now undergoing a complete nose rebuild after a 'prang' on the approach. Flt. Lt. G. Bacon has been exploring the possibility of flying with the Turkish gliding clubs at Ankara. They run

courses each year from June to August including instruction in soaring and aerobatics—the latter with a Habicht.

SCOTTISH G.U.

AFTER nine years' uneasy tenancy of Balado airfield, the S.G.U. will shortly be moving to pastures new. The airfield is to be used again by the Air Ministry, and we shall have to move out in about six months or so.

Already large areas of central Scotland have been explored for a suitable site, both from the air and, less comfortably but more thoroughly, on foot. The Carse of Stirling region seems for the moment to have the most to offer; the locality is accessible from the major towns, is known to be good thermal country, and is well provided with soarable slopes in a variety of directions. It will probably be on some barbarous moor in this area that we shall finally settle.

Meanwhile, preparations for the Great Trek are under way. Extra trailers are being built to house all the machines, and the old Wild winch is being tidied up and made mobile. When a number of likely sites have been decided upon, we intend to do some flying on each, using the Krajanek and the winch, to help us to determine the one which offers the best prospects. If no suitable site has been found by the time we have to leave Balado, flying will continue on Bishop Hill with the Cadets and the Tutor, while research continues with the Krajanek.

Fortunately, 1955 has been a very profitable year, and the Club coffers are bulging nicely. What at one time seemed the laughably optimistic target of 5,000 launches is almost certain to be achieved. To date (December 11th) 4,950 launches have been carried out, for a total flying time of 330 hours. In recent weeks flying has been of the unremarkable winter sort, our resident wave not having so far materialised. It did actually start up to our infuriation just as the machines were being flown home on December 4th, and Bob Stephen flitted about in the gloom in the T21 for 20 minutes, until darkness forced him down.

The Club Christmas Party is scheduled to break out in the Bridgend Hotel on December 17th. It will probably be the last party we shall hold in this well-loved hostelry, which has been rocked by so many S.G.U. celebrations in the past. This one, we are certain, will be quite utterly memorable.

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SURREY, ARMY and IMPERIAL COLLEGE

WITH the arrival of the winter months there is less than usual to report from Lasham. Our senior T-21, the Imperial College's Daisy, flew her 20,000th launch at the beginning of November and it is pleasant to report that since she first joined us at Redhill in early 1949 she has suffered no worse damage than the odd broken skid (touch wood).

The Winter courses have turned out to be popular and there is also a steady demand by Club Members for midweek flying. Apart from anything else this should ensure that we hit our Target of 17,500 launches for the year.

Following the lead set by the Newcastle Gliding Club, we have been using Piano wire on the Silver Winch and this is working very satisfactorily. The main points to watch seem to be the initial winding on and the tying of knots as and when the cable breaks, as they must be as small as possible. It may be some time yet before we know whether it is cheaper and easier to operate than the normal winch cable, but it looks as if it should be.

Both the Guy Fawkes and Christmas Parties went off very successfully, although at the Christmas Party there were fewer visitors than usual; but, in spite of this, the club-house seemed to be as crowded as it always is on these occasions.

On the day afterwards the solo pilots had an aerobatic competition, using either Skylarks, Olympias or the Eagle, and the School side ran a bombing competition using Daisy and Fanny. The bombing was won by Bill Tonkyn and an Air Scout with an error of six yards. Dave Martlew won the aerobatic competition in the Instructors' class, with Derrick Goddard and Frank Irving as runners up; in the ordinary members' class D. H. Darbishire was first, only one point behind Martlew, with G. Harwood and Roy Procter runners up. In all 26 competitors took part, including John Holder from Southdown, who tied for 4th place in the instructors' class. A welcome visitor from Oxford that same week-end was Anita Schmidt with her white Grunau Baby.

YORKSHIRE

ONCE again September and October provided excellent soaring conditions

for us, in fact the best we have had in 1955. November too was quite good, and we have continued to fly regularly throughout the winter. New members are joining us all the time and training is progressing steadily. We congratulate Alan Cryer on obtaining his 'A', 'B' and 'C' certificates within the last three months. He did very well to get his 'C' on Saturday, 10th December, as the lift was very poor, and he had no sooner landed than the wind dropped altogether and put an end to flying for that weekend.

Our plans for next season are going ahead. Seven gliding holiday camps are being organised in co-operation with the C.C.P.R., and the dates are as follows:

- | | |
|-------------------|-----------------------|
| 1. June 17th-23rd | 5. August 12th-18th |
| 2. July 1st-7th | 6. August 26th- |
| 3. July 15th-21st | September 1st |
| 4. July 29th- | 7. September 9th-15th |

August 4th

The fee for each camp is £14 14s. 0d., which includes flying membership of the Club for the week, all flying fees, lectures, insurance, food, and accommodation. These camps are intended to be an introduction to gliding and hill-soaring, and the organiser, Mrs. Swinn, Yorkshire Gliding Club, Sutton Bank, Thirsk, will be pleased to supply application forms and further information on request. These holidays are always popular and it is wise to book early.

The winches are being overhauled by Jack Lawson and his energetic assistants, Ewie Haswell and Harry Sowden, and thanks to the very hard work of Bob and Sue Swinn we hope, before March, to have fresh water brought from a spring to the clubhouse by means of a water ram. The difficulty in obtaining drinking water has been one of our problems for a long time.

Many thanks also to the donor of the covered trailer which has recently been given to the Club and which is greatly appreciated by those who intend to make cross-country flights. An additional aid to cross-country work will be the Tiger Moth which is now available for our use, and we are hoping to aero-tow with this machine shortly. This will be especially useful on non-hill-soaring days of north and north-east winds when we can use the extra long runway for take-off. Judging by tests already made, it seems we shall be able to launch in this way quite successfully. We are looking forward to a good crop of Silver 'C's' in 1956.



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