Sailplane and GLIDING

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FEBRUARY 1958



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SAILPLANE AND GLIDING

OFFICIAL ORGAN OF THE BRITISH GLIDING ASSOCIATION

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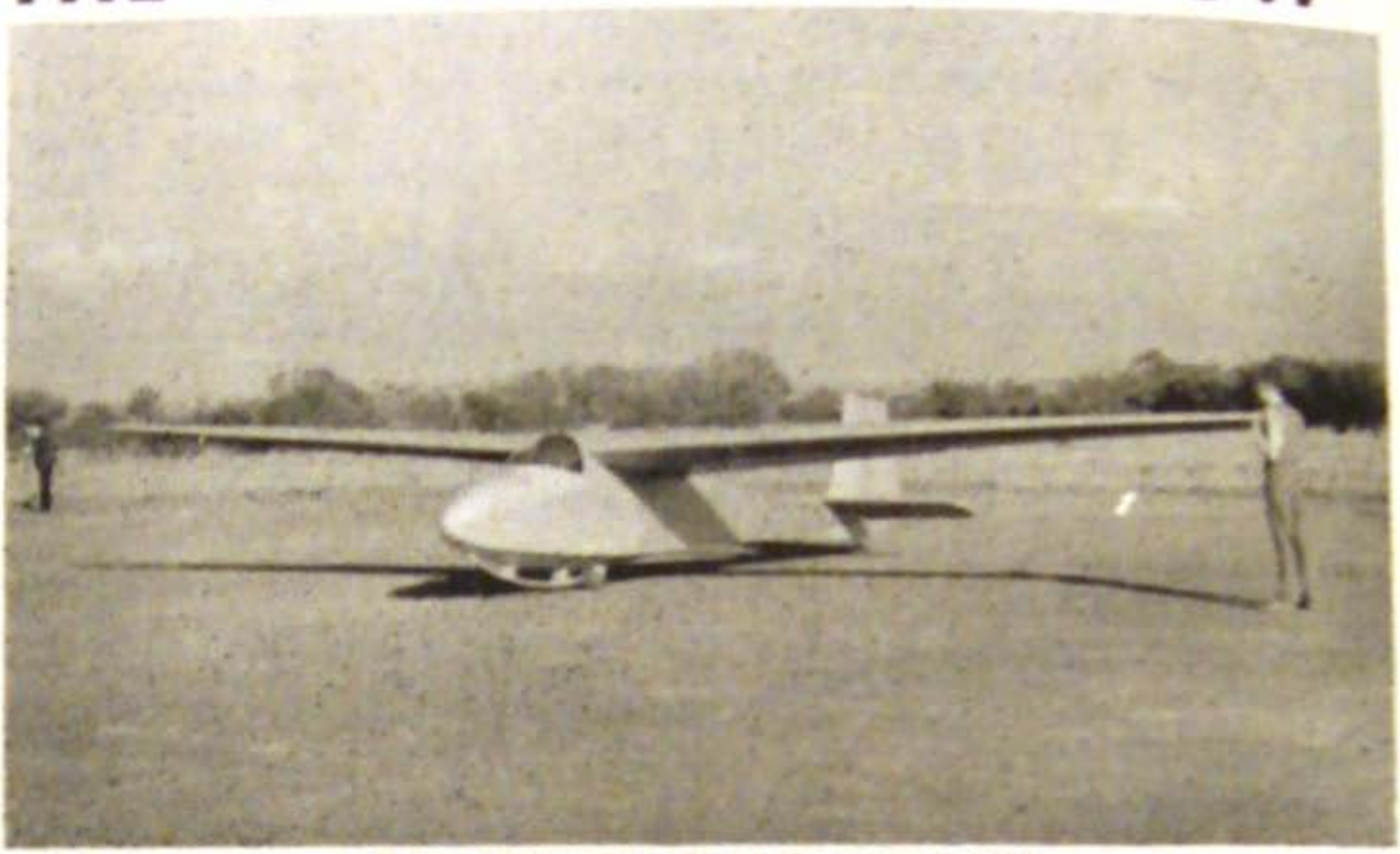
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COVER PHOTOGRAPH.—Blackpool & Fylde Gliding Club's T-21b, piloted by Jack Aked (C.F.I.), flying over Blackpool Tower.—Photo by Michael Taylor.

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"Sailplane" or "Glider"?

OUR announcement of the competition for a new cover design, for which the closing date is 20th February, was accompanied by a hint that we had been asked to give the word "Gliding" more emphasis in the title, on the ground that the public is familiar with it. True enough; but the public too often imagines the word to mean no more than it says, and does not recognize it as including soaring flight.

Astonishing as it may seem, considering that news of long distances and great heights achieved by sailplanes is repeatedly published in the newspapers, a large section of the public does not even believe that soaring is possible; there is so much other news that these particular items are evidently soon forgotten. But it seems useless to try to enlighten them by replacing the words "glider" and "gliding" by others more descriptive; this section of the public just does not know what a "sailplane" is, and the word "soaring" conjures up a vision of a lark laboriously flapping its wings all the way up to its ceiling.

In our present issue there are two letters from correspondents who take opposite points of view. The first combines a sentimental attachment to the word "sailplane" with an unsentimental detachment from the public and its misconceptions. The second stresses the widespread use of "gliding" and "glider" and brands the word "sailplane" as meaningless. Certainly "sailplane" is rarely heard in normal conversation at gliding clubs; the things are called machines, kites and even aeroplanes, just as often as gliders, and across the Atlantic they are ships. Spoken and written forms of a language are never quite the same (unless somebody like Damon Runyan does the writing), and fashions change much faster in the former, while our title must be classified as written language.

But what of the word "sailplane"? It certainly means nothing until you know what it means, and even then there is no agreement as to its precise definition. A quarter of a century ago we tried to trace its origin by looking up the literature, but without success, as related in THE SAILPLANE & GLIDER for 28th July 1933. We found it used as two separate words in the first issue of the *Journal of the British Gliding Association* (long defunct), dated March 1930, and in the same month Mr. R. F. Dagnall (after whom the Dagling was named) used it as one word in his advertisements; but no earlier example could be found. It was probably coined a few months earlier, when organised gliding began in Britain, and was obviously an attempt to translate the German *Segelflugzeug*, literally "sail-flight-machine."

However, the first use of the word actually goes back a century and a half, to the time of Sir George Cayley, the centenary of whose death is noted elsewhere in this issue. Mr. J. E. Hodgson, a leading aeronautical historian, writing to *The Times* in 1933 on the occasion of the publication of Cayley's notebooks, said that the inventor applied the word "sailplane" to his first model glider, which he built and flew in December 1804. But it never soared.

THOSE PENNINE WAVES

by Mick Kaye

Of Opportunity, has it not been said:

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

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

Wind W.S.W. 15-20 kts. at ground level
30-40 knots at 15,000 ft.

Base of roll cloud: 3,300 ft.

Top of roll cloud: 4,500-5,000 ft.

Base of lenticular: 12,000 ft.

Top of lenticular, estimated: 20,000 ft.
(Heights above sea level.)

Olympia "Blue John" and the writer were winch-launched by 10.20 hrs. and, casting off at 500 ft., ran into 7 ft./sec. lift. A quick dive to drive the barograph stilus as low as possible, one slow beat along the Edge, which put 3,500 ft. on the clock, and it was time to go. The wave was consolidating towards the north, so at 10.35 hrs. we ("Blue John" and I) turned north and flew towards the Ladybower Dams. Still climbing, but after 4,400 ft. not much joy over the north end of the dams, so on again towards Stocksbridge, where a clear-cut roll cloud was going great guns. When we reached this cloud at 10.50 hrs., the lift was 15 ft./sec. up, and there was no need to do much but maintain position in the lift by judicious beating up and down.

Very clearly our Walter Kidde Light-weight oxygen set was going to be needed so, with a fervent "God bless Kidde", I put the mask on at 11,000 ft. and was personally much improved thereby, although the rate of climb promptly fell off to 3 ft./sec. and by 13,600 ft. was negligible.

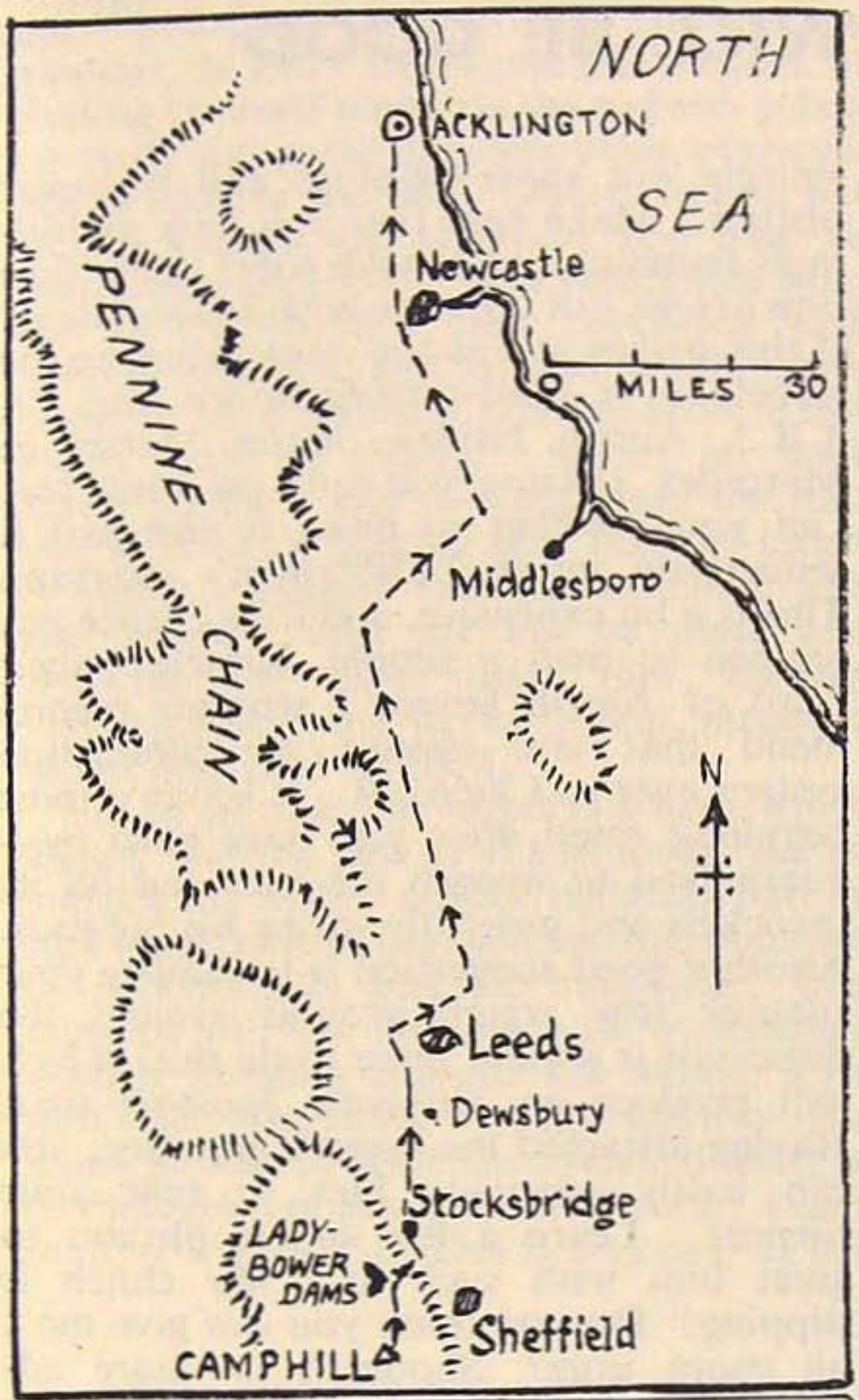
The next wave lay in the direction of Dewsbury and a long glide towards it seemed attractive after forty odd minutes spent on the last climb. The attraction proved to be illusory, for the sink on the way to Dewsbury was phenomenal, but when we got there the wave-cloud was there too. The ground was disgustingly close and the altimeter had lost 10,000 ft., but we were climbing again at 10 ft./sec., which held to 5,400 ft., when the wave-lift broke up and the cloud closed in, giving 8/8 cover below and leaving one solitary Olympia above.

The next wave down wind was more generous-hearted and remained "open to visitors". Arriving at 2,300 ft. and 12.30 hrs., we started to go up—feeling like Sputnik II—and a steady 12 ft./sec. eased the mental situation except for the fact that we hadn't had a "fix" since Dewsbury. However, an average 10 ft./sec. climb did wonders to the altimeter, and having identified Leeds under the port wing I settled back to await further developments.

We hadn't long to wait. At 11,000 ft. and 12.53 hrs. the ground disappeared and we were in the murk. Now what? Must be the lower side of a lenticular, since there's no other cloud to fly into, so "on mask" and forward we go to the leading edge of the cloud, achieving nothing but red ball. So? Seems better where we were, and back we go under the middle and green re-appears. Turn-and-slip on, course 330° magnetic, and inside we go at 3 ft./sec. climb.

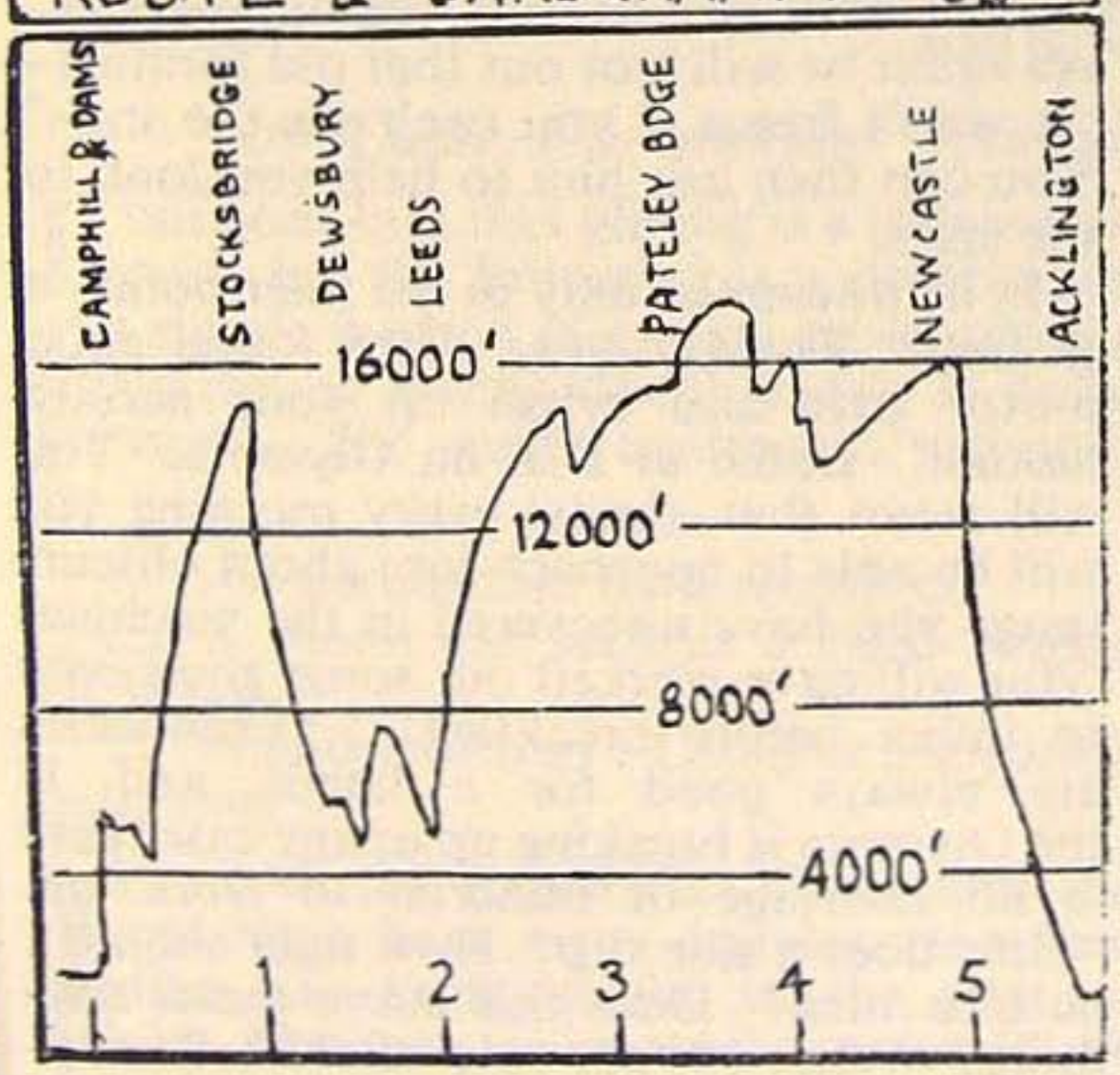
A long five minutes later, the cloud thinned and we emerged halfway up the side of a long, grey lenticular. From then on, events began to merit that overworked term "fabulous". Plodding along at 45 m.p.h., on course 330°, and using what-ever lift came along, every so often we had to retire inside the lenticular to beef the altimeter above 13,000 ft., for only inside the cloud itself did the lift reach 3 ft./sec.

Near Pateley Bridge some three-tier lenticulars were forming in the length of the cloud, and from 13,400 to 16,300 ft. we went in again. There wasn't much oxygen left now, and with skimping it my blind flying didn't improve. Only another 500 ft. for that Diamond, but those last few stairs to stardom just weren't to be found.



D. M. KAYE 27. 10. 57.

ROUTE & BAROGRAPH TRACE



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

By 15.10 hrs. Newcastle was in sight and hope rose high again when some 3 ft./sec. lift took us to 14,200 ft. almost directly over the Newcastle Club site at Usworth. But the afternoon light was fading and my declared goal at Portmoak lay eighty miles further ahead. Most of Northumberland lay under thick cloud although lenticulars were to be seen in the direction of the Cheviots too far away to reach. So on we went until Acklington R.A.F. station ought to have been somewhere below, then "out dive-brakes" and into the cloud tops at 5,000 ft. It wasn't very funny, because previous and frequent visits to the interiors of lenticulars had put a lot of ice on the flying surfaces, which all flaked off with awe-inspiring noises as the ice parted, and terrifying cracks as bits of ice hit the tail. It was also raining cats and dogs.

With considerable interest the writer watched the altimeter wind down, meanwhile calculating that the ground below (if it wasn't sea) ought to be quite a bit lower than the hill-top at Camphill, and there should be a bit of clear air between the bottom of the cloud and the ground (or sea). At 900 ft. there was a gleam below and Acklington appeared half a mile away. One quick circuit and we landed at 16.03 hrs., 145 miles from take-off, ninety of them spent above 12,000 ft.

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

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

BE CLEVER SWEET MAID
AND LET WHO WILL BE GOOD

AMONG the misleading information imparted to you at your mother's knee was probably the tale that "in the spring a young man's fancy lightly turns to thoughts of love". Speaking as a veteran of the traditional struggle for masculine attention I feel I should tell you that this kind of vague and optimistic assertion is out-of-date, unreliable and in fact a short cut up the ancient and uncomfortable creek. In the spring the thoughts of all the young men you know at Lasham will turn to:— fitting new ball hitches to their powerful and eccentric towing vehicles; testing their latest hi-fi, four-dimensional trailers to their limits; going higher and further for longer; getting blown across the Channel in time for the nine o'clock news; and trying to lay their hands on those elusive Diamonds that can scarcely be celebrated as a girl's best friends.

Activity of this type is not going to help you at all, so unless you wish to spend the long summer evenings reading magazines in the bar, playing the piano in the lounge, or, as a last resort, flying, wake up and look around yourself. You should be using the drab days of winter to get things moving your way.

Don't just sit there dreaming of romance. Get that tiny mind to work and select a target. Is he married? No. Good. Next consult the address book. Yeovilton— hopeless. Much too far. Nothing succeeds in this game like propinquity. What about this one at S.W.3? Further research reveals he is a fully paid-up member, passed out for cross-countries. This is really promising. What we are after here is a spot of homing. Stand by for G.C.A.

Study your target closely. He is an independent type, strong in the belief that he doesn't need a woman in his life. Is he interested only in motor cars? He probably spends a lot of his time at the workshops, so that is where you ought to be. Your only legitimate reason for being there is your ownership of some clapped-out piece of M.T. Procure one, even if you have to have it towed on to the aerodrome. Arrange for it to collapse in a pathetic heap at his feet, spitting out sparking-plugs and fractured pistons. Make sure that you look appealingly feminine and bewildered (I know your hips are 40, but take one problem at a time). If this strikes you as too crude, come to the airfield in a head-turning sports car. A T.R.3, Austin Healey, Aston Martin or Mercedes. (I know you can't get it into top. Get your brother to bring it and park it seductively by the Ch**rm*n's caravan.) This is a bit expensive, and if by chance you happen to own a simple, homely, vulgar Ford or Austin Seven, I strongly recommend that you change the lubrication system over to Castrol R. It leaves a most beguiling smell after you have gone by— guaranteed to wrench the male nut off its sprockets and generally spring his big-ends. Another good suggestion is to remove your silencer (the rough ground around the dispersals is a good place to do this), which will produce an authentic sporting roar. Having attracted the target's attention, you can easily persuade him to refit your silencer. Learn a few simple phrases to greet him with such as, "My clutch is slipping! Do you think you can give me a bit more urge? Should I be more advanced?" The cold weather will provide ample opportunity to consult him on freezing problems. Get him to come under the car with you to look for drain-cocks.. At worst he will trot out that old formula— "it won't freeze if you can't see the stars". You can then ask him to help you look for the stars.

Is he interested only in the finer points of gliding? Frankly, yes. Then forget about motor cars and brush up your aerodynamics. Learn to D.I. an Olympia. This will mean that almost every morning you will be able to approach him about obscure snags you have uncovered in the machines (you will have worked out some good ones to inflict before breakfast). Turnbuckles are always good for a laugh, and if the Olympia is breaking up in any case there is no shortage of material to work on. "How does a side slip? How tight should I be in a turn? Does this curve mean anything? What is your rate of roll? Is sky-

larking difficult on a polar curve? What instrument lets you down most frequently?"

Suppose you spot your target on the tow-car. You don't want to learn to drive the tow-car, do you? Or do you like the idea of finding yourself alone on the runway piling up tyres and parking cables when everyone else is snug in the bar? Of course not, but that is exactly the situation you wish to manoeuvre him into—with you beside him, the faithful driver's mate, wrestling with stubborn shackles and tangled cables. With some forward planning you can achieve this happy state of affairs. About an hour before flying is due to stop, clear the run-way of drivers, making sure that the target is busily occupied with some minor job. Get yourself into the car as mate and terrorise the other mate into leaving, Persuade the other driver to ask target to relieve him and sit tight.

Let us assume that target is a keen winch driver. On the face of it this looks like an impasse, as he has almost certainly had an ugly experience in the past and has plumped for winches, not wenches, ever since. One thing he will not tolerate is an unoccupied woman hanging around his winch. He won't let you drive it, and anyway you won't be able to start the wretched thing as its batteries are always at half cock. Learn to drive the tractor. This is very easy as one gear does the job; none of this nasty gear-changing, and you can concentrate on whole-hearted response to his almost invisible signals. Sooner or later he will give you the come-hither without realising his hand has slipped.

Clothes on the field present quite a problem. You can't wear those fascinating stiletto-heeled Italian shoes or reveal your legs to the Lasham winter. In fact, it is unwise to reveal any figure except that of your father's bank-balance. Cold forces you to wear three sweaters and you find the general shape of all inhabitants is much the same. Target is only recognisable by the oil stain on the seat of his pants or the dope on his sleeve. Go to extremes then—outside wear R.N.V.R. flying boots and an American Naval duffel coat two sizes too big, hinting about the sentimental value (shows past experience), and, when in the bar, wear those well-tapered slacks and that striped cowl-necked sweater and the right ear-rings. If you can't talk aileron bushes or angle-iron engineering—just listen and wait. You will be noticed.

Of course, when I got engaged I didn't have to rely on any of the methods I have described. As it happened, I was only interested in one thing and my fiancé was wise enough to find out what it was.

ANON.

"When three or more are gathered together"

by Lieut.-Commander Humphry R. Dimock, R.N.V.R. (retd.)

IT has been said that gliding is a rich man's sport, but the following is a description of a simple method of gliding economically which can be practised with as few as three persons. The main equipment required is:—

1. An aerodrome with runways.
2. A motor car such as a Ford Anglia or better.
3. A glider such as a Cadet or a superior sailplane.

1.—Both the Royal Air Force and the Royal Navy have many aerodromes where gliding has been taught in the past, is taking place in the present, or could be used in the future in off-duty hours, such as Sundays and evenings.

2.—Speaking from personal experience, I have found that my 1,172 cc. Ford Anglia is capable of elevating a Tutor and a Grunau Baby to an altitude of 1,000 ft. A more powerful car would give better initial acceleration, and a large car with automatic transmission would be the ideal.

It could reasonably be assumed that one or more of a potential group could have one or more of these cars which would be suitable.

3.—A Cadet would be the simplest type of glider to obtain if insufficient money was available to purchase a better type. Again,

speaking personally, I have risen to heights up to 7,600 ft. in a Tutor after being launched by my own car, and have enjoyed many long flights which have only been curtailed by reason of returning to give others a chance to enjoy themselves.



My Ford Anglia is fitted with a tow bar, and on this tow bar is fitted an ordinary glider quick-release. The tow line is approximately 1,150 ft. long with the usual parachute at one end, and with weak link with rings at the other end. With an average wind of 12 m.p.h. the glider would be at 1,000 ft. by the time the car has travelled 700 yards.

To convince the sceptical of the simplicity of the car side of the operation, the following story can be told. I had a 17-year-old lad who had never had any driving experience whatever, but who wanted to learn to drive. His tuition started one Sunday. To begin with he drove the car under instruction on the grass while retrieving the cable to the glider only. By the end of that afternoon we had done 25 launches, and this lad who had never driven before was able to drive for the last five launches entirely. The launching is simple: change from bottom to middle gear as soon as possible and then proceed up the runway as fast as possible for 700 yards. On slowing down, the parachute normally causes the back-release of the glider to operate if the pilot has not done so already. Should the pilot or the back-release fail to disconnect the top end of the cable, the release on the tow-bar can be operated by a cord from the driver's seat. The car then picks up the parachute and takes it back to the starting point. In operating the cable it is necessary to keep it off the runway at all times. If the cable falls on the runway it should be thrown off by hand before towing it back along the grass. If this is not done, the cable wears out in as little as 50 launches. My present cable is in good condition and I have already used it for approximately 150 launches. This cable was that which had been a throw-out from the winch as being already worn out. At the end of the day the cable is wound by hand on to a wooden drum 2 ft. in diameter on a simple wooden stand, and is carried back to the hangar in the boot of the car. On the day referred to above, when the young lad was receiving his driving instruction, 25 launches were completed in 5 hours with a petrol consumption of approximately 2½ gallons. On that day the thermals were very weak and the longest flight was 10 minutes.

We have operated with as few as three persons, driver, pilot and pilot's assistant. Simplified signals may be used, as the parties are within hailing distance of each other. The glider always starts from exactly the same spot, and the cable drum marks the car starting point. To avoid snatch, the driver pulls the wire taut by hand as soon as the "ready" signal is given by holding the wings of the glider level. The driver then connects the cable to the car, and off we go. Should anything then go wrong, the stop signal is the usual "wing down". On any particular day the wind is usually blowing slightly off the most favourable runway, and it is to the downwind side of the runway that the cable is laid on the grass, and the car keeps to that side of the runway for the launch.

On a day that the ground speed of the wind is nearly 20 m.p.h. I have known the car to launch the glider to 1,000 ft. in 400 yards, slowing down to 12 m.p.h. on a very low throttle opening, the average air speed of the glider being as high as 50 m.p.h.

I have in mind a further refinement to add, and this is to put a parachute on both ends of the cable so that it is not necessary to find the parachute and stop to pick it up each time.

In the interests of the gliding movement in general, I should be glad to answer any questions and give advice to anyone who cares to communicate with me through the B.G.A.

A GLIDING HOLIDAY AT AIGEN

by Mickey Gilbert

(Reproduced with acknowledgement from "Kent Gliding Club Newsletter")

So now I have been struck by lightning. Having got that line over, perhaps you may be interested in hearing about the types of gliding trips we were able to indulge in during a June holiday at Aigen, in Austria.

A typical day trip would start at about 11.00 a.m. or perhaps after lunch at 2.00 p.m., as the thermals seem to start late in the day in early June. After a smooth launch to about 1,200 ft., I usually sauntered over to the nearest mountain-side and started beating up and down, one wing-tip tucked well into the treetops. Gaining height fairly rapidly in hill-lift, it was always possible to leave the slopes and pick up a thermal away from the mountainside, or rise above the top and then get well away on thermal lift. Then I felt really free to wander off to more distant mountain slopes or to go off along the home valley, keeping fairly close to cloud base. The clouds themselves usually looked very thin and the lift never seemed to go right inside them, but at 6,000 ft. or so above the ground there was no need to worry about coming unstuck. On some days the cumulus built up, but even then cloud base seemed unapproachable.

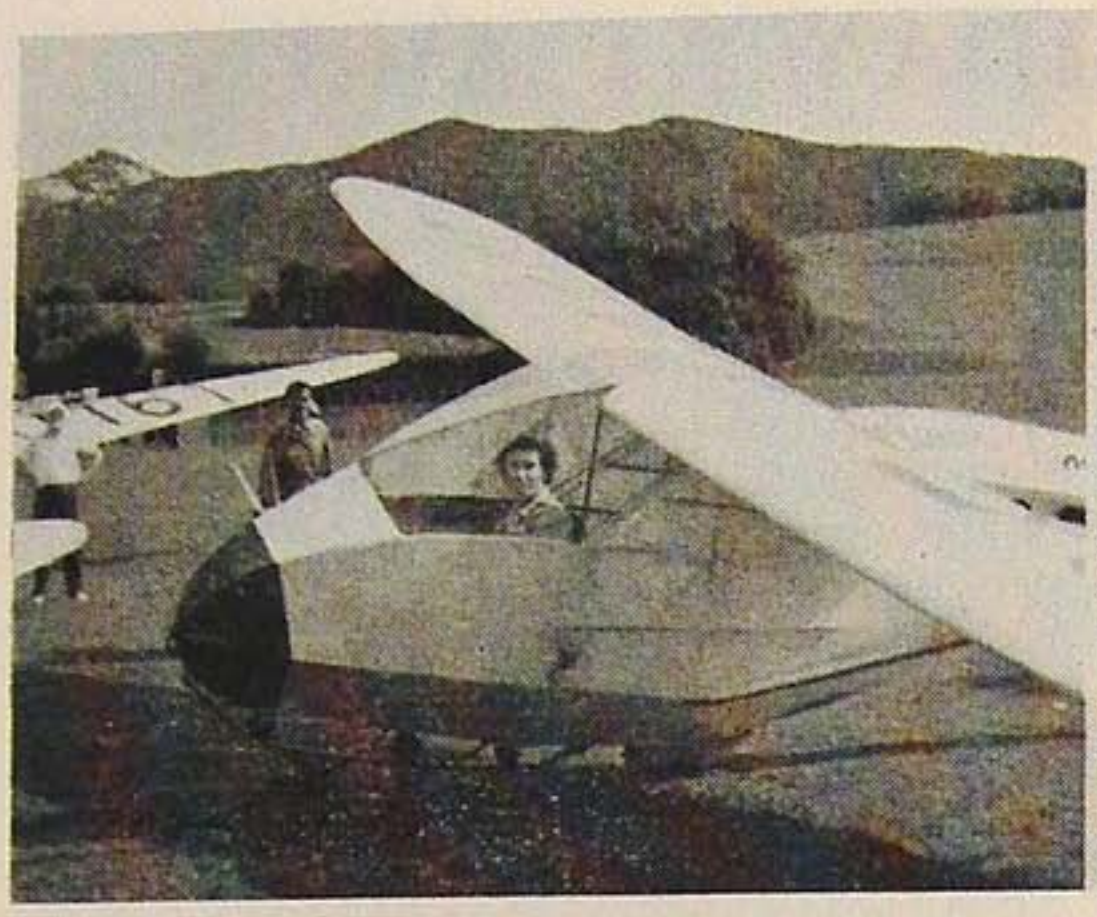
Usually the more distant and higher mountains beckoned me and I explored many interesting ranges in the area. The local mountains were green, but further away they were white-capped and flying on these it was possible to see the highest ranges in Austria, completely white and glittering with tinges of green and blue in the bright sunshine. Other gliders could often be seen flying in the distance, but there is a sense of quiet remoteness that is only felt when flying in the mountains, and it never seems to belong to gliding over the crowded English countryside, even when no other aircraft are in sight.

It was the evening flying that attracted me most, however. At about 4 or 5 o'clock, I would have a launch into the mountain lift or the thermals in current production. Then the thing to do was to sit as high as possible in the warm evening air and watch. On quite a few evenings, although the wispy thin clouds were difficult to interpret, it would gradually become apparent that lift was extending across the valley almost at right-angles to the main ranges that hemmed in the airfield. Gradually I would become aware of the eerily smooth lift associated with standing waves, and start beating up and down across the valley, clear of the mountains or other "visible means of support". Two or three other gliders would also be seen tracing out the pattern of the wave and eventually we would all arrive near the wispy streaks in the sky and fly along the wave line trying to signal to each other when we passed closely in the narrow band of lift.

One evening three or four of us had picked up this type of wave lift under a completely overcast sky and we all duly arrived in a hollow rift scooped out of the underside of the thick cloud by the rising air. Suddenly a series of green Verys shot up from the airfield, recalling us to land. I looked around and saw a solid wall of grey murk that stretched right across the valley from ground level to cloud base. I stuffed down the nose of the glider, opened the spoilers and scorched down towards home. The solid wall was advancing steadily along the valley and as I landed outside the hangar half the airfield had already disappeared. By the time the last glider was safely down a great storm was raging round us and we hurled the gliders into the hangar as fast as we could. Several hours later the storm left the airfield as suddenly as it came, a solid mass of dark grey retreating down the valley, chased by long golden rays of the setting sun.

It was several days later that a rather smaller storm gripped the airfield. Visibility was not too bad and for some obscure reason I allowed myself to be sat in the Weihe, attached to the cable and launched into the air. I kept thinking it was dangerous, but somehow I felt remote and compliant and allowed it to happen.

About three-quarters way up the launch a strong electric shock flung my right hand





off the control column and the glider reeled across the sky out of control, but still attached to the cable. I pulled off so fast the lightning hadn't time to catch up on me. There was only one thought in my mind. Down to the hangar, but fast. The spoilers were out and at about 300 ft. I was straight and level on the approach when I happened to look at the variometer. It showed 3 metres up—and the spoilers were still out! That was just too much for me. In went the spoilers and I was up at cloud base, about 2,000 ft. in a couple of lazy circles. I spent about an hour lurking around the storm clouds, enjoying the eery flying in a queer half-light between the menacing walls and black hollows, rather in the way one enjoys being terrified by a horror story and hoping it has a happy ending. After all, I had been struck by lightning.

Canadian 1957 Championships

From a Correspondent

CANADA is the latest country to experience the truly remarkable impact of Championship Flying carried out under modern F.A.I. regulations. In fact it is not too much to say that, as a result, she has sprung at one bound into the First League of gliding nations.

The dates were decided by the fact that the holiday periods of the two major Canadian aircraft companies were a week apart. Consequently the Championships were flown in two halves, the first between 21st and 27th July, then a week's break with some practice flying, the second half occupying 28th July to 3rd August. The winning pilots of each contest then flew off a final contest on the week-end 7th-8th September.

The standard F.A.I. tasks were set, and the winner of the first week was Charlie Yeates, flying a Schweizer 1-23, with the maximum possible score of 4,000 points, having won each of the four tasks flown.

The second week produced one terrific day, in which six out of eight competing pilots achieved the oft-dreamed-of, but never accomplished, 190-mile flight linking Brantford with Elmira, the two soaring capitals of Canada and the U.S.A. This week the winner was Gordon Oates, flying his newly-acquired Skylark 3, with a total of 3,769 marks.

Yeates and Oates accordingly fought it out on 7th-8th September, and Oates flew his Skylark 3 to a decisive victory, winning both tasks.

All previous history goes to show that, after this demonstration of the potentialities of soaring flight, Canadian gliding will now expand rapidly and decisively.

Problems of Championship Task-setting

by Ann Welch

(Reproduced by permission from "Flight")

ONCE upon a time gliding championships were, by definition, a marathon for the pilot. Catapulted into the air after breakfast, he would spend the days flying with the wind as far as he possibly could, and the nights in being driven all the way back again. To see who could last longest at this sort of thing was clearly not the purpose of such competitions and it was realised that some modification to the rules must be made to keep abreast of the rapid development in pilot technique. Compulsory tasks are now set for every flight, many of which follow a fixed course and include a return to base. As a result the pilot's day now starts with a pleasant aero-tow to a couple of thousand feet, includes some hours of highly competitive soaring, and finishes, more often than not, with the pilot sleeping in his own bed.

The success or otherwise of such a championship is to a large extent dependent on the ability of those who set the tasks. It is not only a matter of choosing a flight which is reasonably possible on the forecast weather, but of obtaining desirable results from the contests; whereas in a world event the intention is obviously to extract the finest performances from the competitors, the aims in local championships may be to give training in speed or goal-flying, or just to provide as much general soaring as possible.

The first requirement of the task-setter, or his committee, is the services of a skilled meteorologist who has access to the latest met. reports. The relationship between the met. man and the task-setter must be good, and for the best results they should have some experience of working together well before any important championship, so that the morale factor of the met. man is fully understood. This is not to criticise his ability, but only to say it is necessary to know whether he tends to produce optimistic forecasts or gloomy ones in the early morning when the task-setting has to be done. An experienced met. man who understands gliding is extremely valuable, and if the championships are a success a great deal of the credit must go to him.

The task-setter needs a good contour map of at least one-million scale, preferably half-million, on which to visualise the scene. If this map can be fitted with a rule and protractor the task-setter's work will be simplified. He will be able to set a large number of tasks in a few minutes, reading off the flight time under the forecast conditions, and thus he can quickly discard any impossible ones.

As soon as the task-setter knows what the weather for the day is likely to be he can begin to worry, for he must choose one of several tasks and decide in which direction the flight is to be made, and how long it should take. This seemingly simple problem is bedevilled by all manner of conflicting considerations and interests and a great deal of ingenuity may be needed to reach the best compromise.

Championship Tasks

In modern championships the tasks are all variations on a theme of distance and speed. There are neither tasks nor marks for duration or altitude.

(1) FREE DISTANCE.—This task may seem a contradiction of all that has been said above, but free distance is a mandatory task for world championships, having to be set at least once. It is, as its name implies, a flight in which the pilot goes as far as possible in the direction in which he thinks he will get farthest. It is normally used in soaring conditions which provide opportunity for record flights. The rules may forbid the overflying of frontiers, in which case, should any pilot inadvertently go too far, only the distance to the frontier is counted for marks.

(2) RACES.—There are several different speed tasks. Those usually set for world championships are (a) race to a fixed goal, (b) out-and-return race, and (c) race round a triangular course of 100, 200 or 300 km. In national championships there is a greater

variation in the choice of speed tasks. Such courses are short out-and-returns and triangles (in which the competitors are required to complete more than one lap) or dog-leg races (which have one or more turning points but do not return to the point of departure); in fact, any suitable course may be set which fits in with the limitations of the country and the needs of the competitors, provided that allowance is made for such flights in the rules.

As with most races, the winner is the person who achieves the greatest speed; but, owing to the nature of gliding, considerable skill may be needed merely to arrive. The race to a fixed goal is a proposition quite different from races having courses in more than one direction. In fixed-goal races there need be no limit, other than safety, to the wind strength, but in multi-direction races the wind must not be so strong that into-wind progress is impossible.

(3) DISTANCE ALONG A LINE SET BY THE ORGANISERS is a useful task, as it can be used to control the direction of flight. This may be desirable owing to the existence of dangerous landing-country, control zones, or firing ranges. Further, by setting the line with a greater or lesser degree of into-wind components, flights of several hours' duration will be obtained over a limited ground-distance. The marking system usually penalises, with increasing severity, divergence from the set line.

When the forecast is in doubt this task has an advantage over a fixed-goal race, as the line in theory is endless; if the weather is worse than forecast there is still a chance of the task being satisfactory, whereas if the weather is better than forecast the opportunity exists for a longer flight.

Normally the set line is considered to be straight, but there is no reason why it should not be a dog-leg or even a reciprocal course. Should it be desirable to reduce the amount of retrieving, and at the same time avoid an endless succession of goal races, such an alternative is most useful.

(4) PILOT-DECLARED GOAL.—A distance flight in which each pilot nominates his own landing place before taking off. It is no longer set in world championships, but is of much value in nationals: it forces pilots to

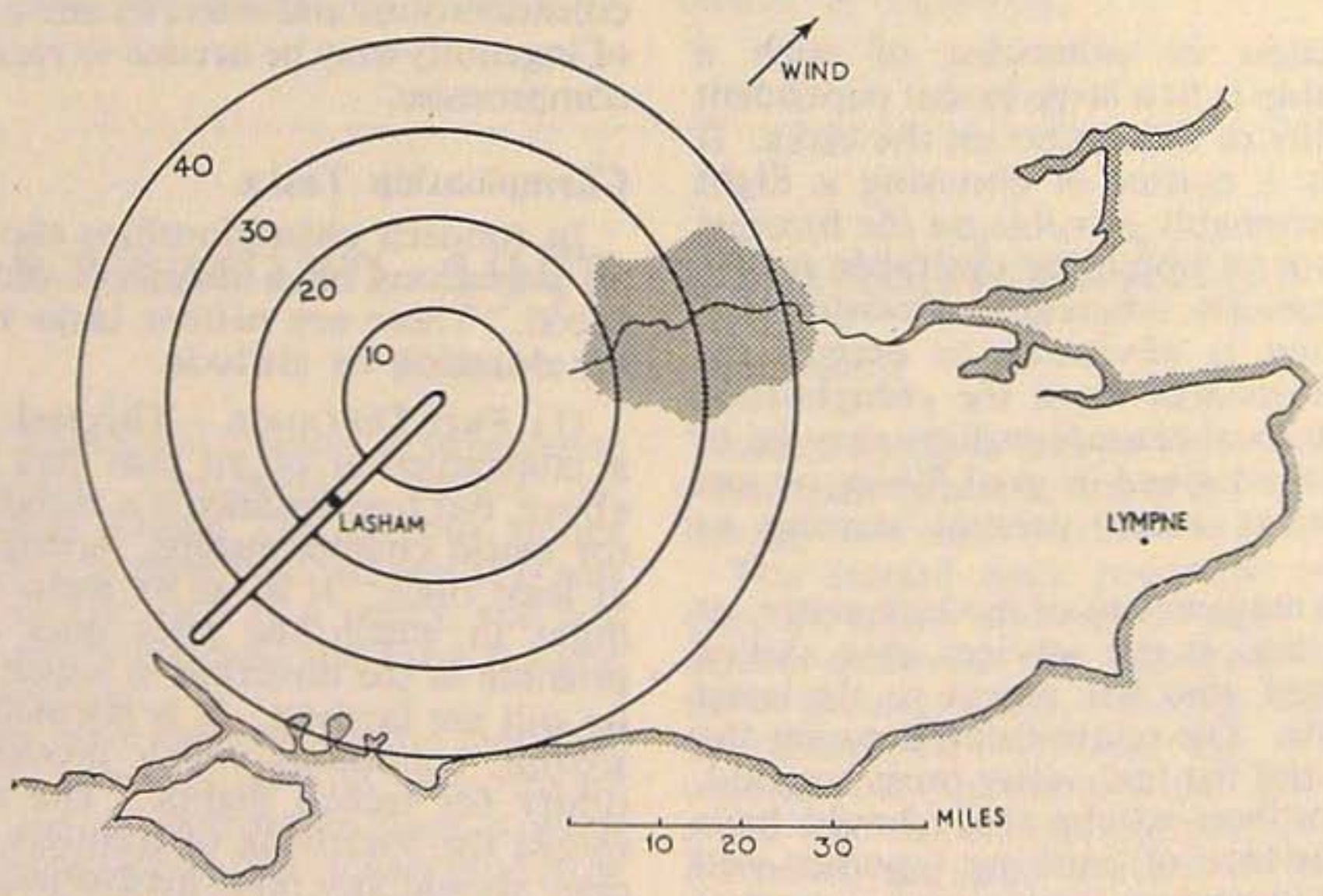


Fig. 1.—This task-plotter, designed by Lorne Welch, consists in its simplest form of a mounted map and a transparent disc. The disc has a series of concentric circles to the same scale as the map; it also has a slot which slides over a peg located at the gliding site. In Fig. 1 the disc is shown set for a S.W. wind of 16 m.p.h. (note that the wind is indicated in a downwind sense). The average air distance which a glider can make good in one hour can be assessed from the met. forecast of the thermal strengths. Let us say that it is 30 miles. On this particular day the 30 m.p.h. circle on the transparent disc will show the geographical positions which a glider could achieve after one hour's flying.

make a comprehensive survey of how best to use the day's soaring, which is excellent training; and it throws the choice of task back at the pilots if the task-setter, in despair, cannot make up his mind what on earth to select.

The Choice of Task

Which of the above tasks is chosen, and its direction and extent, depends on a number of considerations. These include the weather, the skill of the pilots, the purpose of the competition, the performance of the gliders, the geography of the country, and an assortment of miscellaneous factors.

(a) THE WEATHER.—Provided that there is sufficient instability to make soaring practicable, the most important aspect of the weather is the strength of the wind. Unless the task-setter can get an accurate forecast of this, he will not be able to decide if flights (other than those with some downwind component) are possible. The average airspeed of the glider, i.e., its point-to-point speed in still air, depends on the strength of the up-currents which the pilot can find, and to some extent on their shape and distribution. Under really exceptional conditions average airspeeds of 50 kt. or more have been obtained, but in England 30 kt. is good, and most cross-countries are done in the range 15-20 kt. Under these conditions it is obviously hopeless to have a task involving a headwind component of 20 kt. In winds of this strength the ground speed will be so low that any mistake in technique will result in ground being actually lost.

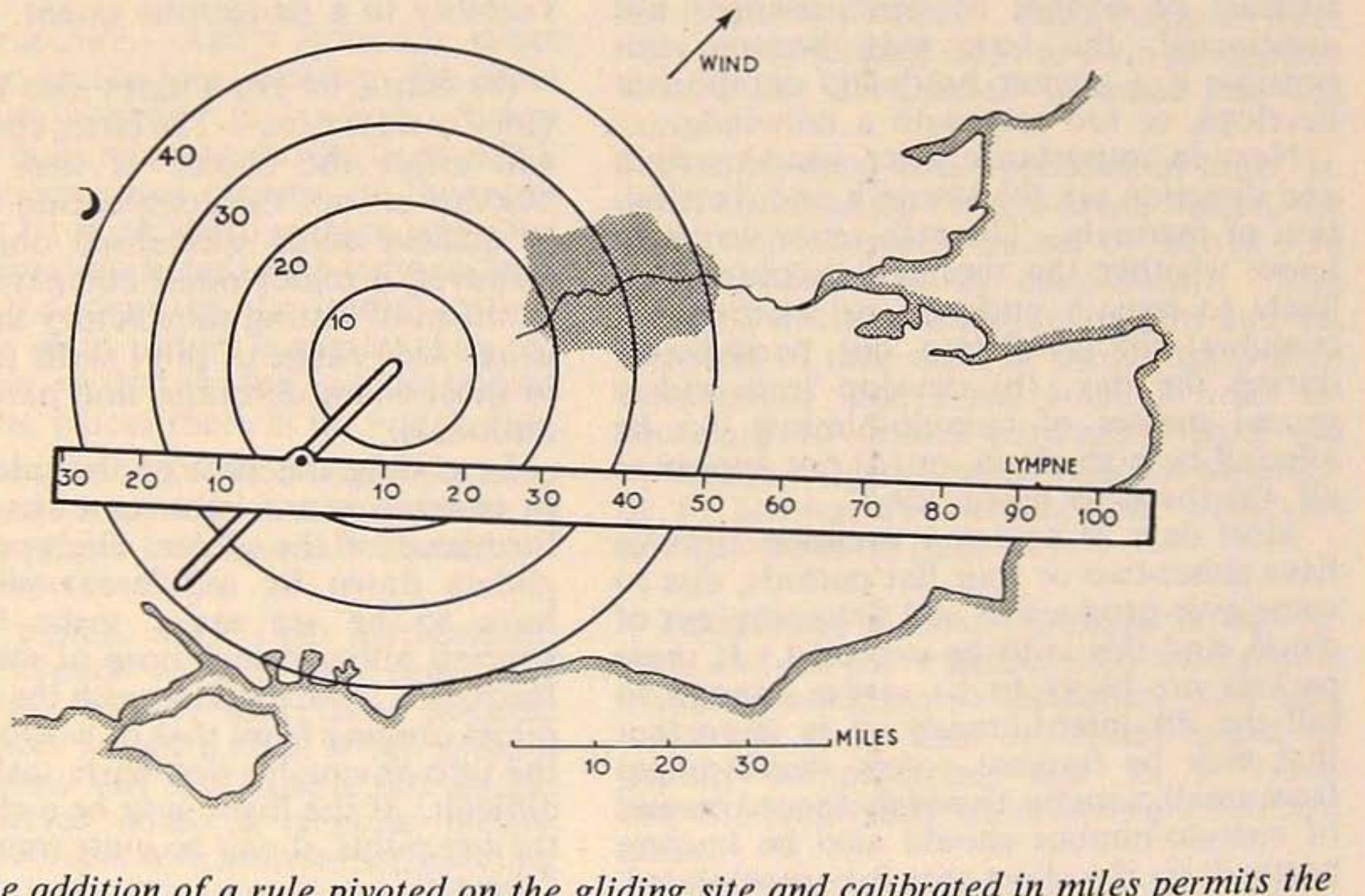


Fig. 2.—The addition of a rule pivoted on the gliding site and calibrated in miles permits the speedy assessment of the time taken for a number of different tasks. If the average airspeed is 30 m.p.h. the point at which the rule intersects the 30 m.p.h. circle in the direction of flight shows the groundspeed that will be obtained in this direction. The groundspeed which could be made good on a return flight can be read off on the other end of the rule. Swinging the rule will give the groundspeed for any direction of goal. Fig. 2 shows the rule set for an out-and-return flight Lasham-Lympne-Lasham giving a groundspeed of 38 m.p.h. on the way out and 17 m.p.h. for the return. Since the distance to Lympne is 93 miles, the time taken will, therefore, be 2.5 hrs. and 5.5 hrs. respectively, a total of 8 hrs. It is improbable that thermal soaring will be practicable in England for more than about 6 hrs., and such a flight is most unlikely to be achieved unless a higher airspeed can be maintained. If the thermals turn out to be better than was forecast, so that an average airspeed of 40 m.p.h. could be maintained, groundspeeds of 49 m.p.h. and 28 m.p.h. would be achieved on the two legs. These give 1.9 and 3.3 hrs.—totalling 5.2 hrs., which is, therefore, possible. As the task can be set only on the forecast this flight would not be selected.

A further consideration when setting an into-wind task is that of the characteristics of the approaching air mass. For instance, the lift-killing properties of a warm front extend far in advance of its bad weather and, whereas a downwind task could keep the competitors sufficiently far in advance of the front to be unaffected, tasks set towards the weakening lift will result only in an unrewarding struggle.

The wind direction, and any imminent changes, next need to be known with some accuracy. In few countries are there likely to be a profusion of aerodromes or known large fields which can be used as goals when setting a race. Frequently the choice of a goal is a compromise between reasonable ground-mileage and acceptable cross-wind component, so that a flight of a suitable duration is selected as the task. Should the forecast be wrong, or wind changes not anticipated, the task may become impossible if a greater headwind component develops, or too easy with a tailwind.

Next in importance after wind-strength and direction are the strength and distribution of thermals. The task-setter wants to know whether the thermal distribution is likely to remain uniform, or whether the cumulus will (a) flatten out periodically during the day, (b) develop into widely spaced masses of cumulo-nimbus, (c) be affected by high cloud, or (d) not appear at all, the thermals being "dry".

Most days of ordinary summer cumulus have either two or four flat periods, due to some over-production and flattening-out of cloud, and this is to be expected. If these periods are likely to be severe enough to kill the lift intermittently, it is important that they be forecast. Any development from small cumulus to widely spaced masses of cumulo-nimbus should also be known, particularly if a short race is contemplated, as the existence of a single huge cloud on or near the track introduces too large an element of luck. This cloud will probably be the only source of lift within reach, and so such things as the time of launch of any given competitor, or too much or too little conscience about entering cloud immediately after another glider, assume undue importance.

For effective into-wind flying the lift distribution needs to be fairly uniform. Patchy or infrequent thermal areas will be more of a disadvantage than when the glider is travelling with the wind and is able to stay in the good areas while the wind drifts it on its way.

There are two other aspects of the weather, both local, which can seriously upset the task-setter's reputation if they are not foreseen—a sea breeze, and industrial-haze streams. On days of strong convection the sea breeze may penetrate inland some 30-40 miles by late afternoon, and little if any lift may be found in the areas affected by it. The encroachment of the sea breeze throughout the day may well be a more important factor in determining the direction in which a triangular course should be flown than may any possible shift in the main wind.

Little need be said about industrial-haze streams. Gliders should not be sent through them if this can be avoided. The haze not only cuts off the lift, but may reduce visibility to a dangerous extent.

(b) Skill of the Pilots and Purpose of the Competition.—The latter consideration will affect the choice of task depending whether or not the competition is intended to achieve some specialised object. It is, however, a minor point compared with the problem of setting satisfactory tasks for the usual wide range of pilot skills to be found in most championships, and particularly in nationals.

In gliding the skill of the pilot remains, in general, more important than the performance of the glider. High-performance gliders flown by indifferent pilots would have to be set easier tasks than good soaring pilots flying those of medium performance. In nationals, with the skill of the pilots ranging from that of world-beaters to the tyro having his first bash, task-setting is difficult. If the flight is to be a challenge to the top pilots, it will be quite impossible for "the tail".

The contest rules usually require that a certain number of competitors must achieve a known minimum performance on each day, otherwise nobody receives any marks. This is a wise precaution; but in fact, the task-setter must aim for a much higher proportion of gliders to reach the goal in races so that their speeds—and not merely the pilots' ability to get there—can be compared. The course set should be such that, even if the weather is worse than expected, it is still reasonably capable of completion by a good proportion of the contestants.

The effects of pilot fatigue should not be

forgotten. These effects become serious during a long championship if the flying has been exacting. If necessary, easier tasks should be given or a rest day declared.

(c) PERFORMANCE OF THE GLIDERS.—Tasks should not be set which are beyond the performance of the glider, i.e., a sailplane of poor penetration should not be given a flight against the wind when this is too strong for the machine to make headway. Exceptions may have to be made if one or two low-performance gliders have been entered in a competition just for the hell of it, in order that the task will be worthy of the bulk of competitors. Only windward races are likely to be physically impossible; distance flights (and even downwind races) do not penalise the glider in the same way.

(d) GEOGRAPHY.—Apart from any effect it may have on the local weather, the main consideration is safety in landing. Large forested or built-up areas should be avoided. Hilly or mountainous regions, on the other hand, may have no disadvantage provided that there are some fields in the main valleys. Normally the slope of the lateral valleys towards the main valleys is greater than the gliding angle, so that as long as these valleys have landing places there is no undue risk.

Other areas to be avoided are large damp or marshy regions, while those known to be particularly good for thermals should, of course, be used.

Turning points, other than aerodromes, should be chosen so that they are easily visible from the air, and have possible landing-places within a mile. High ground does not stand out well, and a hill should not be selected unless it is made unmistakably prominent by a monument, building or other feature. Viaducts and junctions of main railways with canals or rivers are good. Lakes or woods of odd shapes can be used as pointers for turning points of only moderate prominence, but are not satisfactory in themselves.

(e) MISCELLANEOUS.—The rules, with particular reference to the marking system, and the arrangements for launching the gliders, will need to be studied. For instance the take-offs may be made at a fixed time and in a pre-arranged order, or the pilot may be allowed to select his own take-off time. In the former case the task-setter will also have to declare this time. If he makes it too early there may be an unnecessary number of wasted launches; if too late, good soaring weather will be lost.

Tasks must be set so that infringement of the Air Navigation Regulations is not encouraged, and so that pilots are unlikely to be shot at by over-enthusiastic gunners.

The state of the roads (particularly near coasts at holiday time) becomes a serious factor. Deliberately putting forty 30 ft. trailers on to inadequate or congested roads is not to be undertaken lightly; the degree of frustration and nervous exhaustion suffered by competitors, and general public alike, may be appreciable.

There must be the utmost determination to avoid setting tasks on a basis of publicity or spectacle, for task-setting is quite hard enough when attempted with due regard for the important aspects. Such things as local fêtes, early-closing days or civic ceremonies should not be allowed to enter into the matter.

Finally, there is the problem of time. In order that soaring weather is not wasted, the task must normally be set by about 9.30 a.m. (under English conditions). This means that the weather assessment and the selection of task must be dealt with well in advance of this time, since it may be necessary to obtain permission from the operators of aerodromes selected as goals, or to arrange for turning-point observers and get them on their way.

* * *

Task-flying in championships is here to stay, and the more people who can become skilled at setting tasks the better. Too little is known about this important aspect of gliding competitions, and as a result contests may easily be ruined by ill-chosen tasks.

Also in the hands of the task-setters, particularly in world championships, is a tool—or even a weapon—to fashion the development of gliders and of soaring technique. For example, championships which are little else than short-course pylon races, for the benefit of spectators who pay entrance-money, will encourage gliders and pilots who are good at this sort of thing, and we may lose sight of the real purpose of soaring—that of exploring the air and learning more about its power and character. The Gliding Commission of the F.A.I. keeps a jealous and competent eye on the rules and regulations, but even within the

existing framework pure spectator-flying could be encouraged to a large extent by a determined organiser.

The World Championships in France last year demonstrated the benefits of courageous and far-sighted task-setting. As a result there now exists a wealth of experience and knowledge about the big wave-system that exists in the Rhône Valley, opening up the possibility of 500-mile distance flights in Western Europe. These explorations showed what really can be done with gliders when flown by first-class pilots under competition conditions.

BOOK REVIEW

Air Flow over Mountains: by G. A. CORBY, B.Sc. Meteorological Report No. 18, published by H.M. Stationery Office, London, 1957. Price 3s.

ALTHOUGH this report is designed primarily for forecasters and pilots of powered aircraft, it deserves a place on the experienced glider pilot's bookshelf. Standing waves and turbulence over mountains are dealt with in four parts. First, the observational evidence of wave phenomena is described briefly but in sufficient detail to show the nature and order of magnitude of wave effects. Then Part II summarizes the implications of theoretical study of lee-wave flow. To the reader not conversant with meteorological terminology this section may, on first reading, appear somewhat difficult to follow, but the author has, in fact, condensed the salient conclusions of complicated theories into as lucid a form as present knowledge justifies, and the careful reader will find, packed into this section, many items of information of considerable practical value.

Part III, on aviation forecasting aspects of mountain airflow, illustrates conditions suitable for waves by listing a number of wave reports from airline pilots and showing the relevant tephigrams and upper winds. Although there are no simple and precise rules for predicting the lee wavelength, the wave amplitude and the lift or sink in waves, it is sometimes possible to make a rough assessment of soaring possibilities in waves by understanding the relationships between hill sizes and shapes and lee wavelength and between wave amplitude and the airstream winds and stability characteristics. These relationships are discussed clearly but without undue simplification.

After describing some forms of turbulence associated with mountain airflow, the report goes on to advise power pilots what to expect when flying through waves, and what action to take in order to avoid such hazards as strong vertical currents, turbulence, icing and variable winds which can be troublesome over mountainous regions.

For those who wish to delve deeper into the subject, a short bibliography and a method of computing an airstream parameter relevant to wave flow are appended, but whether a glider pilot wishes to study the intricacies or the general nature of mountain airflow, he should find this report an instructive supplement to the gliding textbooks so far available.

C. E. WALLINGTON.

WEATHER RECORD CHART 1958

A new publication of great interest and value to gliding enthusiasts. Page-to-month, ruled for wind, sun, rain, barometer and thermometer readings. Also 12-page Diary for personal observations. Normal monthly averages (temperature, sun, rain) are given, specially compiled from 30 years' official records. Map and meteorological notes.

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UP and DOWN

International Records

The F.A.I. has confirmed a goal-and-return record of 321.912 miles (518.066 km.) set up by Vladislav Zejda, of Czechoslovakia, on 30th May 1957. Lyle Maxey, of U.S.A., held the previous record of 311 miles.

Also confirmed is a speed record round a 200-km. triangle of 55.02 m.p.h. (88.54 km./h.) by Paul Bikle, of the United States, on 18th August 1957, from El Mirage.

* * *

Radio at Aerobatic Contest

In the report of the London Club's aerobatic contest, published in December, it was not mentioned that the walkie-talkie used for communication between flying control and central control was a Cossor Type 102 set, employing frequency modulation and a transistor power supply. The power output is 150-250 mW, the endurance 10 hours, the dimensions 11 × 7 × 3½ in., and the weight 6 lb., including accumulator, head set and microphone.

* * *

More National Contests

In Central Africa the Federal Soaring Championships were held at Salisbury, Southern Rhodesia, in October, and were won by David Ryland, of Salisbury. The previous champion was Eric Burditt. It has already been announced that Central Africa has entered for the 1958 World Championships at Leszno.

The Finnish champion is Harald Tandefelt, who won with 5,559 points against Jorma Jalkanen's 5,107 points and Juhani Horma's 4,831 points.

In the Yugoslav Contests, to which Polish pilots were invited, Stepanovic, of the home team, won with 3,649.5 points against Makula, of Poland, with 3,521.5 points. Gorzelak (Poland) came third and Komac (Yugoslavia) fourth.

Rieti Silva, of Rome, won the Italian championships with 2,356 points, flying a Canguro. Zoli had 2,233 and Cattaneo 1,888 points.

Skylark on Exhibition

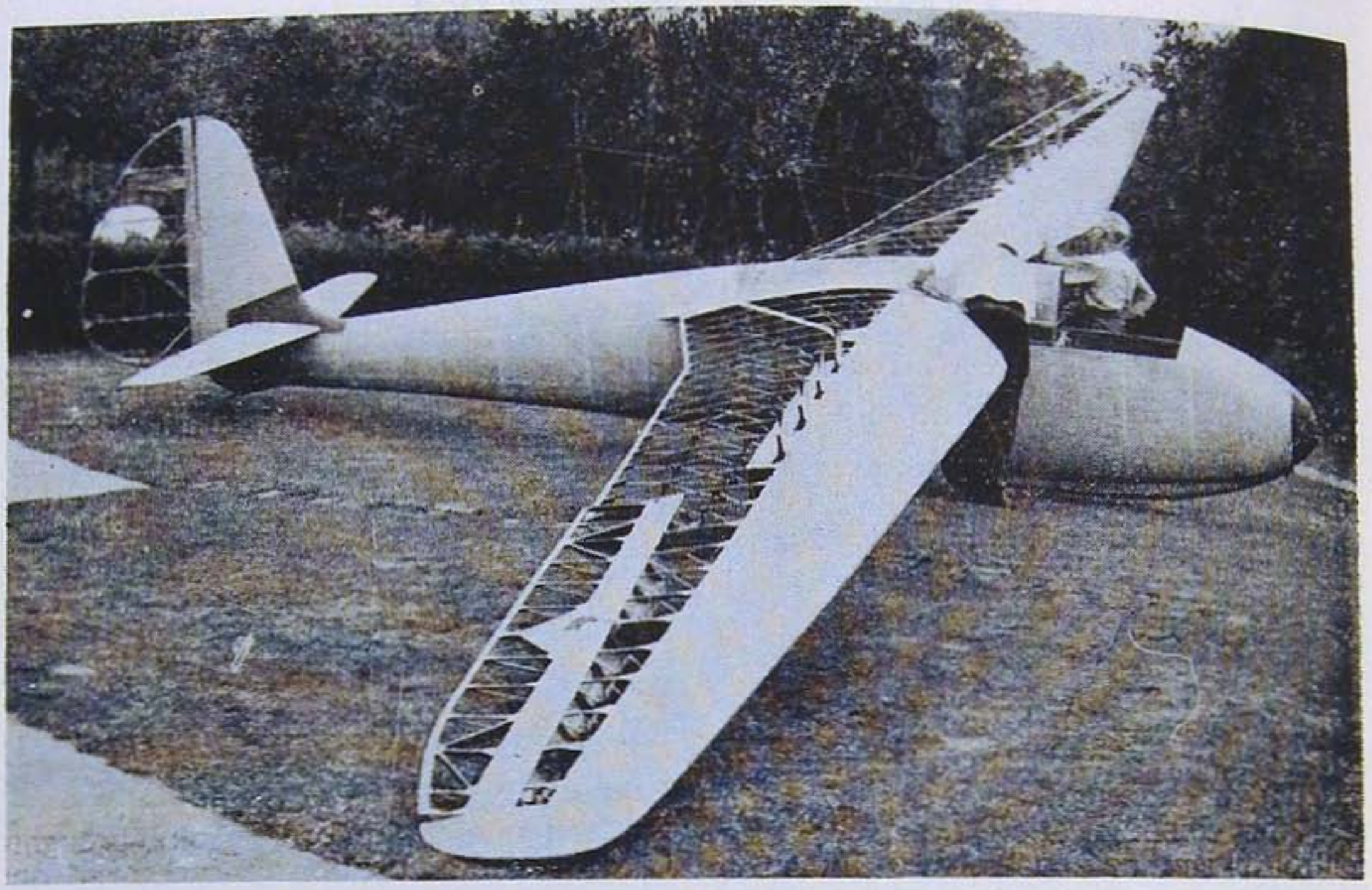
A Slingsby Skylark II is to be on show at Belle Vue, Manchester, during the *Daily Herald* International Holiday and Travel Exhibition, which started on 14th January and will continue till 8th February. Somebody will be there to give out information about gliding. But don't believe the Press hand-out which gives it a "tail weight of 465 lbs."; this is the "tare" weight of the whole machine. A Fairey Rotodyne will also be exhibited.

* * *

Gliding in Parliament

Major Sir Roger Conant, M.P. for Rutland and Stamford, again brought Gliding to the attention of Parliament on 19th December. After stressing its value for the Royal Air Force, he criticised the fact that cadets in the Air Training Corps are taken only to B certificate standard, instead of being taught the joys of soaring. He wanted potential recruits to the R.A.F. to be told that they could get cheaper and better gliding there than in civilian life, and R.A.F. gliding should be stepped up to justify this statement. He also wanted Silver and Gold C badges worn on R.A.F. uniforms on duty by those entitled to them.

Mr. C. Orr-Ewing, Under-Secretary of State for Air, said that Sir Roger had already introduced him to gliding at Dunstable. He replied on a note of sympathy tempered with regret at the limited financial resources available. With regard to the future of Lasham Gliding Centre, he stated the present position thus: "The R.A.F. no longer wants the airfield and there is no other Government need for the land apart from a minor Ministry of Supply interest . . . We therefore intend to dispose of the land. Naturally, our first thought would be to offer it to the former owner . . . It must be for the clubs themselves, in the light of information which we have given them, to decide what steps they should take to maintain or improve their facilities."



Fred Coleman, of the Derbyshire and Lancashire Club, has spent many years building his Harbinger, a two-seater design by Shenstone and Czerwinski. As can be seen, it is nearly finished, but, in addition to covering it, he intends to lengthen the nose to bring the seats further forward.

How to get "SAILPLANE AND GLIDING"

Owing to increased postal rates and rising publication costs, the Association regrets that postage must now be charged in full. From 1st October 1957, new and renewal subscriptions obtained through the Association will be 17s. ($3.00) per annum, both home and abroad. The price of the magazine remains unchanged at 2s. 6d.

"Sailplane and Gliding" can be obtained in the U.K. at all Gliding Clubs, or send 17s. (post free) for an Annual Subscription to:—The British Gliding Association, Londonderry House, 19 Park Lane, London, W.1. Single copies and most of the back issues are also available, price 2s. 10d. post free. Enquiries regarding bulk orders of 12 or more copies, at wholesale prices, should be made to The British Gliding Association.

OVERSEAS AGENTS

AUSTRALIA:	Stockists: Hearn's Hobbies, 367, Flinders Street, Melbourne.
NEW ZEALAND	F. M. Dunn, N.Z. Gliding Association, Box 2239, Christchurch.
SOUTH AFRICA:	The Aero Club of South Africa, P.O. Box 2312, Maritime House, Loveday Street, Johannesburg.
U.S.A., CANADA & OTHER COUNTRIES:	Please apply direct to British Gliding Association. Single copies 2s. 10d. or 17s. annually. (50 cents or $3.00 annually).
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PILOTS WITH THREE DIAMONDS

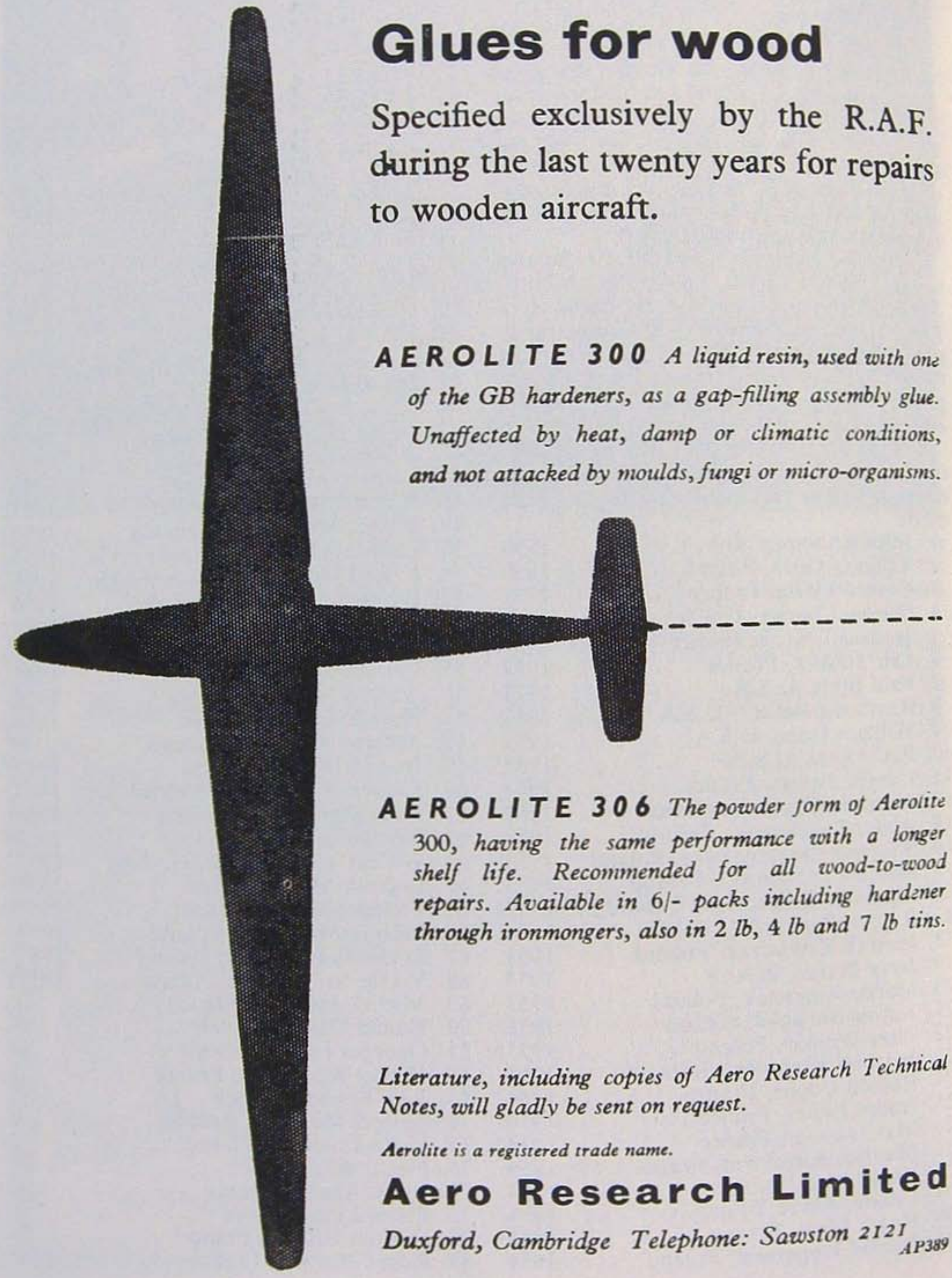
INSTITUTED in 1938, the Gold C badge is given for flights of 300 km. distance and 3,000 metres climb. Since 1950, an additional Diamond may be fixed on the Gold Badge for each of the following: distance flight of 500 km. (310.7 miles), goal flight of 300 km. (186.4 miles), and gain of height of 5,000 metres (16,404 ft.).

In the following list, Nos. 12, 32, 56 and 66 are women pilots. No. 58, Alberto Araoz of Argentina, has not, the Swiss *Aero Revue* states, yet done his 500 kilometres in spite of inclusion in the official list. Nos. 69 to 80 have been reserved for French pilots, but the names given are not yet officially confirmed.

The countries given show the nationality of the pilots, but are not necessarily the country where the qualifying flights were made.

1. John Robinson, U.S.A. .. 1950
2. Tadeusz Gora, Poland 1950
3. Gérard Pierre, France 1951
4. Shelley Charles, U.S.A. .. 1951
5. Jacques Leveau, France .. 1952
6. Eric Nessler, France 1952
7. Paul Bikle, U.S.A. 1952
8. Raymond Parker, U.S.A. .. 1952
9. William Ivans, U.S.A. .. 1952
10. Paul Opitz, U.S.A. 1952
11. Gerard Tahon, France .. 1953
12. Marcelle Choisnet, France .. 1953
13. Andrzej Zieminski, Poland .. 1953
14. Stanislas Skrzydlewsky, Poland 1953
15. Zdislaw Przyjemski, Poland .. 1953
16. Zbigniew Kirakowski, Poland.. 1953
17. Roman Zydorczak, Poland .. 1953
18. Henryk Zydorczak, Poland .. 1953
19. Jerzy Popiel, Poland 1953
20. Marian Gorzelak, Poland .. 1953
21. Antoni Smiegiel, Poland .. 1953
22. Jerzy Wojnar, Poland 1953
23. Joachim Kuettner, Germany .. 1954
24. Roland Cogne, France .. 1954
25. André Breuil, France 1954
26. Max Gasnier, France 1954
27. Maurice Kirschroff, France .. 1954
28. Yves Giard, France 1954
29. Charles Fèvre, France .. 1954
30. Roger Biagi, France 1954
31. Rudolf Kopernok, Poland .. 1954
32. Wanda Szemplinska, Poland .. 1954
33. Tadeusz Szymczak, Poland .. 1954
34. Stanislas Cnotliwy, Poland .. 1954
35. Rajmund Jakub, Poland .. 1954
36. Erazm Kapala, Poland .. 1954
37. Andrzej Brozek, Poland .. 1954
38. René Fonteilles, France .. 1955
39. Paul Lepanse, France 1955
40. Jean Rouchette, France .. 1955
41. Hans Nietlispach, Switzerland.. 1955
42. Nicholas Goodhart, Gt. Britain 1955
43. Othmar Schwarzenberger, Switzerland 1955
44. Jaroslaw Kumpost, Czechoslovakia 1955
45. Julian Nowotarski, Poland .. 1955
46. Adam Zientek, Poland .. 1955
47. Ludwik Misiek, Poland .. 1955
48. Konrad Wicinski, Poland .. 1955
49. Francz Mordej, Yugoslavia .. 1955
50. Ladislaw Haza, Czechoslovakia 1956
51. Joseph Honzik, Czechoslovakia 1956
52. Edward Makulka, Poland .. 1956
53. Antoni Schabowski, Poland .. 1956
54. Andrzej Koskowski, Poland .. 1956
55. Camille Labar, France .. 1955
56. Andrée Mattern, France .. 1956
57. Etienne Costa, France .. 1956
58. Alberto Araoz, Argentina ..
59. José Ortner, Argentina .. 1957
60. Slawomir Makaruk, Poland .. 1957
61. Jozef Dankowski, Poland .. 1957
62. Roman Sochacki, Poland .. 1957
63. Willem Toutenhoofd, Holland 1957
64. Ludwik Merlo, Poland .. 1957
65. Tadeusz Sliwak, Poland .. 1957
66. Pelagia Majewska, Poland .. 1957
67. Stanislas Luspinski, Poland .. 1957
68. Viktor Sznurowski, Poland .. 1957
69. Michel Ambrosi, France ..
70. Daniel Dantz, France .. ..
71. Georges Legoff, France ..
72. Michel Marchand, France ..
73. Jean Servier, France .. ..
74. Marcel Mandard, France ..
75. Henri Lambert, France ..
76. Pierre Blin, France .. ..
77. Louis Abeille, France .. ..
78. Pierre Lévy, France .. ..
79. Gabriel Gillope, France ..
80. Roger Huertas, France ..

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Glider Maintenance—5

by R. C. Stafford-Allen

CONTROL SYSTEM AND CABLES, ETC.

THE control systems on nearly all gliders use cables. In many cases cables are used throughout, while in others we find push-pull rods and torque tubes in various places in the systems. We may well start this chapter, therefore, with a dissertation on cables.

The most widely used cable is 10-cwt. extra flexible cable. This consists of seven strands of nineteen wires in each strand. Eye-splices are made where the cable attaches to a turnbuckle or a fitting, though in some cases, notably Olympias, the turnbuckles and fittings are directly swaged into the cables. Previously we have discussed cable tensions, so we will not go any further into that subject, but will confine ourselves to the "ills that this steel coil is heir to".

Cables have three main enemies: corrosion, abrasion and fatigue. A corroded cable must be scrapped at once. The individual wires in the cable are very thin and any corrosion seriously weakens them. One of the best corrosion preventatives for cable is Lanolin Resin Solution D.T.D. 297B. This is a yellow sticky paint which is applied to the cable. It never dries out hard, but remains faintly "rubbery". It can be removed again when required with a petrol-soaked rag. A worn or abraded cable also must be scrapped if any individual wires are broken. The places to look for this are fairleads, pulleys, and the openings in bulkheads and frames. Abrasion is rather more difficult to deal with, since obviously the cable must rub against something somewhere. However, it will help if all rubbing places are kept clean and dry. This means not too much of the cable preservative at these spots and no lubrication whatever. Any attempt at lubrication merely results in the collection of grit particles, which then form a wonderful grinding compound with the grease or oil. This cuts the cable to pieces in no time. All fairleads and pulleys should be of fibre or plastic and no rubbing on unprotected wood or metal should be allowed.

The fatigue of cable is probably the most difficult problem to deal with. When a cable fatigues, the wires crack and break. The cause is always repeated bending round too small a radius, and manufacturers are often to blame for using too small a size of pulley for the cable. Fatigue frays, in consequence, usually happen on the section of cable that runs over a pulley. If even only one wire has broken, the cable must be scrapped. This may seem drastic, but, if one wire has cracked, the others are all damaged to some extent and the cable cannot be trusted. Any rubbing place, such as a fairlead, is also a breeding ground for fatigue, since often an unsupported length of cable will vibrate in flight, and the fairlead is the place where bending due to the vibration occurs. There is no cure for fatigue other than to introduce modifications to the design to prevent it. All you can do is to inspect the cables frequently and, at the first sign of fatigue, scrap and replace the cable.

Splicing Cables

Sooner or later you are going to have to replace a cable, and this nearly always means that you will have to eye-splice the ends. Some machines, notably Olympias, have swaged ends to all the cables, and in this case you must buy a new cable from the makers unless you happen to have a swaging machine available. These machines

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are expensive gadgets and are unlikely to be found in the average gliding club.

Now splicing control cable is an art which is much best taught in a workshop by practical demonstration. However, for those who wish to teach themselves, here is how to go about it.

An eye-splice is always made round either a thimble or a bobbin. A thimble is a small metal lining to the eye, while a bobbin is a circular metal bush, usually intended to be fixed into the fitting or control horn by a clevis pin. The technique is exactly the same, though you will find that, since the bobbin is circular, it is rather more difficult to get the splice tight around it. See Figure 11.

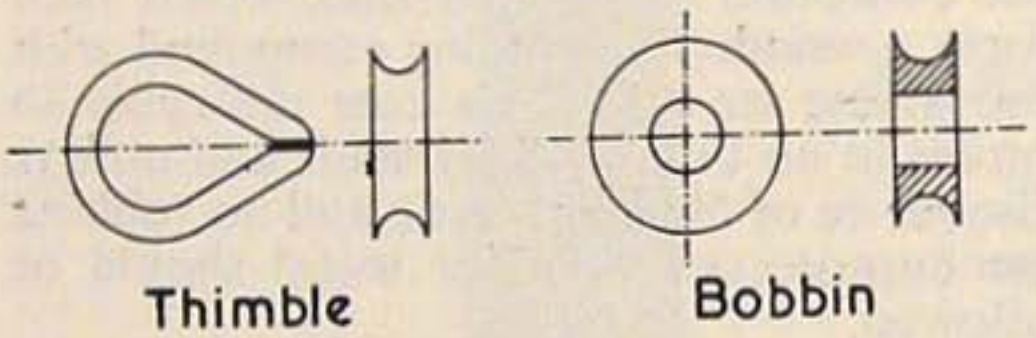


Fig. 11

Start by binding tightly round the cable a length of waxed thread. This binding should be about $\frac{1}{4}$ in. to $\frac{3}{8}$ in. in length, and should be put on about 6 in. from the end of the cable. Its purpose is to allow the cable to be unravelled for 6 inches but no further. Now unravel the end of the cable. You will find that there are seven strands altogether—six outer strands somewhat wavy, and a middle one which is quite straight. This latter strand we call the heart strand because it lies in the heart of the cable. Unravel down to the binding and splay out the six outer strands somewhat, leaving the heart strand sticking straight out of the middle. Now wrap the cable round the thimble so that the splayed ends, where they disappear into the binding, lie just at the jaw of the thimble. Mark the cable at the other jaw and put on a similar binding just inside the other jaw. Wrap the cable round the thimble again and lash round cable and thimble tightly with string to keep it in place while the splice is made. This lashing will later be removed when the splice is finished. The joint now should look like Figure 12, with three outer strands lying each side of the parent cable and the heart strand along the parent cable.

Now the principle of making the splice is to weave the six outer strands back into the

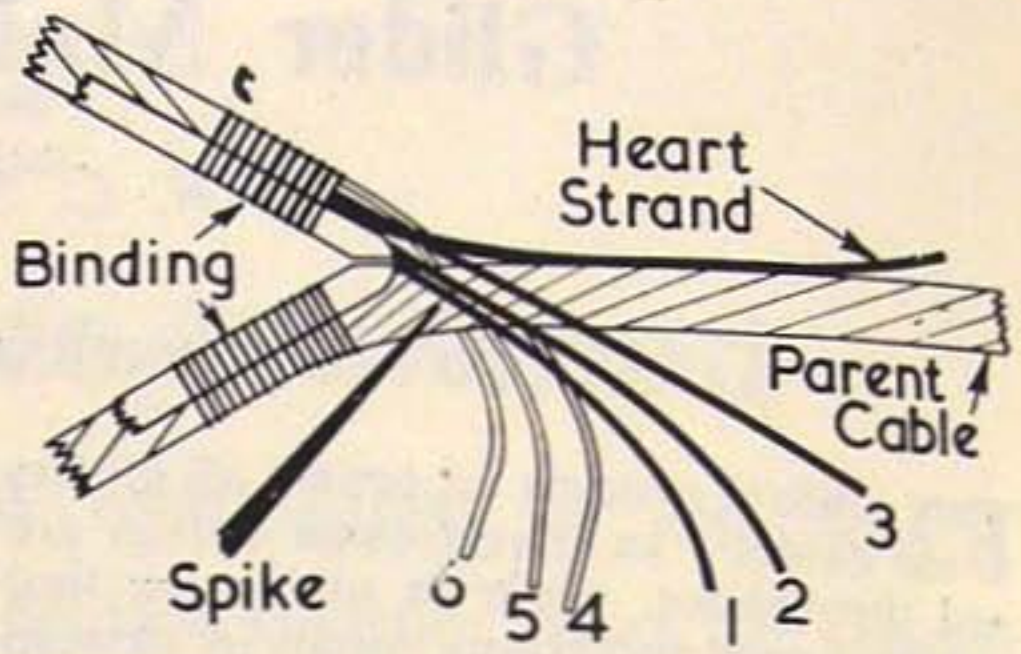


Fig. 12

parent cable, over and under each strand of it alternately, while the heart strand is pushed into the core to lie alongside the heart strand of the parent cable. Begin by pushing the spike into the cable at the point indicated and lift up one of the strands of the parent cable and push No. 1 strand through in the direction the spike went in. Remove the spike and pull No. 1 through tight. Pick up the next strand of the parent cable with the spike (the strand above as seen in the Figure) and do the same with No. 2 strand. Repeat the process with No. 3. Now slip the heart strand under No. 3 and push it down into the core of the parent cable. Repeat the procedure of picking up the next parent cable strand and pass No. 4 under it. Do the same for No. 5 strand. Now, if we did the same for No. 6, it would have to go a long way round the parent cable before being spliced in. Therefore we adopt a different plan for this strand. It goes in the same place as No. 5, but passes under *two* strands of the parent cable. Pull all the strands down tight and you have done the first half-tuck of the splice.

Now inspect carefully. If you have worked correctly, there should be one strand coming out of each gap in the parent cable, and one only. Ignore the heart strand. Now, starting anywhere you like, take one strand, lead it over the next parent cable strand and put it under the next by using the spike. Follow round, doing the same with each strand in turn. When you come to the heart strand, simply ignore it. You only weave in the six outer strands into the parent cable, leaving the heart strand to lie inside the core of your splice against the heart strand of the parent cable. When you have done this over and under

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business with all six strands, you have completed one-and-a-half tucks. Pull down tight; inspect to see that one strand, and one only, emerges from each gap in the parent cable. After each tuck, after pulling tight it is a good plan to beat the splice gently with a mallet, or hide-faced hammer, on a piece of wood. This packs the splice down tight. Continue as above until you have a *minimum* of four-and-a-half tucks. When checking the number of tucks, select any strand, and, beginning at its loose end, follow it through the splice, counting as you go thus: under-over *one*, under-over *two*, under-over *three*, under-over *four*, under *four-and-a-half*. Cut off the loose ends of the strands, beat down and bind the finish of the splice with waxed linen thread. This binding should start at about the middle of the splice and finish on the unspliced parent cable. It *must not* cover more than half the splice, as this must be available for inspection. Remove the temporary lashing round the thimble and your splice is finished.

Now for some tips. A good splice is close, and tight, and it should be impossible to see daylight through it anywhere. To achieve this it helps if, each time a strand is threaded through, you take a little of the twist out of it. Also try to ensure that the spliced-in strands run round the parent cable with approximately the same helix angle as the parent cable strands, but of course in the opposite direction. This means that the criss-cross effect is equi-angular, and the splice packs down tight properly. To stop the ends of the strands from unravelling when you are splicing, it is a good plan to twist the ends up with pliers. An even better scheme, if you have any acetylene welding gear handy, is to fuse the ends together by flashing them for a second in the blowpipe flame.

Splicing sounds quite easy. It is, when you know how. You will probably make several horrible wire birds'-nests in your first attempts, but don't be discouraged. It really *is* quite easy!

Hand splicing is rapidly being replaced by the system of swaged collars. These need a special machine to do the swaging, and the machine is expensive. However, the swaged splice is so neat, and can be done so quickly, that it has everything to recommend it.

Bearings and Hinges

Pulley bearings, stick, and torque tube bearings, may seem very simple things. Sometimes they are fitted with ball bearings, but more often they are plain bearings. Now, there is more than meets the eye in these bearings. They must be properly lubricated of course, but they must also be properly fitted and adjusted. In almost all of these bearings there is a replaceable element, whether it is a plain bush or a ball race. Figure 13 shows a cross section of a plain bearing in a pulley.

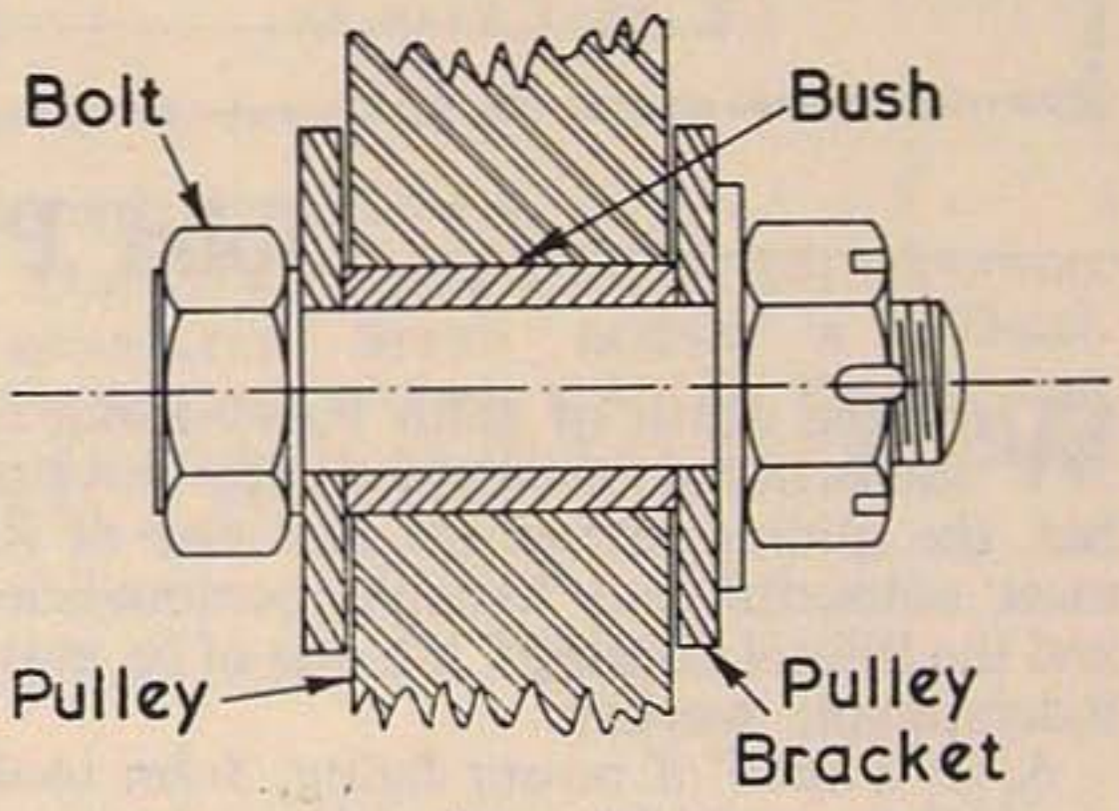


Fig. 13

The first thing to realise is that the pulley is meant to rotate on the bush. This means that the bush must be quite a free fit in the pulley and also it must be long enough to project slightly each side of the pulley. Then we can bolt up tightly to ensure that the bush is nipped between the sides of the pulley bracket and can *not* rotate. If wear occurs, we can easily replace the bush or the pulley or both. There is, however, plenty of bearing area between the bush and pulley, and so wear will be slow.

Now consider what happens if lubrication is neglected and the bolt is not properly tightened. The pulley may seize up on the

bush. The bush will then probably rotate on the bolt, provided that the nip is insufficient to hold the bush fixed. The bearing area between the bush and bolt is much smaller and wear will be rapid. Worse still, the pulley, bush and bolt may seize solid and the whole issue rotate in the bracket. In these circumstances the bearing area is almost *nil*, being merely the thickness of plates of the pulley brackets multiplied by the diameter of the bolt. Wear will be extremely rapid and the holes in the brackets will wear elongated and the bracket and bolt will have to be scrapped.

The above applies equally to stick bearings. Where ball races are fitted, the same basic rules apply. The inner element must be firmly fixed in the bracket and the outer element must be properly attached to the rotating member, pulley, stick or whatever it may be. The usual way of doing this is to make the outer race a press fit in the rotating member, and to hold the inner race by gripping it endwise exactly like the plain bush in the above example.

Control surface hinges should be carefully watched for wear. Cleanliness and proper lubrication will delay wear in these parts, but when they do become worn they are very simple and cheap to replace with new items. It is usually a waste of time to ream and fit over-size pins. One point is very important. This is that at least one side of the hinge must be positively prevented from twisting round on its bolt in the spar. If this were to happen, so that an elevator hinge, for example, were to twist so that the axis of the hinge pin became vertical instead of horizontal, the control surface would lock solid. This would be unfunny in the extreme. The usual way of securing the hinge against rotation is to fit two small wood-screws through a plate which is attached under the head of the forked eyebolt. These screws are driven into the spar, and the hinge cannot then turn in the spar without shearing these screws. In consequence, these screws are very important items and must never be omitted.

John Parry-Jones

With the death of John Parry-Jones in the Britannia accident on 6th November, the gliding movement lost one of its most colourful and likeable personalities and the Bristol Gliding Club one of its most indefatigable workers.

After a spell of power flying, John took up gliding with his characteristic enthusiasm in 1948. Not content with the somewhat limited possibilities of Lulsgate, he soon became a familiar figure at most clubs in the country. Impeccably dressed and complete with umbrella, he would set off on a week-end's hitch-hike which might embrace Sutton Bank, Camphill and the Mynd, not to mention calling in on relatives *en route*.

He became Secretary of the Bristol Gliding Club in 1951, Chief Flying Instructor and Vice-chairman in 1953, and was a B.G.A. Council member. During the time he was C.F.I. he was successful in materially reducing the accident rate, and at the same time built up a team of qualified instructors. He also handled the difficult transition from the easy flat-site conditions at Lulsgate to the more exacting terrain at Nympsfield. Like many others, more of his time on the gliding field was spent instructing and organising than in developing his own soaring skill, and it was not till May, 1957, that he completed his Silver C with a late evening 67 miles in blue thermals to Wellington.

He will, however, be best remembered for his work in setting up the Club's permanent home at Nympsfield. Since the early prospecting along the Cotswolds three or four years ago, when he discovered the field that was eventually bought for the Club, he worked hard and continuously to establish and develop it as a soaring site. It is no exaggeration to say that, but for his far-sightedness, optimism and incredible perseverance, we should never have acquired the site in the first place, let alone developed it to its present state.

J.N.C.

B.G.A. NEWS

B.G.A. Week-end

The ANNUAL BALL is from Friday, 14th March at 8.30 p.m. till 2 a.m. on the 15th. Tickets can be obtained from the B.G.A. office or from gliding clubs for £1 each, including supper.

The INSTRUCTORS' CONFERENCE is on Saturday, 15th March, from 9.45 a.m. to 1 p.m., at the Kronfeld Club (74 Eccleston Square); a sandwich lunch will be available.

A CONFERENCE FOR CLUB SECRETARIES, MANAGERS AND TREASURERS will be held the same day, starting 10.15 a.m., at 80c Eccleston Square, opposite the Kronfeld Club.

The ANNUAL GENERAL MEETING is on Saturday, 15th March, at Londonderry House, starting at 2.30 p.m. It will be preceded by a meeting of Private and Group Owner Members and followed by a meeting of Associate Member Clubs, in each case to nominate a member for the Council.

National Soaring Week

An article on this appears elsewhere. It now seems likely that the following clubs will be organizing meetings during this week: Bristol, Derbyshire & Lancashire, Kent, London, Scottish G.U., and Yorkshire.

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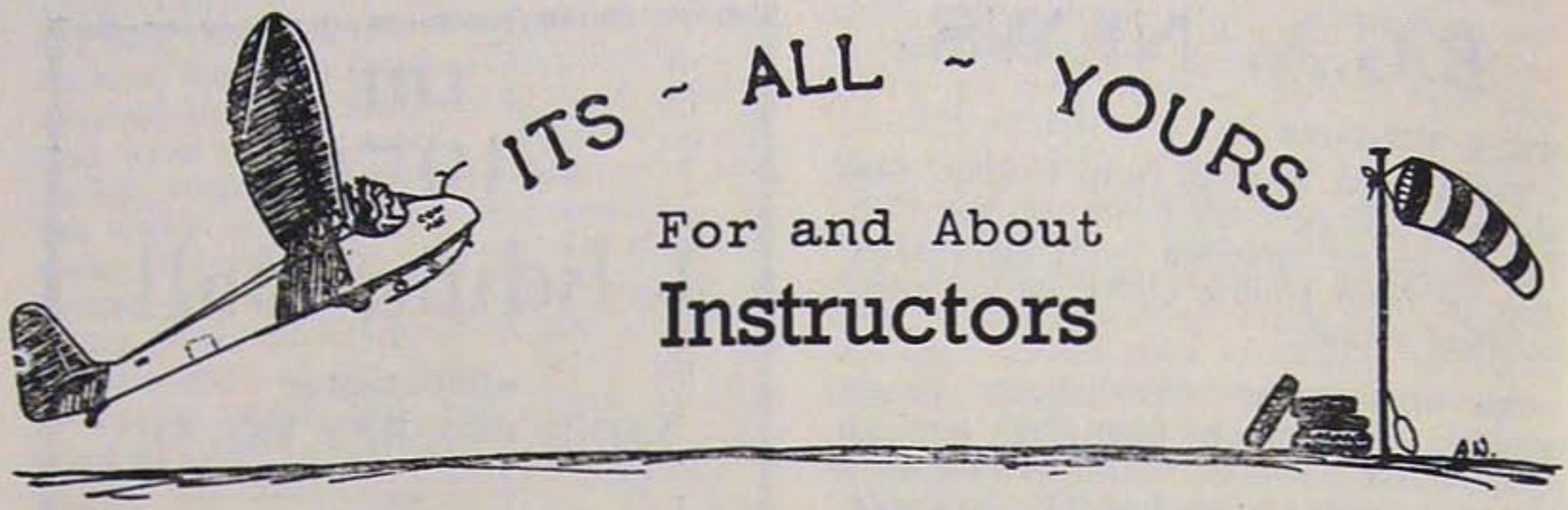
UNITED KINGDOM AND BRITISH NATIONAL TWO-SEATER SPEED ROUND A 200-KM. TRIANGULAR COURSE: A. D. Piggott and P. G. Burgess on 31.8.57. in T-42 Eagle, 22.32 m.p.h.

Clouds in Film Strip

Just before Christmas we were invited to see a pair of film strips showing some very fine colour photographs of clouds, prepared by Mr. F. H. Ludlam and Dr. R. S. Scorer, whose book "Cloud Study" was reviewed in our last October issue on page 267. They are, with one exception, different from those in the book, though the lessons they teach are the same. The first strip of 24 pictures includes 13 showing various forms of cumulus, and the second has 25 of which 14 are wave clouds; the two main forms of cloud soaring are, therefore, well covered. The strips are being marketed by Diana Wyllie Ltd., 18 Pont Street, London, S.W.1., together with a booklet for the use of lecturers, and there are two alternative sizes of picture; 24 × 18 mm. and 35 × 24 mm. The larger size of strip can be cut up for use as separate slides.

Revival of "Thermik"

The only German magazine entirely devoted to soaring flight, *Thermik* was started ten years ago under the editorship of Hans Deutsch, then 20 years old. After a hard struggle to keep alive, it stopped publication during 1956, and Deutsch, for some time lost to sight, reappeared later in the Foreign Legion. Now the magazine has started again under the editorship and management of Hans Folgmann, Duisburg-Hamborn, Schulstrasse 30, and we have received an issue dated December, 1957, priced at DM. 1.



I SUPPOSE every gliding instructor sooner or later tires of taking the next pupil that comes along, and longs to teach one right through, at least to solo, by himself. Whatever effect the usual constant change of instructors has on the pupil (and some pupils "collect" instructors like stamps), it is often frustrating to see a pupil on whom you have slaved exhaustingly flying with someone else. It is often difficult to avoid just a slight feeling of being done out of something—usually the reward of seeing your pupil progress. Of course, there are others that you hand over with an inward sigh of relief, murmuring: "You cope so well with this type of pupil—I am sure he will get on like a house on fire in your hands", and depart hurriedly.

In a big club an instructor may not know all the pupils, and for each one that clambers in, there have to be the same questions: "How far have you got?" and "When did you last fly?" etc. This is inevitably followed by a demonstration by the pupil of his prowess, or lack of it, ending with a rush to iron out the faults *and* teach something new in what is left of the lesson. How much more satisfactory it is to have the same pupil throughout, get to know how he ticks, what his job is, and what his gliding ambitions are, and then teach him to fly in the way that best suits his mentality and background.

With a little organization it is possible in many clubs to go some way towards keeping the same pupil. With voluntary instructors and no booking system it is obviously not possible to achieve a great deal, but giving each instructor the overall responsibility for certain pupils can help.

For the week-end instructor who really is beginning to wonder whether all pupils are "just on landings but don't seem to have quite got the hang of it yet" stage, or feels that he will scream if he has just one more pupil who replies to the comment that he flew straight into the ground with "my last instructor said I landed stalled", it is quite a good idea to go and run a course somewhere.

Going to a different site is likely to do three things for the stale or frustrated instructor: (1) he will take his course members right through himself, and they form a close team getting to know each other well; (2) he finds new ideas as well as a change of scene; and (3) he may well find some shortcomings in himself.

The first two provide the instructor with considerable enjoyment, but the third will offer him, if he is a good instructor, the opportunity of analysing and improving his technique, and so give his subsequent pupils more value for their minutes in the air.

The big fault which is apt to creep in when an instructor always gives dual on the same type of aircraft at the same site, is that he tends to lose sight of the vital separation between teaching the fundamentals of flying, and teaching the pupil to use a certain tool in a particular environment. For example:—

(a) When teaching spinning, the correct spin recovery must never be allowed to become confused in the pupil's mind with getting his particular school glider out of its characteristic wallow.

(b) When teaching on a tricky hill site, it is very easy to build in certain aids, such as turning position and approach heights, to the teaching of the basic idea of approach planning. Further, if low turns have to be used to get the glider into some special gully, the instructor must not fail to make it quite clear that this is a particular device, and not normal practice. It is the same with brakes; the pupil should be taught to use

and understand them as a means of varying the approach path as his judgment dictates. They should never be thought of as something which is applied when passing over the fir trees, and then reduced to half for the landing.

(c) The instructor coming from a one- or two-glider school to a busy site will probably soon discover that he has to brush up his ideas on look-out. If he does, it means no less than that he has not been teaching this vital lesson properly to his pupils at home.

The reason that all this is so important is that the pupil, in his early dual, forms irrevocably his basic technique as a pilot. He believes what he is told, and he believes that he is being taught correctly. But it is very difficult during the daily grind with Bill, Peter, Pete, and Joe, all of whom seem to be having an off-day, to keep sight of what the teaching is really trying to achieve. Helping out at another club in pastures new for a week's course, or even for a week-end, can be profitable fun—for all.

THE ADVENTURES OF JOE.

It was only after the members had seen Joe flying alone on several occasions that they realised that this meant that he must have gone solo. They were curious, because they felt that this moment in time could surely not have passed uneventfully, and of course they were right.

The trouble is, it was all a ghastly mistake, and took place not only in spite of, but because of the local regulations for good order and discipline.

It started when Joe was standing in the front cockpit of a two-seater surveying the view out over the valley, like Napoleon before Moscow. They were going to have an auto-bungey launch, and Joe was wondering what to do because there was no-one to hook on the bungey. The instructor was also considering the same problem because the wing-tip holder was not an approved person according to the club rules, and it was up to instructors to uphold, and not break, such drops of distilled wisdom.

As it was obvious that the glider with Napoleon Joe on board would remain there indefinitely unless something was done, the instructor (being an approved person) reluctantly got out and hooked on the end of the rope, giving a wave to the car driver to indicate that he was now attached. Unfortunately the car driver took the wave to mean "go ahead", and so accelerated away. No one has yet sat down faster than Joe, and no one gone flatter than the instructor, and in no time at all the two-seater was out over the valley with Joe clutching his straps like a damsel in distress.

The instructor averted his eyes from what he knew must follow, but for once Joe's initiative was not misplaced. After ten minutes ridge-soaring the two-seater kissed the grass in the proper place, and Joe *knew* that he was a born pilot, but he wasn't terribly convinced about rules and regulations.

ANN WELCH.

NEW INSTRUCTORS

D. H. Darbishire, Surrey Gliding Club, Categorised November, 1957.

G. G. D. Burton, R.A.F./A.T.C. No. 611 G.S., Categorised November, 1957.

D. W. H. Roberts, Oxford Gliding Club, Categorised December, 1957.

J. Ellis, Oxford Gliding Club, Categorised December, 1957 (Provisional).

ANNUAL BEST FLIGHTS

SINCE this is being written in December, 1957, there is nothing to report under the Annual Best Flights scheme (see December, 1957, issue of SAILPLANE & GLIDING, p. 329). It is to be hoped that by the time you read this at the end of January, several reports of flights will have been sent in; however, if you have made a worthwhile flight and have not made a report, please do so now.

In the next issue of SAILPLANE & GLIDING, the best flights for which claim cards are received by 27th February at the B.G.A. will appear when the issue is published at the end of March. We shall see then who and where the hardier enthusiasts are, and the performances which are put up in the coldest two months of the year.

H.C.N.G.

JOHN EVERITT
C.F.I.—LONDON GLIDING CLUB



Photo by J. M. Butt

SOME time in the summer of 1932, somewhere in the Home Counties, a shy, slender, five-year-old boy clambered over the side of an aeroplane and a few minutes later the Cobham Air Circus was the richer by five shillings.

Of course, if John Everitt had been the regulation type, this brief, bumpy ride would have been etched indelibly on his memory and he would, no doubt, have been infused with the determination to carve out a career in the skies. But in fact he was too tiny to see over the side, and spent the entire historic flight in a state of bewilderment, wondering what was happening. Even at that age he was too much of an individualist to follow form.

His first taste of gliding came in 1943, when, together with dozens of other young lads who had joined the Air Training Corps, he was strapped on to a Dagling at Booker Airfield near High Wycombe, and given a ground-slide and, as he puts it, some rather exciting hops. Apparently the rate of launching was not so fast in those days either, and it was not until August, 1945, that John could legitimately call himself a pundit. In that month he qualified for his A after a total of 30 launches.

He joined the R.A.F. a month or so later and spent three dismal years on the ground-staff, mostly a long way from gliders, but returned to No. 126 A.T.C. Gliding School at Booker as soon as he was demobilised, and he had become a junior solo instructor by the end of the year. For the next two years he applied himself to solo instructing, but was only too pleased when the A.T.C. changed over to dual instruction in 1950. He became a B category instructor in September, 1950, after spending three weeks at the Home Command Gliding Instructors' School, which was run by Jock Forbes at Detling.

John returned to Booker and, until 1952, was to be found any week-end instructing on Sedberghs for the A.T.C. Then followed a period when he did no flying at all.

He joined the London Gliding Club in March, 1954, and by May he was back in the left-hand seat of the T-21, and at that time a vacancy occurred at the club for a resident instructor. John, who says that by then he had come to the conclusion that the only thing he had ever done for any length of time, with any reasonable measure of success, and at the same time been really keen on doing, was teaching gliding, became a professional and shared the job with the late Eric Pope. Eric left the following spring to teach power flying, and it was he who converted John to power flying so that he could fly the Tiger Moth for aero-towing.

He was given the full title of Chief Flying Instructor in 1956. Until that time the actual office in the L.G.C. had been held by Dan Smith.

In the four years he has been at Dunstable, John has become more than ever convinced that because the early *ab initio* stages exercise such a great influence over a pilot's subsequent flying, the two-seater training must be as thorough as it is possible to make it. It seems a bit silly to rush people through the early stages, he says.

Dunstable's recent progress certainly substantiates John's methods. With its undulations and tricky curl-overs it is no easy site for a beginner to fly from, and the very small number of incidents involving training aircraft reflects a great deal of credit on John. All the flying figures,

number of Cs, Silver Cs and cross-country flights have steadily improved since 1954.

John's own statistics are pretty impressive, too. He has made about 7,500 launches, has logged about 850 gliding hours—more than 700 of them in Sedberghs—and sent about 150 pupils off on their first solo.

He decided it would be a good idea to enter the T-21 in the Nationals last year, and he and Peter Dirs—one of John's own former pupils—did the best T-21 performance on several days, and his was one of the two T-21s to complete a 70-mile triangle. On the one competition day which he did not fly cross-country he, characteristically, spent the day flying with his crew members, all of whom were ex-pupils.

He also holds the distinction of having made the furthest flight north from Dunstable—146 miles to Barton-on-Humber, by way of King's Lynn.

Like every instructor John is, of course, a practising psychologist. "Instructing", he has been heard to say, "is about thirty per cent teaching the mechanical facts of life and the other seventy per cent is leading, persuading and encouraging people to develop confidence in their ability to assess circumstances in what is, after all, an unnatural medium".

He naturally varies his approach to suit the different temperaments of different people—the timid, the brash, the slow-learners and the precocious ones. But once we wondered if he would make the right response to a pupil who, on making his final turn at about 10 feet, afterwards explained: "Well, I turned at the right height; it was the Tutor that was too low." His answer was typical: "Oh well, we had better ground the Tutor, and you will be able to fly the two-seater for a bit."

J.D.

1958 WORLD GLIDING CHAMPIONSHIPS

Most crews are now fixed up for the Championships in Leszno, Poland, next June, although the long period away from England has made it difficult for some people to get enough leave. The departure day is 6th June and the route is via Dover-Ostend, and then along the West German Autobahn from Duisburg. This road continues through East Germany, and the team enters Poland at Frankfurt-on-the-Oder. The total journey is 840 miles. Leszno is only some 15 miles inside the border. The team will be back in England on 3rd July.

Among the official members of the team will be some most necessary specialists, including "Wally" Wallington to interpret, in both senses, the weather. Harry Midwood will be coming as engineer in charge of aircraft, and it is sincerely hoped that we will again have the ubiquitous Pyeman.

The Standard Motor Co. have once again turned up trumps with their loan of five Estate cars, and we hear that the gliders and trailers will be coming along soon.

We are also indebted again to the Society of British Aircraft Constructors for their most generous support—one might almost say prop—of £1,000. Because these championships look like being quite expensive, British participation would not be possible without the wonderful help that we have got, and still need to get, even after each team member has paid in his share. It is to be hoped that two firsts and a second in the last three events enables our supporters to feel that it is worth while. An appeal for funds appears in our Correspondence columns.

Visits by others than team members will be possible, and details will be circulated when they are received.

Three of the team's pilots are now abroad: Tony Goodhart in France, Tony Deane-Drummond in Malaya, and Philip Wills in New Zealand, where he will take part in their Nationals, flying his old Weihe. The fourth, Nick Goodhart, is now working in London.

Ann Welch.

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WANTED

SECONDHAND T.31 required by BEA Gliding Club. One needing minor repairs considered. E. Clothier, BEA Viking Centre, London Airport.

WANTED—Any condition, pair of Tutor wings and struts. Write stating price required and condition. Box 31.

SITUATIONS VACANT

WANTED — Club Assistant Course Instructor is required by West of England Club for all or part of the 1958 season (May—October). Write to:— T. R. H. Parkes, 10 Kenmore Grove, Filton Park, Bristol 7.

FOR SALE

The Midland Gliding Club has for disposal one Slingsby Prefect II training sailplane, complete with current C. of A. basic instruments and enclosed canopy. Offers. J. H. Hickling, "Colmead", Narrow Lane, Blackheath, Nr. Birmingham.

EXTERNAL BALLAST

by Peter Fletcher

FROM time to time there comes into gliding a chap who is a heavyweight, and I do mean heavy.

I weigh 220 lbs., but I know two or three older really man-size men in gliding who tip the scale at an even higher figure, and we have sort of got used to flying along in gliders with the control column nudging us gently in the navel! This situation is not very efficient from an aerodynamic point of view and there is little doubt that in some cases, while the maximum all-up weight is not exceeded, the glider is being flown with the forward c.g. position well in advance of the laid-down limitations.

Provided the pilot is experienced and accepts the lowered performance, little harm will come from this situation; but if he is inexperienced he can get into difficulties, the most potentially expensive of which may result from reduced elevator control at the "round out" on touch-down. The remedy, which is cheap and simple, is for the heavyweight pilot to have tail ballast, and the amount required for optimum trim can be quite easily worked out for a given set of conditions.

My own personal set of weights is adaptable to any machine which has no trimmer and on which the tailplane is secured by a bolt. The weights themselves are made up as semi-streamlined lead sinkers weighing 2 lb. each, and you can have 2, 4, 6 or 8 lb. as required, by simply adding or removing one or more weights—all very simple, but get your own individual requirement. For this job, in addition to the weights themselves you will require a strip of mild steel about 16g., 2 in. × 6 in. or so, depending on how many lead weights you are going to need.

Mark off the centre of the plate and drill a ½-in. hole. Then mark off the points on which your lead weights are going to "sit" and drill these points and the lead to take a 2 B.A. countersunk metal thread; the weight and plate are then bolted together from the under-surface, taking care to have no protruding screw-head on this under-surface or you will damage the tailplane fabric. The entire unit now looks like a little bomb-rack. It is attached to the forward tailplane attachment bolt, and before the nut is put on, it will need a 5/16-in. flat washer; do not forget to lock the nut, or use a self-locking type.

The unfortunate heavy pilot is now no longer at a disadvantage over his lighter friends; and this gadget will fit, without any modification, Cadet, Tutor, Prefect, Grunau Baby, Kite I and Kite II, to name a few types. It has no aerodynamic effects at all in regard to airflow over the tailplane and elevators, as has been proved by flight tests on Tutors and a Prefect, so do not be put off by the long-hair boys.

External ballast can also be carried on the high-performance sailplane by passing a steel bar through the rear fuselage after suitable strengthening pieces have been approved and fitted to the inside of the skin, provided the external thickness of these semi-streamlined weights does not exceed about one inch; the boundary layer well aft is at least an inch deep, so there will be no appreciable effect, but the internal strengthening of the skin to support the cross-bar *must* be approved by an authorised person.

It has always seemed to me that, when a really heavy pilot is flying a high-performance machine in competitions or trying to get maximum efficiency, a trimmer is an aerodynamic drag inducer, since although the pilot feels no load on the control column, which he would if one were not fitted, that load and the resultant elevator drag is really there all the time, with consequent loss of performance. Ballast is more efficient than a trim tab, even when carried externally, provided it is properly positioned.

Don't forget that the next person to fly may be an 8-stoner, and it is possible that he may not see and remove the "ballast". Therefore, if you do use ballast weights, you *must* remove them after you fly, otherwise the next man may find himself in the air with the c.g. too far aft, which is not merely uncomfortable, but can be dangerous.

No Diamond for "Pigs Rampant"

by David Carrow

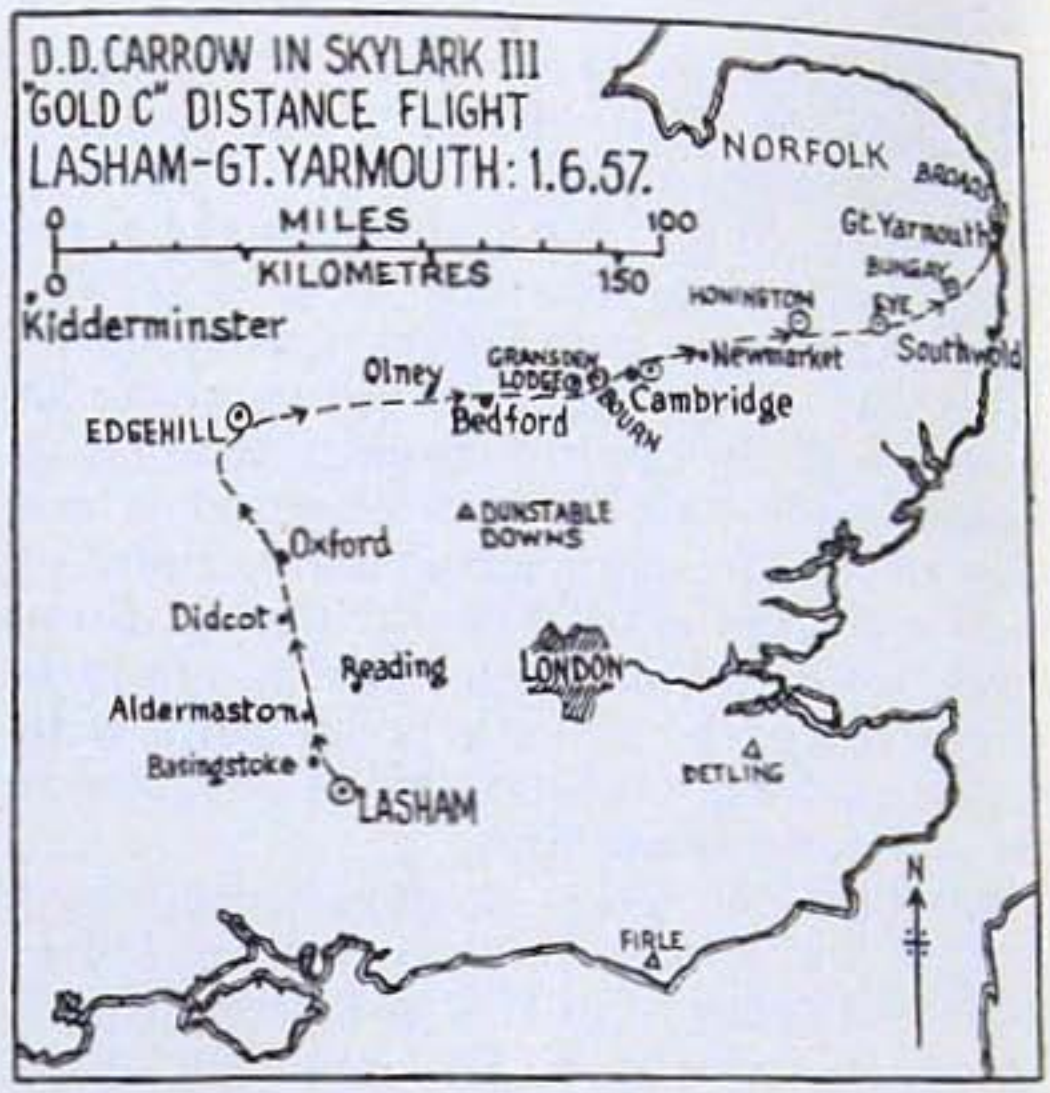
THE wartime, heraldic origin of the name was concerned with the desirability of using *crested* swillbins when collecting pig-food by Rolls-Royce from American Servicemen, but that is another story. Let it suffice that "Pigs Rampant" is a rather battered Skylark III, and on 1st June, having just brought her back from Sling's after her latest Brush with Fate, what could be more suitable for a first test flight than a Diamond out-and-return declaration to Kidderminster?

The suggestion for this came from Tony Deane-Drummond and he, of course, did it. Fortunately for this lesser mortal, whilst discussing photographs at Lasham before take-off, Ann Welch made the point that one need not nominate a turning-point for a "free distance" dog-leg flight, and, so heartened, I signed my Kidderminster declaration and took a tow, with a happy little thought at the back of my mind that I could always change it in the air.

Three features of the flight are, perhaps, of general interest: the weather, starting a little marginal and ending with proverbial "barn-door" conditions (an excellent stimulant to one with really insufficient stamina for this sort of thing); the change of plan half way—typical, my syndicate will tell you; and, most of all, the navigational problems inherent in an extremely hazy day, with visibility never much more than ten miles and mostly a good deal less.

Aids to navigation consisted of one map only—a half-million I.C.A.O., a Cook compass, a quite invaluable aircraft clock on the panel, and a DeaneDrummondometer. Courses were steered, if lucky, to the nearest ten degrees; tracks, other than to Kidderminster, remained undrawn; pencilled notes remained untaken. There was no perceptible cloud flying. A careful watch was kept on the wind.

I released a mile north of Lasham (mistake No. 1) just on midday in negligible wind. After a short time it became painfully obvious that the first flush of cumulus was dying. I quickly took to disregarding cloud indications and to using built-up areas for lift—Basingstoke—Aldermaston—some still unidentified villages (nothing much here and we nearly came to grief)—Didcot—and so to Oxford, where the first really satisfying thermal of the day took us up to the base of a nice fat black-bottomed cloud right over the City. My "town-hopping" had led us perforce to the east of our Kidderminster track; however, as we now worked north-westwards, towards a wonderful-looking cloud that melted on our approach . . . but nevertheless in generally improving conditions, I found that a little westerly breeze, some ten to fifteen knots, was blowing us back. The vision of Kidderminster faded; time was passing and moreover the thermal activity, as far as one could see through the haze, deteriorated rapidly ahead to the north-west, although things looked better down-wind eastwards.



Just about now I noticed Edgehill on the map ahead, a site of the Coventry Club, with a westish facing ridge. As we worked over to the aerodrome, quite easily, but slowly in face of the increasing wind, I decided to abandon Kidderminster and turn here for a downwind dash towards the Norfolk coast—the total mileage *might* just about give Gold C Distance, though probably not quite. Accurate measurement was out of the question in the cockpit; one would certainly have knocked the canopy open while refolding the map!

Disappointingly, Edgehill showed no sign of gliding activity beyond a parked trailer, but the ridge was there and I beat along it and took some photos. Whilst occupied with this we got too low, but a weak thermal off the ridge came to the rescue, and after a struggle, drifting away downwind, we gradually built up height again.

It was now after 3 o'clock and I had to get shifting; fortunately, as anticipated, the conditions eastwards rapidly became quite superb. I gave "Pigs" a loose rein on a rough course of 090°C. and off we went, dead downwind, at full gallop—60 to 70 knots between thermals—in the band between 3,000 and 6,000 ft. Littl'uns were disregarded and we threw steep climbing turns into the big 'uns as they turned up (they always did), leaving them as soon as they became at all untidy near the top—nose right down and off again. It was all most exhilarating. I had a good pinpoint from a hole in a large wood to the west of Olney and we fairly belted down the railway line to Bedford. I was aiming to pass within sight of the big towns, "town-hopping" again even if it meant slight zigzags, not for the thermals now but because of the poor visibility.

Gransden Lodge turned up and then Bourn, where I did my first ground-slide with the Cambridge University G. C. Cambridge appeared out of the murk and we raced across Marshall's at 4,000 ft. with a wonderful feeling of "oneupmanship" on seeing the entire Club fleet on the ground (I learnt later that they were being frustrated by a Viscount at the time).

A really big thermal just beyond Newmarket took us to 7,000 ft., the highest yet, and into the edge of some wispy cloud. It was now past 5 o'clock, the haze was increasing and the sky getting very bare ahead, so I took the last ounce out of this one . . . all of a sudden, a quick calculation . . . this was it!—we could reach the coast from here!

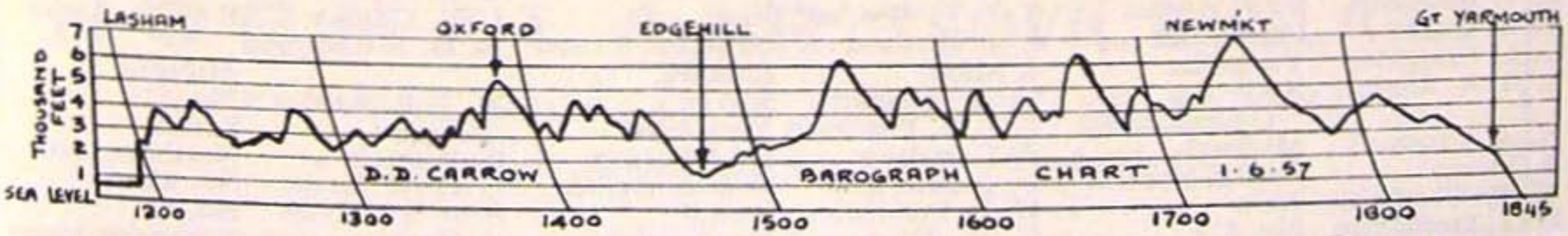
Immediately, just like that, the whole feeling of urgency disappeared. Accurate course 090°C. Accurate airspeed 38 knots for best gliding angle in the tailwind. I found myself almost holding my breath as we drifted down in the smooth air, flying for range.

A minor navigational dilemma now presented itself. From this height I could perhaps just reach the coast near Southwold on my present track dead downwind. On the other hand, a diagonal northwards towards Great Yarmouth would, if I made it, give a few miles extra and the furthest possible land distance. I decided to play safe and keep straight on, unless sure I had height to spare. Visibility was very bad, 4 to 5 miles, and I longed here for a $\frac{1}{4}$-inch map.

We passed just south of an aerodrome showing "HT" (was it Honington?); then I saw a very faint outline of large woods to the north in the haze; then over a railway line with two aerodromes beyond, set diagonally to our course. Over one of these (was it Eye?—I still don't know for sure) the Patron Saint of Gliding interceded with a lovely gentle 3 ft./sec. area of lift, which raised us, ever so quietly, back from 3,000 to 4,500 ft. Whilst circling, I searched for wind indications and eventually spotted a little bonfire—still a nice westerly breeze with a little south in it. (I can make Yarmouth from here, if my navigation is right.)

We altered course to 060°C. Another gentle thermal near . . . is it Bungay, but I still can't see the *sea*! . . . and then, as we slowly floated along on the same course, gradually and imperceptibly the Broads, the Town and finally the Coast at Great Yarmouth materialised into view.

There was a sandbank off shore and I toyed momentarily with the idea of landing on it so as to add another mile to the distance, but fortunately reason prevailed. With 2,000 ft. eventually to spare after those last two thermals, I did, however, take some photos from just out to sea to show we'd reached the uttermost point of East Anglia, before landing at North Denes



Airfield into the coastal south-easterly sea breeze.

It turned out to be 204 miles (17 miles to spare after all that fuss!) and Gordon and Joyce Wright, who run this delightful little joy-riding field, took me out to celebrate. No Diamond for "Pigs" this time, but Yarmouth hospitality is such that I shall certainly declare this trip one day . . . and, no doubt, end up somewhere quite different.

Gliding Certificates

DIAMONDS FOR ALTITUDE

No.	*Name*	*Club*	*Date*
304	F. Foster	London Gliding Club	27.6.52
305	G. H. Stephenson	London Gliding Club	2.7.56
306	A. J. Deane-Drummond	Army Gliding Club	14.5.55
307	R. H. Prestwich	Midland Gliding Club.	12.4.57

DIAMONDS FOR GOAL FLIGHT

No.	*Name*	*Club*	*Date*
212	J. P. W. Gaskell	Cambridge University Gliding Club	8.8.55
215	E. Starke	Midland Gliding Club	13.6.56
216	S. R. Wiltshire	Midland Gliding Club	13.6.56
217	L. R. Robertson	Derbyshire & Lancashire Gliding Club	26.5.56
218	A. J. Deane-Drummond	Army Gliding Club	6.4.57
224	W. N. Tonkyn	Imperial College Gliding Club	27.5.57
225	E. A. Moore	Surrey Gliding Club	27.5.57

GOLD C CERTIFICATES

No.	*Name*	*Club*	*Date*
15	F. Breeze	Derbyshire & Lancashire Gliding Club	30.8.54
22	A. R. I. Austin	Derbyshire & Lancashire Gliding Club	27.7.56
23	A. J. Deane-Drummond	Army Gliding Club	6.4.57
32	E. Day	Kent Gliding Club	25.5.57

Note.—Some Diamond and Gold C certificates were omitted from previous lists and have been included here: hence the breaks in numerical sequence.

SILVER C CERTIFICATES

No.	*Name*	*Club*	*Date*
706	J. Henry	Scottish Gliding Union	30.9.57
707	J. M. Alcock	Scottish Gliding Union	6.10.57
708	R. Padgham	Andover Gliding Club	14.10.57
709	R. C. Gairns	Montreal Soaring Council	31.8.57
710	R. G. F. Fowler	Derbyshire & Lancashire Gliding Club	27.10.57

C CERTIFICATES

Name	*Gliding Club or A.T.C. School*
E. H. C. Edlund	Cambridge
A. W. G. Saint	Bristol
M. V. Quealy	BAOR Hameln
E. S. De Little	Yorkshire
R. G. Evans	Yorkshire
K. V. Newholm	RAF Wessex
B. W. Crow	Cambridge
G. L. Creighton	Yorkshire
E. A. A. Shand	RAF Geilenkirchen
N. A. Groucutt	Midland
R. Emery	BAOR Hameln
W. R. Chadwick	Avro
D. J. Trethowan	No. 621
M. J. B. Smither	No. 621
D. E. Patrick	RAF Fenland
W. I. Tyler	Coventry
D. N. M. Chamberlain	No. 621
S. A. C. Beechey	Kent
J. V. Howard	No. 621
J. Miller	London
C. H. Boucher	Surrey
J. A. B. Pritchard	Yorkshire
P. T. Wilson	RAF Wessex
A. J. Brown	Coll. of Aeron.
H. F. Entwistle	Bristol
K. W. Thoo	Perak F.C.
S. N. Hart	RAF Four Counties
S. T. Soames	London
R. D. Harland	Yorkshire
R. E. Exell	Southdown
L. R. Crocker	RAF St. Athan
N. D. J. Compton	Midland
M. J. Rickard	No. 621
A. Parfitt	Surrey
R. Pidcock	Northampton
L. E. N. Tanner	No. 621
B. A. T. Davies	No. 631
B. Harman	Yorkshire

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CORRESPONDENCE

"SAILPLANE" OR "GLIDING"

Sir,

I am most interested to read in your December issue that there are some readers who think your front cover design could be improved. I have no doubt it could, though I pity the poor Committee who will be gallantly judging the scores of entries, for I am sure no two of your readers (I hope I am not flattering you by assuming you have at least two readers!) would agree on which was the best.

But I *do* resent the idea of making you the Sailplane & GLIDING rather than the SAILPLANE & Gliding.

Who is expected to prefer it? The *Public*? Good Heavens! What are we coming to? Do we expect or want our beloved S. & G. to be read by the *Public*? Can you expect to make it more interesting to them than the Telly or the Pools? If you do, you will lose at least one reader.

For twenty-five years, man and boy, I have been reading the dear old SAILPLANE. For twenty-four and a bit, I have been able to do a bit better than merely *glide*. Would the *Yachting World* like to be re-christened the *Boating World*? *The Times* might easily increase its circulation by calling itself *The Times* & *Sex*, and then dwindling the first words away to nothing; but it prefers to remain an important influential paper with a small and elite readership. So must you.

Yours indignantly,

CORUNUS.

Sir,

All things appertaining to gliding can be divided into four periods in time. This is especially true of the name itself. From the beginning of mankind, man has wanted to fly, has tried to fly and attempted to build a glider. Then, in about 1920, he tried to soar like birds, said he was going gliding and built a soarer. In 1930 he learnt to soar, went gliding and built a sailplane. During and after this last war, we have realised that most of our time is spent gliding with some soaring; we go gliding and build/buy gliders (apologies to Slingsby Sailplanes).

Surely the world knows our sport as Gliding, our machines as Gliders and us as people who glide. Why then retain the "SAILPLANE" in your title? The word is wrong to start with and really does not mean anything. We glide now, we do not go "sailplaning".

Yours, etc.,

ICARUS MODERNUS.

WORLD CHAMPIONSHIPS APPEAL

Dear Sir,

Once more the time has come when I have to make my appeal on behalf of the British Gliding Association for funds in contribution to the expenses of sending our teams to represent Great Britain at the World Gliding Championships in Poland this summer, from 9th to 29th June inclusive.

May I open my appeal through the medium of SAILPLANE & GLIDING? I am sure that by so doing it will reach many friends of Gliding who would wish to help towards our object—the raising of £2,500.

Four carefully selected pilots and their crews and a Team Manager are being sent to Poland. They will take with them sailplanes and equipment of the highest possible standard obtainable. We are greatly encouraged by the offers of manufacturers and others to make these available to us on the most generous conditions and often free of any cost. The rather substantial estimate of expenditure includes such items as entrance fees, insurance, travelling and all the general expenses of maintenance and subsistence of equipment and personnel during the long journey across Europe, over the practice and contest periods and the journey home. Each member of the team will, in fact, make a minimum agreed contribution to his own expenses, and we have also received a most magnificent start from the Society of British Aircraft Constructors, but we are still left with a great deal of money to find.

I am confident that this appeal for funds to help in our attempt to bring further glory to, and uphold the prestige of, British

Gliding will not fall on stony ground, and subscriptions—however small—addressed to me at Londonderry House, 19 Park lane, London, W.1., will be gratefully acknowledged.

B. A. G. MEADS,
Treasurer, British Gliding Association.

ANY ANSWERS?

Dear Sir,

To stimulate argument and discussion, I would like to submit the following:—

1. *Abandon the 5-hour test in the Silver C Qualification.*

(a) Surely the time has come to re-assess the value of this test. Is not the training and experience value of the ridge very limited, and will it not ultimately contribute to increased accidents due to collisions between ever-increasing numbers of enthusiasts competing to the bitter end on the very few sites available?

(b) Gliding is a recreation, not a Commando course, and is the discomfort justified? Are you any better for having done it?

(c) Why not reduce the requirement to, say, 1 hour, and raise the experience and training value of one or other of the height or cross-country legs?

2. *The questionable value of the parachute.*

(a) Have not post-war aircraft design improvements made the parachute redundant from an airworthiness point of view?

(b) Is not the value of the parachute now limited to collision risks, except for test flight or record attempts involving abnormal risks?

(c) How many lives have been saved by parachute since the war?

(d) How many lives could have been saved if parachutes had been carried?

(e) Is not the collision risk one that will most likely occur at circuit or ridge height, too low for effective deployment of the "brolly"?

(f) Are we in gliding doing anything more to justify the carrying of parachutes than flying clubs or civil aircraft, which do not carry them?

3. Can the experts contribute some simple diagrammatic expositions on:—

(a) The stressing loads in gliders throughout all manoeuvres, including the launch?

(b) The present design criteria of British gliders?

(c) "One-page" articles on simple aerodynamics, instructing, aerobatics, etc.?

R. B. STRATTON.

Editorial comments:—

(1) The Silver C certificate is recognized by the F.A.I., so the five-hour test can only be abolished by international agreement, which may come eventually. The few collisions over ridges have almost invariably happened when the ridge was *not* crowded; evidently people keep a better look-out in a crowd.

(2) Many lives were saved by parachutes in Germany before the war, chiefly owing to sailplanes breaking up in clouds. So far as we know, there has been only one case of parachute descent from a sailplane over England; this was during the war, when a Viking II suffered structural failure during aerobatics, and both occupants were saved.

(3) Suitable articles of this kind would, of course, be welcome.—ED.

Sir Alliott Verdon-Roe

A. V. Roe, as he was when he made his name in the early days of British aviation, died on 4th January at the age of 80. It was the flight of the albatross, which he studied when at sea as a marine engineer between 1899 and 1902, which convinced him that heavier-than-air flight was possible; nevertheless, he did not enter a machine in the 1922 British soaring contest, nor did he join in the gliding revival of 1930 onwards. But he did fly an auto-towed glider at Brooklands in the days when so many flying pioneers were active there in 1907 and 1908. In 1933, hearing that gliders were again being auto-towed, he wrote a warning letter to *Flight* describing his own experiences:—

"My difficulty was to ensure that the towers would release me as soon as the glider banked, and in spite of the fact that I had endeavoured to impress upon them the importance of not holding on too long, they seemed to be hypnotised with the necessity of hanging on with inconvenient fidelity. After three or four experiences of this sort I fitted a slip device."

THE GOLD BUG

by Michael Stather Hunt
(Coventry Gliding Club)

You may think at first this is just another account of yet another cross-country flight. But read on . . .

MONDAY, 27th May, 1957, it has been said, will go down in history as the outstanding cross-country day in many years; several U.K. records were broken and several pilots achieved diamond-studded Cornish destinations.

Although it became obvious to me that it was an outstanding day, the best I could do from my office desk was to plan a Gold C attempt for the next day. This would be my second attempt, my first having been on the previous Saturday when I had covered 58 miles in 70 minutes pushed by the strong north-easterly wind; unfortunately no cumulus had materialised.

Next morning found me driving the odd 30 miles to Edge Hill where Jacob's Ladder (syndicate Olympia) was berthed, cursing the fact that the wind had dropped and the sky looked completely uninteresting. I found John Greenway and his son Howard grass-cutting on the airfield when I arrived. John farms at Edge Hill and has a share in Jacob's Ladder; he likes nothing better than an excuse to knock off work and help somebody to get airborne.

I messed about D.I.'ing the aircraft, hoping that some signs of thermal activity would materialise, and when 11 o'clock came with still no signs of life, I decided to get airborne to sample the conditions. I laid out the map on the runway and nonchalantly drew a straight line from Edge Hill to Yeovil and another from Yeovil to St. Mawgan; this track, I hoped, would keep me clear of the Bristol Basin.

Strapped in and ready to go, I started with a break in the auto-tow cable. The second attempt got me airborne and I spent some time struggling in patches of weak lift before sinking to the ground.

Launched again at 11.30, I did better, struggling up to 2,000 ft., at which height I turned down wind in search of the next lift. As there was still no cumulus in sight, I concentrated on remaining airborne rather than covering ground. It seemed ages before I passed Little Rissington, which I had passed so quickly three days earlier; it did, however, again provide a reasonable thermal.

Two hours out, it came as a shock to realise that I had not yet got as far as I had done the previous Saturday in only 70 minutes. It was about here that I gave up all thoughts of Gold C and immediately started to enjoy the ride immensely; a thin line of cumulus about 40 miles to the south made me head that way rather than along my original track. I reached Lyneham at a low altitude, but it also helped me on my way with a thermal.

I could now see smooth, chalky hills which, the map said, were near Devizes. Of course! Roundway hill: I had seen the picture in Terence Horsley's *Soaring Flight*. This should be interesting: a pity there was no wind blowing.

The altimeter unwound unmercifully as I approached this, another historic Civil War battleground *cum* gliding site. I was down to 1,400 ft. before I saw, there on the sunny lee side, a solitary white chalky ploughed field, standing out alone, positively glimmering with text-book perfection; what luck! I wheeled towards it, awaiting the inevitable upsurge; the red ball moved up an inch or so. Try further over. Still more than normal sink; I must have just missed one. With 800 ft. on the clock, I obviously could not wait around for the next, so out over the valley to look for a field.

Power wires, clap-trap, power wires. What a clot, to look for a field as low as this: 700 ft.-600 ft. I had one or two potato fields lined up, but did not like them much and was pleased to use some weak thermal to work my way over a nice pasture field where I put my hand on the air brakes. This would do nicely.

With 300 ft. on the clock, and perhaps

slightly more above the ground, the green ball showed 5 up. As this was stronger than anything I had seen previously, I circled once, silently admitting that it was a waste of time. The green ball was insistent, so I wound the turn up tightly, climbing to 4,000 ft. with ten up all the way. I was going to have some fun after all. I had nearly reached the line of cumulus; this thermal was just on the fringe.

Noticing that I was still nearly vertically over the field I had chosen, I realised how light the wind was—no good for Cornwall—and pressed on southwards where the conditions got better and better. Reaching Gillingham, I decided to turn west towards Yeovil; I would at least be able to say I had reached one of my declared milestones.

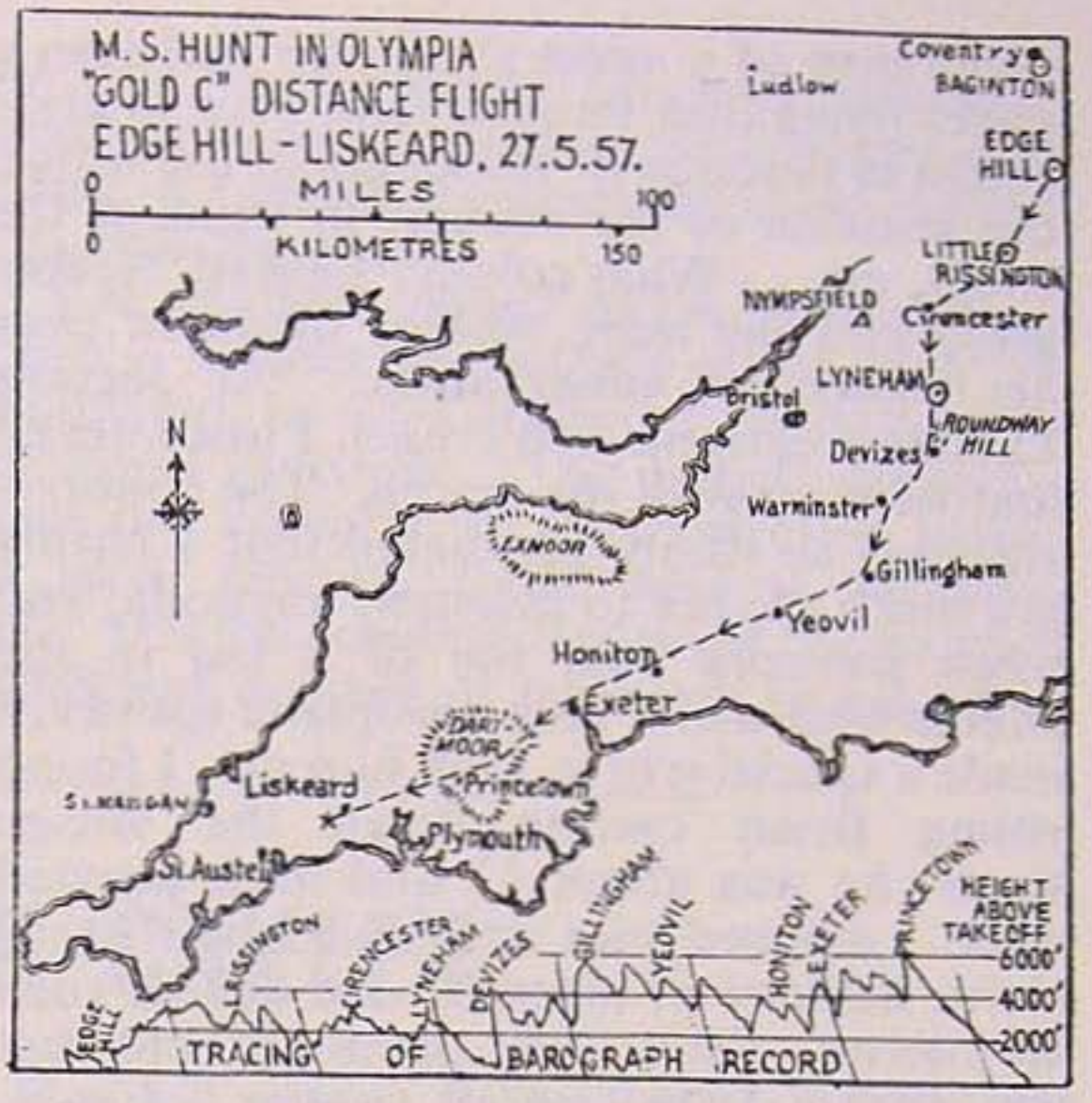
Yeovil went past 4,000 to 5,000 ft. below, and then Exeter became my goal; that was reached with a similar height in hand. Now for Dartmoor. It was getting late and the sky was clearing in front; over Dartmoor at 6 o'clock I got my last thermal, a dry one, right up to 6,700 ft. a.s.l. and well above the last vestiges of cumulus.

I set off hopefully now; everywhere there was reduced sink. I kept the speed down to make the most of it; hadn't Wills found this sort of thing when he flew to St. Austell before the war? The only thing that worried me was my pitifully low ground-speed. I passed north of Plymouth, making straight for St. Austell, which was about the nearest point on the Gold C circle. I passed Liskeard with 1,000 ft. on the clock and prayed that I would be able to get through the gorge carrying the road down to the coast, which would give me another 700 ft. or so.

I didn't reach the gorge; I landed in a field at 6.20, twelve miles short of Gold C, and 20 short of my goal. The fine reception and meal I had at the farm went only a small way to making up for my disappointment, which was heightened by the news that several gliders had broken records down to Cornwall the previous day.

John Greenway and his Land Rover had us back at Edge Hill by 8 o'clock the next morning, and that ought really to be the end of the story: actually it was only the beginning, and what followed will have to be treated very briefly if the Editor is going to publish it.

It had occurred to me while I was eating supper with my Cornish hosts that I must have covered considerably more than



300 km. in my trip. A rapid check with borrowed tape-measure showed that Devizes, where dozens of people should be able to identify my face even, was not quite far enough out of line to give the distance; the turning point at Gillingham, on the other hand, put me well in, but I couldn't hope for identification at 5,000 ft. It's true there had been low spots between these places, and there was a slim chance, perhaps. I wrote to the Chief Constable at Devizes; a week later I decided to go down to Wiltshire myself to investigate.

I started at Devizes, where I found a chap in a pub who positively identified the model of Jacob's Ladder, but was not sure about the date. I pressed on further south to Warminster; I remembered crossing the gunnery range on top of the plain just outside this town, and if there had been any range wardens on watch there was a fair chance that I had been spotted. At the artillery camp, however, they all seemed to be on leave, although the Orderly Officer was very polite and offered to make investigations.

Not far away was another Army Camp with even less activity going on. I enquired at the guard room. A corporal there said he knew of a fellow who had seen a glider over the camp. No, he wasn't there any more; he had gone to Earl's Court to play in the pipes and drums of the North Irish Brigade. No, he didn't know his name but he was going bald on top. I made a note of the C.O. and left it at that.

Further down the road I found the

proprietor of a sweet shop who had seen a glider flying over recently, and went to great extent to describe it: the length of the wings, the position of the cockpit in front of the wings, etc. . . What colour? I asked. Silvery grey, said the man, waxing eloquent over his powers of observation. As Jacob's Ladder is carmine and cream, I lost interest and went on with my search. The countryside was so thinly populated that I hardly got much chance to question anybody, and when someone told me of a lad in the village who was a keen aeroplane spotter, I made a special trip to look him up. I found young Brian cycling down the village street; he was about 17 and look puzzled when I stopped him and said I had heard about his love of aircraft. He denied such an interest. "But I was definitely told that you were a keen aircraft spotter," I said. "No," he said, "trains."

I was feeling tired by now and started back for home, having got hold of the names and addresses of two of the local papers, in which I intended to insert advertisements. Passing through Devizes again, I decided to try one or two private houses in the vicinity of my low scrape just to establish that I had passed that way on that day. At the first house an austere gentleman with a military bearing came to the door. In answer to my somewhat strange request, he demanded my name; I supplied it, slightly taken aback. Had I tried the Police? Yes, I had written to the Chief Constable, I said, but I shrugged my shoulders and gave him a knowing look as I made some trite remark about police investigation methods. He didn't appreciate the joke. "I am the Chief Constable," he said, "and your letter is being dealt with at the moment." My memory is hazy about what I said then, and as he was impatient to be away for some appointment, I didn't keep him.

That night I wrote to the *Warminster Journal* and the *Western Gazette*. As an afterthought I also dropped a line to Major Mulcahy-Morgan, the C.O. of the North Irish Brigade at Earl's Court, asking him about the piper with the thinning hair who might have seen a glider.

As Fate would have it, the longest shot scored a bull. I received a signed statement from Major Mulcahy-Morgan himself giving all the necessary details for an identification with almost professional accuracy. He had been in the glider regiment during the war (Wingate), and had taken a particular interest in my flight over the camp. He offered to produce a hundred signatures, if necessary.

Just over 300 km. was the final distance as checked by the backroom boys at Londonderry House. Long live the North Irish Brigade!

WHO WILL BE AT LESZNO?

by Adam Zientek

FOLLOWING an enquiry by the Polish Aero Club, teams from 19 countries have announced their intention of taking part in the World Championships at Leszno: Belgium, Brazil, Bulgaria, Canada, Central Africa, Czechoslovakia, Denmark, Finland, France, Great Britain, Germany, Holland, Hungary, Japan, Rumania, Sweden, Turkey United States and U.S.S.R. Of these, Czechoslovakia, Denmark, Germany, Great Britain and Holland have already declared themselves prepared to enter 5 aircraft each if the regulations permit. The period will be 15th-29th June 1958.

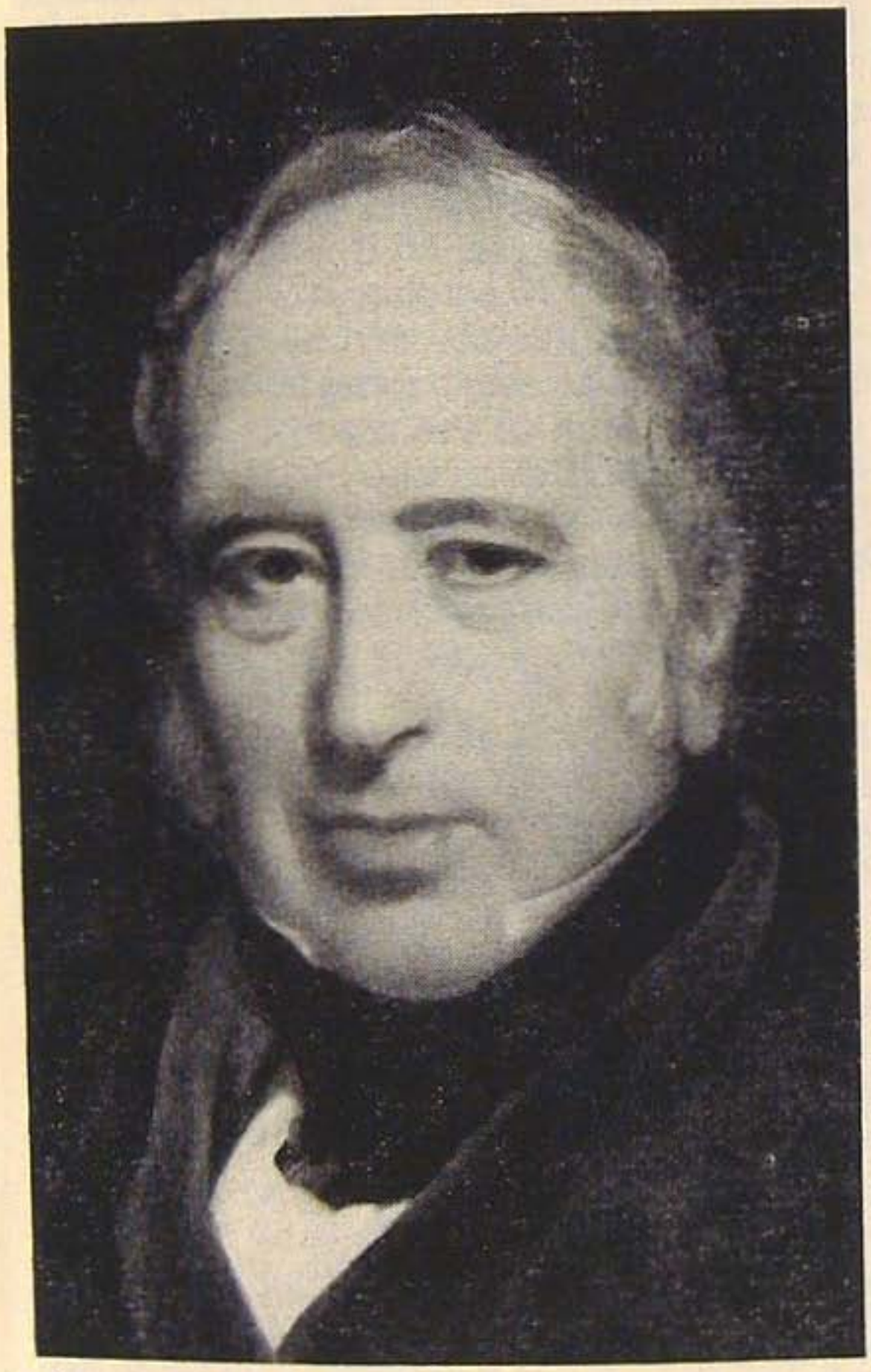
Further entries are expected which will bring the total number of sailplanes to 60. About 20 of these will be loaned by the Polish Aero Club to foreign participants; they will be of Jaskolka type in the open class and Mucha in the standard class.

These contests will turn the attention of the gliding world towards Leszno, so the local conditions will be briefly described. Leszno lies at the kernel of a wide plain—even a gentle rise is hardly to be seen for a great distance around. In the surrounding farmland, possibilities for landing are almost ideal, although in the second half of June the uncompleted harvest has to be reckoned with. Safe landings can be made outside the airfield in its immediate neighbourhood in all directions, and the airfield itself allows of multiple launches and landings.

The advantages of the terrain were discovered in 1952 and have been confirmed by many good performances and competitions. Thus, on a single day in 1953, 27 pilots completed a triangular course of 300 kms. The easterly direction is favoured for distance flights; in particular, after a front has gone through, good wind-thermals develop. But if one wants to remain over Polish territory, the choice of direction is rather restricted, and the 500-km. mark lies exactly on the frontier. Further, the road and telephone network, which is quite satisfactory in the neighbourhood of Leszno, becomes definitely poorer towards the east.

The available hangar on the aerodrome is hardly capable of holding more than 50 sailplanes; so most machines are likely to be derigged overnight. The contest organization has available an administration block, a large meeting room, several barracks, etc. For the accommodation of the teams, a sufficient number of tents will be set up.

SIR GEORGE CAYLEY



A painting of Sir George Cayley by H. P. Briggs.

(Courtesy National Portrait Gallery)

KNOWN as "The Father of British Aeronautics", Sir George Cayley, who died a hundred years ago, is believed to have been the first inventor to build a man-carrying glider. He was astonishingly versatile, and among his inventions were an artificial hand, the bicycle wheel (with spokes in tension), and the caterpillar tractor.

He was born at Scarborough on 27th December 1773, succeeded to the baronetcy in 1792 (becoming sixth baronet), lived thereafter at the neighbouring family seat at Brompton Hall, had ten children by a wife with an "uncontrollable temper" who shocked the neighbours by smoking a pipe, and died on 15th December 1857. The centenary of his death was marked by a lecture by Captain J. Laurence Pritchard at the Royal Society of Arts, to which we were invited, and which will be published in the Society's *Journal*. But a more extensive biography, also by Captain Pritchard, will be found in the *Journal of the Royal Aeronautical Society* for February 1955, which includes a reprint of the famous essay which, more than anything else, established Sir George's "fatherhood" of British aeronautics.

This essay, "On Aerial Navigation", appeared in *Nicholson's Journal of Natural Philosophy, Chemistry and the Arts* in 1809. In it Cayley enunciates a principle so novel, both at the time and for years afterwards, as to form the starting-point of his reputation as aviation's father. The whole problem of aerial navigation, he wrote, "is confined within these limits, *viz.*—To make a surface support a given weight by the application of power to the resistance of air." He knew the value of a dihedral angle, of cambered aerofoils, and of movable tail surfaces; and he tried to design a suitably light engine,

being in fact the first to suggest both internal combustion and jet propulsion for the purpose.

In fact, he was concerned only with mechanical flight and, unlike Leonardo da Vinci, who was a biologist as well as an engineer, Cayley seemed quite unaware that birds could soar. In this essay, he twice explains the horizontal flight of birds on motionless wings as due to the momentum built up by a previous burst of flapping.

There is definite evidence only of three gliders built by Cayley, one a model and two full-sized. For the model, he fastened an ordinary paper kite, of 154 sq. in. area, on to a wooden pole, weighted in front, and at the back end a cruciform tail was joined to the pole by a wire which could be bent for adjustment. Details are given in the *Note-Book of Sir George Cayley*, published for the Newcomen Society in 1933 by Heffer's of Cambridge, where he wrote:—

"It was very pretty to see it sail down a steep hill, and it gave the idea that a larger instrument would be a better and a safer conveyance down the Alps than even the surefooted mule, let him meditate his track ever so intensely. The least inclination of the tail towards the right or left made it shape its course like a ship by the rudder." This was in 1804.

The odd thing about the full-sized gliders is that he left no record or explanation of what they looked like. Although his *Note Book* covers the period 1799-1826 and contains many drawings, the first machine is not even referred to; yet it must have existed in 1809 because he mentions it in *Nicholson's Journal* of that date in the following two passages:—

". . . the perfect ease with which some birds are suspended in long horizontal flights, without one waft of their wings, encourages the idea that a slight power only is required. I have myself made a large machine on this principle, large enough for aerial navigation, but which I have not had an opportunity to try the effect of, excepting as to its proper balance and security. It was beautiful to see this noble white bird sail majestically from the top of a hill to any given point of the plane below it with perfect steadiness and safety, according to the set of its rudder, merely by its own weight descending in an angle of about 8 degrees with the horizon." (Sir George used the spellings "plane" and "plain" indiscriminately.)

"I made a machine having a surface of 300 square feet, which was accidentally broken before there was an opportunity of trying the effect of the propelling apparatus, but its steerage and steadiness were perfectly proved, and it would sail downwards in any direction according to the set of the rudder. Its weight was 56 lbs. and it was loaded with 84 lbs. thus making a total of 140 lbs., about 2 square feet to one pound. Even in this state, when any person ran forward in it with his full speed, taking advantage of a gentle breeze in front, it would bear upwards so strongly as scarcely to allow him to touch the ground, and would frequently lift him up and convey him several yards together."

The machine in which a man actually flew must have been built much later, and the only account we have of the occurrence comes from Cayley's granddaughter, Mrs. George Thompson. She thinks it was in 1852 or 1853 that this glider was being tested at Brompton Hall in a field sloping on two sides. She relates:—

"Everyone was out on the high east side and I saw the start from close to. The coachman went in the machine and landed on the west side at about the same level. The coachman got himself clear, and when the watchers had got across he shouted, 'Please, Sir George, I wish to give notice. I was hired to drive, not to fly.' "

A. E. SLATER.

Entries for Leszno

Keith Wakeman has been chosen to represent New Zealand at the 1958 World Gliding Championships at Leszno, Poland. He recently flew 270 miles from Canterbury in South Island to Palmerston in North Island, soaring along a belt of wave lift in the lee of the Southern Alps and then crossing the Cook Strait.

The Gliding Federation of Australia passed a resolution to participate only through the casting vote of the chairman, and the team has not yet been decided.

In Germany the pilots seeded for the Championships are, in order: Heinz Huth, Jakob Laur, Ernst Günter Haase, Hanna Reitsch, Rolf Kunz and Dr. Ernst Frowein. So, for the first time, their team will not consist entirely of pre-war pilots.

Belgium hopes to enter three pilots, if machines can be borrowed in Poland.

NATIONAL SOARING WEEK

THE increase of gliding in this country has produced a formidable repercussion in the popularity of the National Championships, the organization of which has become like the Farnborough Display and Bertram Mills Circus rolled into one. The size and complexity of this event at once limits to very few the number of clubs with sites big enough to take it on, quite apart from any of the other facilities required. Further, the war of attrition on the too small army of volunteer organizers makes it quite impractical to hold full Nationals in the same years as the World Championships, because every odd year is quite often enough!

The great disadvantage of this bit of progress is that there is now far less opportunity for pilots to try out new country, and far less opportunity for clubs with restricted sites to run National Contests.

It was with this in mind that I produced the idea which follows, of a National Soaring Week (actually nine days!), and which will be tried out this year.

Details of Scheme

1.—Any club can take part in this Week provided that it satisfies the British Gliding Association as to its competence and has a minimum of 10 *bona fide* competitors (who may or may not come from the organizing club). Probably for the first year the maximum will be 5 clubs.

2.—The B.G.A. will provide the Rules, and a list of tasks. The club concerned will provide supplementary regulations to deal with its domestic concerns, but these must not conflict with the Rules.

3.—Each club will send its results and the names of winners to the B.G.A. The lists will be published as the Results of the National Soaring Week, with winners for each Region. There will be no National Champion, and the B.G.A. Annual Cups (not yearly awards) will not be given out. Prizes will be provided by the local organizers in each case.

4.—Intending competitors will send in their entry form to the B.G.A., stating their first and second choice of site. The first will be granted if possible.

5.—Entry fees will be given to the operating club, with a small percentage to the B.G.A. to help cover its expenses. They will be of the order of £10 per glider, but may vary slightly with each site according to the facilities offered.

6.—The dates of the contests will be the usual Nationals period ending with August Bank Holiday (26th July to 4th August, 1958).

7.—Each operating club is entitled to state the maximum number of competitors that it will accept. The B.G.A. may require to limit the maximum at any one place.

8.—The clubs must find their own Stewards, Clerk of the Course, Marshal (i/c all flying), Timekeepers, Marking Committee, and Task Setter(s). They must also arrange for weather information and for medical facilities. All these must be approved by the B.G.A.

9.—Contest launching can be by any satisfactory means in normal use at the club concerned. Should mixed aero-tow and winch launching be used at a site, the pilot selecting a winch launch shall be given the benefit of 5 miles added to his distance in the case of distance tasks (except that the resultant total does not make the pilot eligible for goal bonuses). (If it is felt by the committee of the participating club representatives that this idea is too controversial to be acceptable, it will be dropped, and mixed launching forbidden. It has, however, been used successfully in practice and found workable, provided that the pilot is allowed to select his type of launch.)

10.—Each club must give an undertaking that it can launch at the rate of 18 to 20 per hour before it will be considered acceptable.

11.—There will be no handicapping, and all competitors will fly the same tasks directly with each other, regardless of sex, experience or the number of seats.

12.—Qualifications of pilots and aircraft

will be similar to those for National Championships.

13.—The take-off time of each pilot will be selected by him, as in recent Nationals.

14.—Races shall start and finish across a line arranged by the organizers. Turning points shall be manned by official observers.

Conclusion

It is felt that while full Nationals are held every other year, the intervening years should be used to try out new ideas, particularly if they can offer opportunities to more clubs over a wider area. The local organization required should not be very great, while at the same time the club will get the benefit of national publicity.

There should be more exchange of pilots between clubs, and the cost of getting to and from the competitions should be reduced, as the sites will be distributed as evenly as possible over the country.

Since the above was written, it is understood that the following Clubs are likely to take part: Bristol, Derbyshire & Lancashire, Scottish Gliding Union and Yorkshire.

It is now hoped that the "pundits" may distribute themselves between the Centres, not in order to carry off all the prizes, but to fly *hors concours*, and give such entertainments as post-mortems on the day's soaring, or help with the task-setting, should this be asked for by the organizers.

ANN WELCH.

COMPASS SWINGING

by Nicholas Goodhart

IN general, a sailplane is a good place in which to operate a compass, since there should be very little magnetic interference. It is, however, essential that the compass be properly corrected before any reliance can be placed on it.

Before any swinging is attempted, the following points should be considered:—

(a) Is the control column magnetised? Move it about and watch the compass; if it is appreciably magnetised, all compass swinging is a waste of time until it has been demagnetised.

(b) Switch on and off all the D.C. circuits in the aircraft and check that there are no serious compass movements.

(c) The compass should be as far as possible from any D.C. milliammeter or voltmeter. These instruments contain powerful permanent magnets. For this reason, I do not have any such instruments in my machine.

(d) If it is a Cook compass, arrangements must be made to ensure that its axis is truly vertical each time it is read. This is important and must be considered in flight as well as during the compass swing.

Assuming all is reasonably satisfactory, the next step is to swing the compass. There are several ways of doing this, but the following is suggested as an easy way:—

(1) Pick a place out in the open on the grass well clear of steel buildings, motor cars, winches or any other magnetic impedimenta. It is sheer bad luck if somebody has been burying stray magnets there.

(2) Turn the glider on to north by the compass.

(3) Station an onlooker about fifty yards away to line himself up exactly with the centre-line of the machine.

(4) While the onlooker stays put, turn the machine round, keeping the wheel in the same place, until you have turned it through 180°—i.e. until the machine is lined up, tail first, with the onlooker.

(5) Read the compass. The correction required is half the difference between the present reading and south; e.g., if the reading is 164° the correction required is 8° towards south.

(6) Compasses come in three sorts from the point of view of correction:—

(a) Fitted with a corrector box. In these, correction is carried out by putting the key in the hole which is at right angles to the compass needle and turning until the required reading is obtained. P-type

compasses are an example of this breed.

(b) Provided with built-in correctors. Correction is carried out by turning the screws marked N-S and E-W. Obviously, to make the correction in (5) above, the N-S screw is turned. The E2A compass is of this type.

(c) Provided with corrector holes into which small corrector magnets are put. Correction is always made by putting magnets in the hole at right angles to the compass needle. One corrector magnet makes about 5° correction and they may be broken into pieces for lesser corrections. The Cook compass is an example of this type.

(7) Having made the north-south correction (the correction made on south will be found to have made an equal correction on north and is, in fact, a measure of the amount by which the glider was not on north originally), the glider is now turned on to east and, once again, the onlooker is stationed on the fore-and-aft line.

(8) Keeping the wheel and onlooker in their places, the machine is turned through 180° until lined up with the onlooker again.

(9) Read the compass and correct by half the difference between the reading and west.

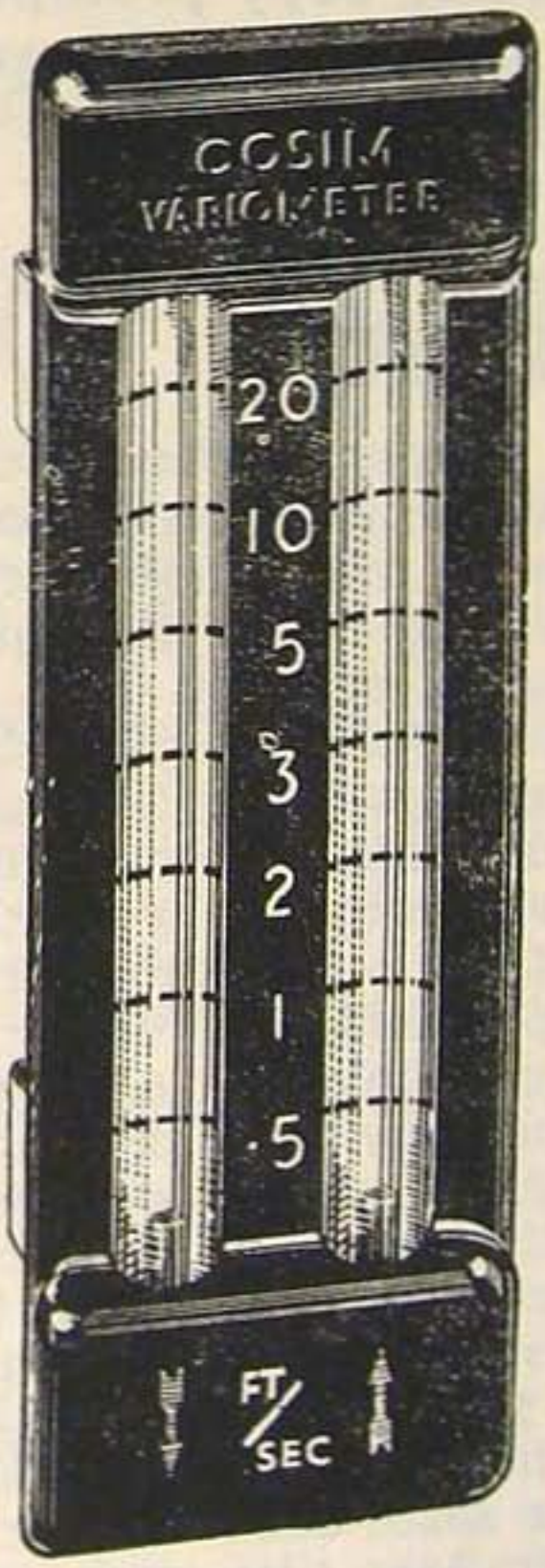
(10) If the corrections were large the first time round, it is a good plan to carry out the whole procedure a second time in order to make fine corrections.

This may all sound a lengthy process, but can actually be carried out in 10-15 minutes. Finally, one small but important point: if you have to use a screwdriver for correction, make sure that it is non-magnetic, and do not sit in the cockpit with pockets full of magnetic tools.

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were used by **all** countries competing in the **WORLD CHAMPIONSHIPS 1954** in England, and were also used on all British machines in the Championships in Spain which gained 1st, 3rd, 9th & 11th in a field of 39 single-seaters.

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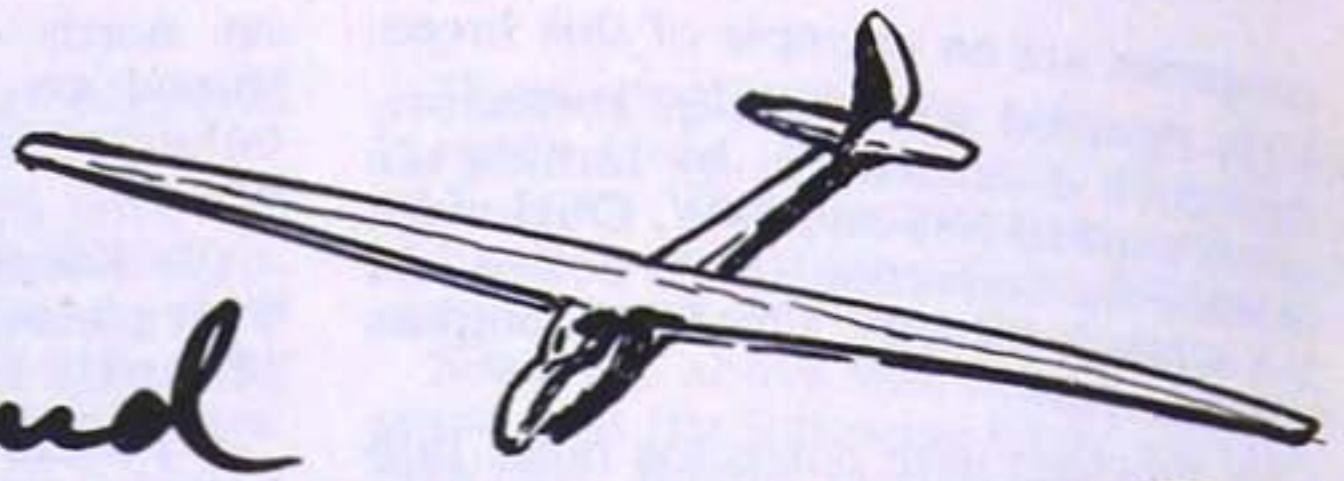
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Club and Association News



This is the season clubs look back over the last year's activities and begin to compute and collate, with the object of seeing how they have fared.

It is encouraging to see that this results in an avalanche of statistics from a number of clubs—mostly with increased launches, hours flown, distances covered. This surely points the way to further encouraging prospects for 1958 and it is to be hoped that the results will find their way into Club News, both in words and pictures.

Photographs are always welcome but to ensure good reproduction they should be a good contrast of light and shade.

To Press secretaries may I say thank you for your co-operation in sending copy promptly and correctly typed. The last date for copy for the April issue is first post 19th February, to S.E. Ambulance Station, New Cross Road, S.E.14.

COLIN MOORE,
Club and Association News Editor.

BRISTOL

As reported elsewhere in this issue, the club has recently been shocked by the loss of John Parry-Jones in the Britannia accident. Club development, which John made so much his baby, has now reached a consolidating stage, and as part of this, a fund has been opened to prepare an ornamental forecourt to the clubhouse in his memory.

Other consolidating recently has included suppressing the weeds and mud in the workshop under a smooth concrete floor, whilst the concrete floor in the bar is now hidden under a mosaic of marley tiles. The latter operation was completed by club members just in time to be christened at the first ever Christmas party at Nympsfield.

This event was held on 14th December. About 150 members and friends attended, the space allocation per person being four bar floor tiles, and we were particularly pleased to welcome Peter Scott and his wife, Nick Goodhart, Doc. Slater, and members of the Midland and other clubs.

On the essential side of gliding, our soaring during November and December suffered an almost complete absence of west to northerly winds. 10th November was an exception, when in a moderate N.N.E. wind, waves up to 2,500 ft. occurred to boost the hill lift on the north slope. Then on 8th December, some soaring was done in a strong westerly when, at 1,000 ft. 45 knots I.A.S. was needed to maintain station over the slope.

After two successive years of courses and managing, Peter Collier plans to go to Africa for the first two months of 1958, and then to return as instructor-manager. He is to be given assistance in running our next series of courses so that he can build towards our ideal of club flying seven days a week. All being well, we hope to have two new two-drum winches by next summer

which should increase our launch rate potential substantially, and enable us to cope simultaneously with both course, club, and visitors' launching. In retrospect, our launch total of nearly 7,000 in 1957 on two single drum devices, augurs well for the future.

M.G.

CAMBRIDGE

LAST term saw an increase of nearly sixty in the membership, so it was a good thing that the weather was kind to us, and a fair proportion of the keen new members have gone, or are about to go, solo.

Our 1958 programme has been provisionally arranged to include three Club camps in March, June and September at The Long Mynd. Courses open to non-members are also being arranged for the middle of the summer, to take place at Cambridge. In addition to Club activities, at least one private camp with the Club Skylark has been organised to go to the Hartside area hunting for waves.

A few weeks before Christmas, Frank Lindsell organised a Club party at which John Griffiths was presented with both the Mug Metal Machin (for the longest out-and-return) and the Pot Pewter Pringle (for the longest duration at Cambridge). At the same time Peter Neilson was presented with the President's Trophy which he won by getting to the top of the President's Ladder.

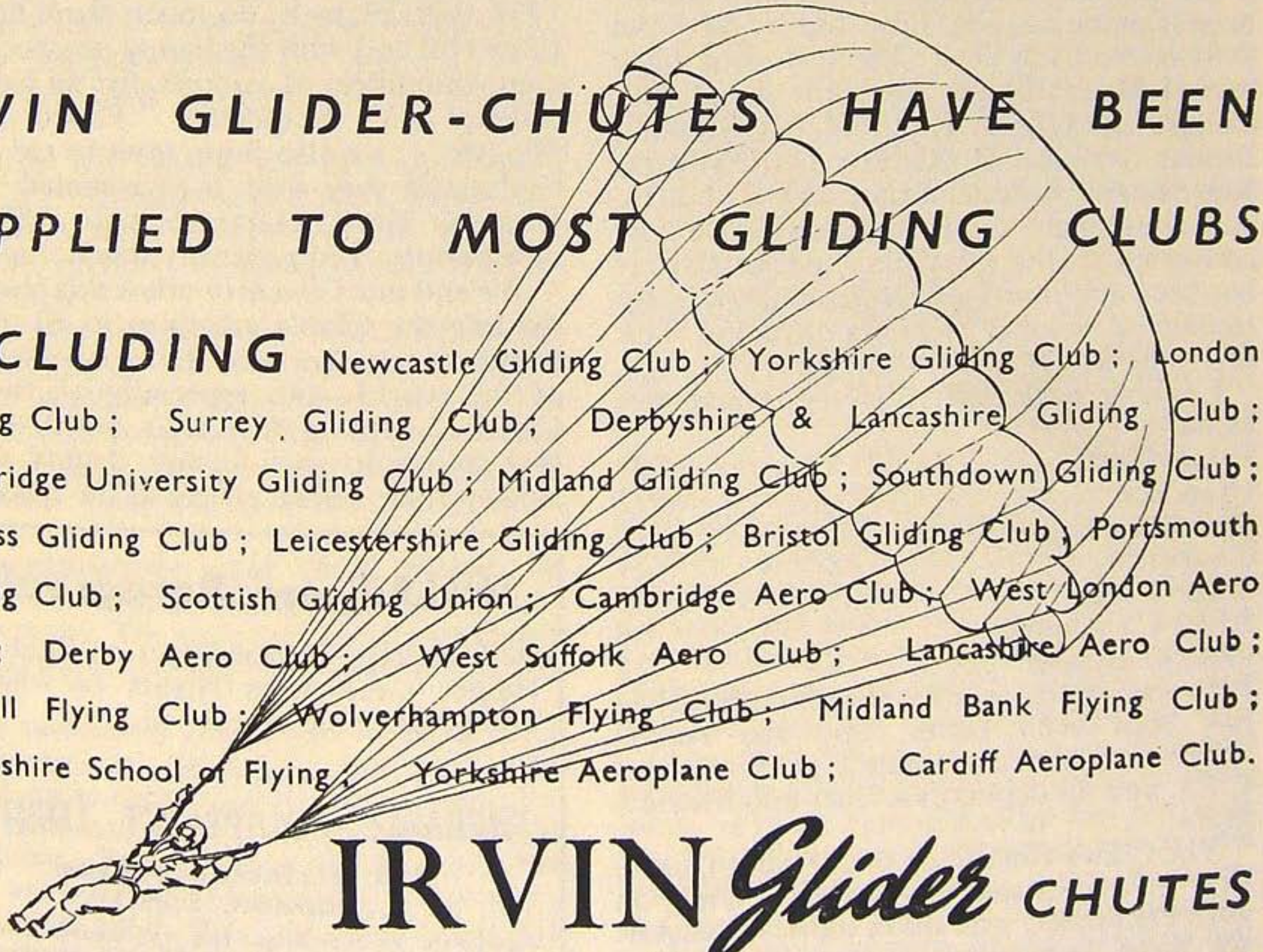
B.H.S.

CORNISH

OUR membership now totals 140, the launches 2,635 and the hours 222. 26 members have gone solo, ten of them as a result of two very good five-day courses run for us in October by Tony Edwards and Alan McLellan-Brown. One other fact from our statistics is the unexpected one that on the Cornish Riviera we had only one non-flying day in November compared with seven each in July and August!

North-westerlies continue to give us soaring over our truly magnificent cliff scenery, but we have also now found that certain winds across the Perranporth valley (roughly east-north-east) provide some

IRVIN GLIDER-CHUTES HAVE BEEN SUPPLIED TO MOST GLIDING CLUBS INCLUDING Newcastle Gliding Club; Yorkshire Gliding Club; London Gliding Club; Surrey Gliding Club; Derbyshire & Lancashire Gliding Club; Cambridge University Gliding Club; Midland Gliding Club; Southdown Gliding Club; Furness Gliding Club; Leicestershire Gliding Club; Bristol Gliding Club; Portsmouth Gliding Club; Scottish Gliding Union; Cambridge Aero Club; West London Aero Club; Derby Aero Club; West Suffolk Aero Club; Lancashire Aero Club; Redhill Flying Club; Wolverhampton Flying Club; Midland Bank Flying Club; Hampshire School of Flying; Yorkshire Aeroplane Club; Cardiff Aeroplane Club.



IRVIN Glider CHUTES

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soaring 200 to 300 yards beyond the perimeter of the airfield though, as yet, we have not been able to assess this properly.

The Social Committee have completed the conversion of a cottage to give us a bar. The first "event" held there was the Christmas Draw, when Ted Berry, our Hon. Sec., was able to announce that we had over 50 prizes given and a net profit of over £120.

The Social Committee was most successful in arranging an excellent First Annual Dinner-Dance in Truro, and a majority of our members also attended a very enjoyable social function at the Memorial Hall in Perranporth, when we entertained Mr. Basil Meads who was moved to compliment the Club on its progress by saying that it had been (and I quote) "Quite remarkable".

C. M-H.

COVENTRY

SINCE mid-August, when the Club Summer Camp at Edge Hill ended, practically all our flying has been at Baginton, for there has been a sad lack of soarable north-west winds at week-ends.

Latterly our main activity has inevitably been training circuits; now that we have the T-31 in the Club fleet. The following have earned B certificates since the Edge Hill Camp:—R. Gilkes, Ron and Pat Randall, Dennis Wright, M. Gibbs, D. O'Cleary, Ken Morris, Goode, Friar, and P. North. A. Cunningham and P. Sainsbury have now converted to the Olympia, and L. Glover has been appointed a Club Instructor. Also recently, a number of pilots have had their first experiences of aero-towing.

Looking back over 1957, our statistics include:—

Hours flown	1,049
Launches	7,012
B certificates gained	18
C certificates	17
Silver C legs	17
Silver C's completed	4
Gold C distance legs	2

1956 was a good year for the Club, but 1957 has been even better, and the results achieved reflect the greatest credit on our C.F.I. and his deputy, Vic Carr and Michael Hunt.

The Club's Christmas Dinner and Dance, held at the Coventry Aeroplane Club on 20th December, was again most successful: we were very glad to welcome many old friends from other Clubs. We were honoured by the presence among our guests of the Lord Mayor and Lady Mayoress of Coventry, and the former presented the following trophies and prizes:—

1. The "Coventry Evening Telegraph" trophy for the pilot making the best progress in the year—Howard Greenway.
2. The "Jimmick" Trophy for the most meritorious flight of the year—D. Cunningham, who completed his Silver C by flying a Tutor 68 miles from Baginton to White Waltham.
3. The "Founder's" Trophy for the best progress during the year by a lady member —Sheila Gregg, who completed her Silver C this year with height and distance legs.
4. The Chairman's prizes to Vic Carr and Michael Hunt for their Gold Distance flights to Cornwall.

We have one sad duty to perform in our last 1957 news; that is to record the tragic death of Jack Neale, of Combrook, following a tractor accident on his farm. He was a greatly liked member of the Club, always full of keenness and enthusiasm, and he will be very much missed.

The Club is now looking forward to 1958, with plans to do much more flying at Edge Hill and with the happy prospect of an augmented fleet of aircraft, for we have just ordered a brand-new Prefect from Slingsby's; we also hope soon to see on the field again very soon a rejuvenated Viking fitted by Gerry Harrison with a Skylark-type canopy and generally much improved.

We end our Coventry notes this month by sending the Club's greetings to all our old members who are now flying in other parts of the world—and especially all those in Canada, with a particular word of congratulation to our former deputy C.F.I., Jimmy Joss, whose article in the December

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H.N.G.

CROWN AGENTS

WITH a membership mostly spread over the four quarters of the globe, it is not always easy to find items of news for these pages. Due to the Secretary's illness we unfortunately missed the last issue, in which Christmas and New Year Greetings might have been sent out; but it is not too late now to wish all our members a good season of soaring, and we are looking forward to visits to Lasham during 1958 from many members from overseas, especially from Kenya.

J.E.G.H.

DERBYSHIRE AND LANCASHIRE

THIS autumn has provided more good wave flying than ever before. On 27th October, Michael Kaye reached 16,200 ft. above the height of launch and landed at Acklington, 12 miles north of Alnwick. Graham Elson reached 9,800 ft. and Sue Parkinson, of the Kent Gliding Club, reached 8,100 ft. Paul and Jose Neumark in Tutors, reached 6,400 ft. and 5,250 ft. respectively and Daphne Wales reached 5,000 ft.

On the 9th November, in a north-east wind, Bill Elrington and Angus Thompson contacted a wave on the way over to Mam Tor and reached 8,300 ft. and 7,400 ft. respectively.

On the social side, we had a successful bonfire party on 9th November attended by a large number of members and two fire engines from Bradwell. Charles Brown gave an interesting and amusing talk on 23rd November, attended by a record number of members.

Congratulations and best wishes to Graham Larkins and June Harrison on their engagement. We were under the impression that Graham thought of nothing else but gliding.

The two-seater Harbinger which is being constructed by Fred Coleman was completed some time ago, but some modifications have had to be made before it can be test flown. We hope that Fred's enormous task will soon be brought to a successful conclusion and that we shall see this interesting machine flying at Camphill before long.

HANDLEY PAGE

FLYING was interrupted on several occasions recently by progressive deterioration of our ex-Desert Army Humber. However a visit to a Ministry auction sale produced another brand new Humber for the fabulous sum of £26—the first new vehicle the Club has possessed.

In view of the decision to standardise on Humbers, the Club has an unused Ford V.8 "Mercury" engine for sale.

The Rhönbussard, built to the best of our knowledge in 1938, went to Dunstable in the summer for a thorough overhaul at the hands of Ray Stafford-Allen and company. There were many misgivings at the time but it came through with flying colours and its future should be assured now for the next twenty years!

More recently it has been taken to Dunstable for the winter to enable members to keep soaring and complete their five-hour tests. Unfortunately we seem to be very slow to take advantage of Dunstable hospitality and go out to use it.

Reviewing the year's operations we find that the number of launches is down on the previous year, but that the amount of soaring carried out is still on the increase and several more Silver C legs have been obtained. Thus we discovered the surprising fact that almost all solo pilots have at least a C and that more than half of them have at least one leg of a Silver C.

ISLE OF WIGHT

AT last! Our first flight from the soaring site at Afton Down. Jack Overbury was the first to fly on this memorable occasion but no soaring was possible, however, due to an easterly wind blowing straight along the ridge. These comparatively easy conditions, however, did enable six of the Grunau pilots to familiarise themselves with the new, and rather restricted, landing area. Derek Gavaghan did manage to lose sight of the area—we now have a landing T—and had to land on the neighbouring Golf Course, from which he was rapidly retrieved before the golfers descended with whirling clubs. Flying from the ridge has not been possible since due to the strong winds, and hopeful "soaring pilots" have been infuriated by the sight of seagulls soaring, with comparative ease, several hundred feet overhead.

Since the last news from our club, four more members have made their first solo flights. Perhaps the most noteworthy of these was by Madge Sheaf, our first woman pilot. Roy Taylor made his first solo flight from the Wasserkuppe, which he visited in the company of Eddie Morris.

Our Annual General Meeting took place on 12th December and it was on this occasion that we were able to welcome back to the fold Don Ellis, who has spent the last 12 months in the New World, where he had little opportunity to glide. Coinciding with Don's arrival we are sorry to announce the departure of our Secretary, Peter Ward—who is moving to the Coventry district. We are looking forward to reading in the Coventry Club's notes, their account of his long promised cross-country flight to Sandown.

J.L.

KENT

FLYING at Detling lately has been restricted by the rather indifferent weather but the Sunday before Christmas did, however, bring us a reasonable soaring wind and at one stage the whole of the club fleet were airborne on the ridge.

John Bailey flying the Olympia, stayed on the ridge for an hour at heights 700 to 800 ft. and later Phillipa Buckley also in the Olympia, soared for 46 mins. A very welcome visitor to Detling on the same day was Peter Scott who had a short trip with Ian Abel in the T-21, his final remark when leaving was that he hopes to arrive in Sea Eagle on his next visit.

The new Skylark 3B of Bill Bridges and Nick Howe, has arrived and they have been putting in some practice circuits ready for a full soaring season.

One other event of flying to record, is the flight by Sue Parkinson whilst on a week-end visit to Camphill with her husband, Richard. Flying the Derby and Lancs. Prefect, she reached 8,100 ft., gaining the first leg for a Silver C. Richard having offered Sue that particular flight, followed immediately after Sue landed, but was unable to make it a double event as conditions had deteriorated. Dave Parkin, also at Camphill the same time, was able to gain his C during the weekend.

The Christmas party which was held on 14th December in the newly decorated bar and lounge of the clubhouse, was attended by well over 60 members and friends.

The decorating has been done under the direction of Dennis Monckton who has been helped by enthusiastic members. It is hoped to complete the remaining rooms soon.

Looking ahead to next summer we are planning to hold further courses, and it's hoped also to have a Soaring week.

C.M.

KRONFELD CLUB

As a result of the Annual General Meeting and the Committee Meeting held soon afterwards, but mainly thanks to the offer by Miss Penny Taylor of the Southdown Club, the Club's Newsletter is now three times the size it was and apart from that, a lot lighter and brighter, it also contains a résumé of the talks given at the Club. This Newsletter is being sent free to members, but can be purchased by non-members for 6d. a time.

As an experiment, the Club is running a series of fortnightly feature film shows, starting on Thursday the 9th January, charging 2/- a time, and it is hoped that these will be well attended. There is also the possibility that starting with March, the Club will, on the first Tuesday of each month, organise a speaker to talk on gliding and gliding clubs, the general idea being that these talks will not be for members, but for anyone interested in gliding or who is intending to go on a gliding Course holiday.

The Club's Christmas Party was held on Wednesday the 18th December and although there was no organised entertainment, at least 120 people were present at one time or another.

Finally, we wish all Gliding Clubs a very successful Season in 1958 and the Hon. Secretary a very happy married life.

Diary of Lectures and Film Shows

February	5th	"The Oxygen Story," by G. Melville-Jones.
,,	6th	Feature Film "Twelve O'clock High."
,,	12th	"Flying and Motor Racing" by Ron Flockhart.
,,	19th	"North Wales, the Soaring Pilot's Paradise," by Bill Creasey.
,,	20th	Feature Film "The Sea Shall Not Have Them."
,,	26th	"The Necessity for Aviation Insurance," by J. Riseley-Prichard.

March	5th	"Interplanetary Flight" by by G. V. E. Thompson.
	6th	Feature Film "Blue Skies."
"	12th	Talk
"	19th	Talk
"	20th	Feature Film "Strategic Air Command."

H.T.

LAKES

OF necessity rather than choice, a great effort is now being made to divert activity from the gliding programme, to the construction of a hangar on the site, and with the enforced hold-up due to temporary winch-engine trouble, this has been somewhat facilitated.

The prevalent S.W. or W. winds have been more marked during autumn and early winter, and on one occasion in October, with the first flight of the morning, C.F.I. Ron Reid found Wave Lift near the edge of a then static sheet of strato-cumulus decorating the high ground on the southern rim of the site, taking the Tutor up another two-thousand feet above release. "Fantastic," was his later observation! Unfortunately, the cloud-sheet subsequently moved across, handicapping the following flights.

On another occasion, the last Sunday in November, Matthew Hall and Pupil, occasionally visible in what had earlier been Dusk, and in calm conditions, were experiencing steady lift over a gradual slope on the site. One explanation is that the cold air sinking down the steeper slope of the adjoining valley, was lifting air over the site.

The Club's first official function was held on the 29th November at the Shap Wells Hotel, proving as successful as was hoped. The Guest of Honour was a Vice-President, Mr. Cooper Pattinson, an ex-R.F.C. Pilot, and who, during the last war, built and flew a glider from the surface of Lake Windermere, with the help of a launch. Numerous excellent prizes were generously donated by members. It is hoped to arrange Socials, etc., at intervals, which should have a two-fold effect.

J.W.A.

LASHAM

OWING to the Chairman's current romance, it is regretted that no news appeared in the last issue of SAILPLANE & GLIDING, but activity at the 'Ub has continued unabated and Courses are being run right through the Winter.

With the coming of the New Year, we hope to have a third full time Instructor and the fleet will include a second T-42 and also a further Skylark II.

Under the stern eye of Tom Potts there has been a renaissance of winching and it has not been unusual recently to be launched up to 1,800 ft. and more.

Although, as a result of holding the Nationals last year, the Club has declined the invitation to participate in the National Soaring Week, Lasham will be holding a Rally at Whitsun and a Notice about this will appear, in due course, in the B.G.A.'s Circular.

Finally, we wish the Chairman and his wife, the unfortunate Helen, who were married on the 21st December, every happiness in the future.

H.T.

WHO WAS THE TUG PILOT?



Terry-Thomas is the lucky man at Lasham receiving last minute assistance for what looks rather like being a supersonic take-off!

LONDON

THE year 1957 has been the best in the Club's long history which began in 1930. There were 3 Gold C distance flights, 2 Diamond Goal flights, 15 completed Silver C's and some 30 Silver C legs. To date the hours have topped 2,500, our best ever in any one year and the launch figure is

around 9,000. Cross-country miles total about 5,000.

We have been getting very good heights in N.E. winds as a result of the purchase of an extra field, 1,000 ft. being achieved in quite light winds which has removed one of our past difficulties—namely poor launch heights in these unstable N.E. wind conditions.

On 1st December our east wind wave appeared and on this occasion was contacted and soared. Mike Fairman spent an hour at 2,400 ft., reporting very smooth lift of a weak nature, never more than 1.5 ft. per second. Frank Foster and Mike Garrod also soared in it for various periods. We feel that before we hear the cries of derision regarding the heights reached, we should point out that the average height of our hill is only about 200 ft., so 2,400 ft. is quite interesting when it is set up by such a low hill, with a wind which was not more than 10-12 knots at the surface.

During 1957 considerable improvements have been made to the Bar and Club buildings generally by the members, most ably led by Chuck and Bonnie Bentson. Chuck's latest outburst of energy has resulted in a very neat cockpit fairing for our T-21A which is kept for soaring and joy-riding, and the machine is now much warmer and nicer to fly in.

On the 14th December we held our Christmas party which was well attended and was enjoyed very much by all present.

At the turn of the year we have 28 sailplanes based on our site, and two Tiger Moths for aerotows. Winches now include the "Ramsden Crawler"—a self-mobile two drum winch which was designed and built by Philip Ramsden and the members of the Transport Committee. Also as a result of Dickie Ruffett's efforts, what we believe to be the only Link Trailer in the world completely converted for glider pilot instrument flying training, is serving a very useful purpose. It is calibrated to glider speeds, with dive brakes which most effectively simulate the "effects" on vario and airspeed when opened "in cloud".

P.F.

MIDLAND

We are pleased to report that early in the period under review, the rebuilt Olympia came in service. The finish is very smart, being mainly cream with a black fuselage flash—we are all especially grateful to Teddy Proll for his effort in reconstructing it. The new Olympia's first airing was on a day of an East Wind Wave, so a comparison with a Skylark II was possible and Wilbur Wright reports favourably. We had spent considerable time on the upper wing surface finish, with apparently positive results.

A very good job has been done by members recently in completely modernising and redecorating the kitchen. Not being content after finishing this job they then turned their attention to the Club Room lounge which now appears in contemporary form.

A further development to improve our amenities is the proposal to change over from paraffin to butane gas cooking stoves —the installation should be complete in early 1958.

Nineteen fifty-seven's flying hours represent a considerable increase on any previous single year's operation and now stand at just under 2,800. The fairly consistent annual improvement in this department is generally thought to be due more to better "gliding angles" than to weather factors—as the number of launches remains fairly constant, at about 5,000.

J.H.H.

NEWCASTLE

In spite of a slight lack of evidence to the contrary, we're still alive and although most of our recent flying has been of the circuit type, 24th November provided us with the jam of soaring to go with the bread and butter of training.

During the day it was found that exceptionally good launches were being obtained (1,700 ft. as opposed to the usual average of 1,200 ft.). This was considered to be due to the presence of a wave over the field, this in its turn being part of a very extensive wave system about 7 miles long which stretched from S.W. to S.E. of the airfield.

The total soaring time was 9 hrs. 21 mins. in 8 launches. The flights, in order of duration being Andy Coulson in the Skylark III, 2 hrs. 45 mins., 2,800 ft.; Ian Paul in the Kite II, 1 hr. 50 mins., 2,300 ft.; Instructor Dave Wilson and Dr. M. Wood in the T-21, 1 hr. 20 mins., 2,000 ft.; Denis Driver in the Olympia, 1 hr. 6 mins., 2,300 ft.; Doug Collinson in the Olympia, 45 mins., 2,000 ft.; A. de Redder in the Tutor, 30 mins. The rest of

the time was made up by two earlier flights, one by Andy Coulson lasting 35 minutes and one of 15 minutes by Denis Driver.

In the account of his flight which Ian Paul gave me, he reported that there was a considerable wind shear at about 1,000 ft. (the surface wind was from the N.W. at 1,000 ft., it had backed nearly 30° and at his maximum height of 2,300 ft. it was very nearly due north) and his flight followed the pattern of all the rest, namely straight from the launch in the direction of Penshaw Monument (a local landmark about 3 miles S.W. of the field) where the lift was to be found. He found it, just before his boats were irretrievably burnt and from there went up 2,300 ft. and started to explore upwind, ending up 5 miles north of the monument before returning to the field.

Denis Driver, however, didn't lose very much height at all, as after a launch to 1,700 ft. he contacted the lift at 1,500 ft. which also took him to 2,300 ft. He reported that the lift appeared to be in patches as all the aircraft were rising and falling relative to one another, a fact that was also remarked on by Dave Wilson who was in the T-21 with a new member, Dr. M. Wood.

With regard to gliding courses, the planning has not got past the preliminary investigation stage yet, and consequently there is very little to report, but further developments are awaited and will be reported as they occur.

L.A.C.

NORTHAMPTONSHIRE

At the Annual General Meeting, held in November, a number of encouraging facts and figures were given; membership has risen during the year from 38 to 71; launches, from 862 to 1,592, and hours flown from 34 to 122. The shortness of individual flights is due partly to the site, which is flat, and not in good thermal country, and partly to the very high proportion of *ab initio* training which is being done. Since May, when we took delivery of our Sedbergh, 17 B certificates have been gained, and several more are in the immediate offing.

Among the officers and Committee, a few changes have to be recorded, President is still T. Phillips, and Chairman, B. Sykes, D. Woodford was confirmed in the job of Secretary, which he took over at mid-season, G. Grant still retains the money-bags, John Baker was persuaded to continue as Flying Secretary, on the promise of a lot more help, and D. King continues as Membership Secretary. The Committee now consists of H. Brittain, D. Walker, F. Pozerskis, G. Wells, and the two Assistant Flying Instructors, G. Pentelow, and J. Saunders. The C.F.I., Flt./Lt. K. Pearson, remains in the job he has so successfully carried out during the past year.

The financial situation was reported to be satisfactory, so satisfactory, indeed, that we are able to discuss the purchase of a high performance sailplane in the spring, and a study of suitable types is being made.

Electric light and a cooker have been installed in the clubhouse, so that Friday night is now a club night, when social activities are very conveniently combined with maintenance and repair parties.

In retrospect, the year has been one of enormous expansion, the club-house has been reconstructed, largely through the efforts of Tony Wilson and Bryan Brown, the T-21 has been purchased, the two-drum winch and a trailer built. The ground organisation has steadily improved, and the way is now open for an onslaught on the problems of soaring in the spring. This happy state of affairs is due in the main to the work of two bodies, the Committee of Management, and the Instructors, who, led by Ken Pearson, have worked in the service of all.

B.C.H.

OXFORD

Although no mention has been made of Oxford for some time we are, nevertheless, very active as can be imagined, as our numbers have almost doubled themselves since this time last year.

Among those who will be looking out for the first signs of the soaring season are R. King, P. D. Hansford and D. Nichols, who have recently qualified for their A and B certificates.

Talking of soaring, I think special mention must be made of our tireless instructor, J. Ellis, who on numerous occasions quietly disappears for two or three hours at a time in the Blue Gull and explores Oxfordshire whilst most people are making heavy going of local soaring.

Quite a few people had their first aero-tows last month when the Tiger Club flew in to Weston in a tight formation of five aircraft. Their visit was much enjoyed and

it is hoped to arrange further visits in the near future.

A new venture for Oxford, was the introduction of a monthly social evening which was a great success thanks mainly to our Secretary, A. Speechley and Joy Taylor, who provided the eats, etc. Members welcomed the opportunity to get together socially and the evening ended with a film show. We are, I believe, the only club in the country to have at its disposal a fully equipped cinema, thanks to the generosity of the C.O. of Weston-on-the-Green R.A.F. Station—Flt./Lt. Kelly.

During the winter months our club Olympia is having a face lift, also rumour has it that Chris Hurst our Ground Engineer, will be very busy for some time to come, for I believe a Skylark II in kit form will shortly be arriving, which he hopes to complete before the end of next summer. It will be, I think, the first Skylark to be built in this country from a kit.

V.R.C.

PERKINS

We are now settling down and beginning to feel we belong to the gliding and soaring fraternity. Our first operational year is behind us and for an *ab initio* club like ours, a highly successful one we feel. Quite a few members have A and B Certificates and several have C as well. This coming year, we plan to have our first Silver C's, and with this end in view Mr. K. Tinkler is building a trailer, while Mr. S. Hickson is assembling a second Tutor.

Our first Annual Dinner Party was held in Peterborough on 26th October, and several members from Cambridge University Gliding Club were welcomed. After dinner, Mr. J. Hulme presented us with our first Trophy, which is for the longest Cross-Country in club aircraft. This year it goes to Mr. George Bell.

S.W.H.

R.A.F. GEILENKIRCHEN

In the past year the Club has flourished under the expert direction of F/O Dave Innes of the Regiment, having completed over 2,200 launches and over 250 hours. The membership of the club was quite large during the summer but faded off as winter set in, leaving it obvious to a few die hards who the fair-weather merchants were.

The club achieved a target, a few times during the summer, of over 100 launches on the Sundays with our old and only faithful winch. We had also an excellent year for solos; turning 15 pupils on the road to success with their A's, B's and 6 C's, amongst them. The club equipment consists of 1 Kranich, 1 Weihe, I Meise and 2 Grunau Baby's with Old Marg taking the pride of place (SG-38). Our main difficulty was our lack of equipment on the transport side which eliminated many potential cross-countries, except when "Pete" Staff made an eventful flight to Aachen, landing on a football pitch which had barbed wire stretched across it. Fortunately, due to skilful handling by "Pete" the aircraft was not badly damaged.

One of the toughest flights of the year was recorded by David (Jock) Angles having narrowly missed his Silver C (when lift ran out) by 18 minutes. The flight was in torturous weather in an open cockpit of a Baby. He had to be assisted from the cockpit suffering from heat exhaustion and sunstroke, being more annoyed at missing his lunch and tea than his 5 hours.

D.W.

SCOTTISH G.U.

With the flanks of Bishophill already mantled in seasonal whiteness, we approach our first Yuletide at Portmoak in a spirit of enormous satisfaction. The move from Balado has meant an awful lot of work for everybody but we are fully agreed that it has been well worth while. Since moving to Portmoak, we have flown on 71 days, of which 36 have been soaring days. 244½ hrs. have been recorded for 1,424 launches. Including figures for flying at Balado up till May, the year's totals (to 8th December) are 2,425 launches for 319 hrs.; 100 flying days, 45 soaring days.

Since our last report there has been no dramatic flying news. Most of our efforts have gone to soothe the querulous mutterings of our small army of *ab initios*, whose ample ranks have been further swollen by the necessity to train a number of latter-day Balado B's in the slightly subtler skills required for solo flying at Portmoak. A list of pilots scheduled to do their duration legs has been drawn up, but so far only Cunningham, Alcock and Bryce have performed this wearisome business.

Work on the new site has progressed steadily. The hangar is finished, and we are well advanced with the preparation of two permanent launching runs which will

replace the present rather short temporary strip. With these completed we shall get much more frequent use of Benarty Hill, the north-wind slope. If the money is available, we hope to begin work on the foundations of the Clubrooms in the late spring. This represents the last phase in the basic development of Portmoak.

Even in its present raw state, however, Portmoak is a fascinating place to fly from. We hope to organise a number of small groups of members to fly mid-week throughout next summer, and if any groups from the land of the Sassenachs would like to bring a glider up to pit their cunning against our strangely-shaped Scottish thermals, or our rather splendid waves, we should be very glad to see them. But please contact our Secretary in ample time, stating dates, so that we can make suitable arrangements for their arrival.

D.B.

SOUTHDOWN

AN important step forward in the club's history was made when it was decided that a full-time resident ground engineer should be appointed last October. Peter Staffs, who had recently returned to this country after overseas service with the R.A.F., has now joined us in this position.

With the northerly winds in November and December, a healthy amount of soaring has been achieved with the four club aircraft frequently in the air together. On two week-ends over 47 hours flying were logged.

On the 15th December a 5.0 a.m. reveille enabled two five-hour flights to be completed by Peter Wildbur and Ron Walker flying the two Tutors. It was bitterly cold, and to face five hours in a brisk north-easterly wind, sitting in an open cockpit and with temperatures below freezing point, was no mean achievement. Hail and light snow fell during the flights, and the T-21 and the Olympia, which were flying at the same time, were landing with ice on their leading edges.

Our C.F.I. Brian Buckley has been stepping-up training for cross-country flying, by introducing field landing practices. Markers are set out to represent a field, in a part of the site which is normally unused and which presents an unaccustomed approach and landing.

The T-21 has also been fitted up for blind flying instruction, the pilot under instruction wearing an eye shield and immense faith in his instructor. The view through the starboard windscreen is masked, and the pilot's view is confined to the instruments in the cockpit. It is surprisingly effective.

1957 closed on a most optimistic note, and we are looking forward keenly to achieving record results in 1958.

R.M.

WESSEX R.A.F.

OUR new gliding year now begins. During the past year we achieved over 7,000 launchings. Our present membership is 96, so there is room for some keen new members.

We shall continue to operate at Andover each Wednesday, Saturday and Sunday. Tuesday evenings are spent in the hangar on make-and-mend, discussions, and the odd film show.

Our American friends from U.S.A.F. are now back home in the U.S.A., where they hope to form their own gliding and soaring club. They were most appreciative for the experience gained with the Wessex Club.

We are sorry to lose a staunch member, Major "John" Allen of the Gurkhas, who has left us to take up an appointment in Nepal, where he hopes to find ways and means to continue his gliding activities (Himalayas notwithstanding).

A keen party of Royal Navy midshipmen from Dartmouth recently spent a very happy gliding weekend with us. The Naval towing aircraft and Kranich two-seater were much in evidence; members of the Wessex Club were treated to some aero-towing.

The following recently went off solo: Senior Aircraftsman Carson of R.A.F. Andover, Sqdn-Ldr. Brown of Staff College, Andover, and Sqdn-Ldr. Lawson of Headquarters Maintenance Command.

Our C.F.I. Sgt. Andy Gough, is cooking up some new ideas for next year, of which, more anon.

J.D.

YORKSHIRE

LOOKING back on the past year's working, we can truthfully say that this has been the most progressive year for a long time. On days when the hill was not soarable, the T-21 has been kept busy on training circuits all day. On soarable days, every available machine has been in the air.

The results have been worth while, with

a total of 20 B's, 16 C's, and 2 Silver C's. Quite a few cross-country flights have been made, the longest of which was 77 miles from Sherburn to Squires Gate in the Skylark I. Barry Goldsborough completed his Silver C with a flight to the East Coast in the Kite II, and Keith Moorey did 51 miles in the Tutor. Several other shorter flights were made. The best height was 5,500 ft. by Bob Wilkins. We are all eagerly looking forward to the arrival of our T-45, due for delivery in March, and we are hoping next year to get some really long lines on the map.

At Sherburn too, we have been going full steam, usually keeping going until dark. Our main trouble in the first few weeks has been a lack of winch drivers, but we have now trained most of our C pilots to drive. A number of members have spent a fair amount of time power flying, getting to know the country from the air, and practising navigation, so from Sherburn we should have a few cross-country flights when the thermals start.

We have been using solid wire at Sutton Bank for most of the year, with excellent results, once we learned the technique, and propose to carry on using it. At Sherburn the stranded wire we started with is still in good condition, but will be replaced with solid wire when it packs up.

Flying at Sherburn closed down in late December, to enable us to C. of A. the aircraft and overhaul the winch. We are also building a new tow car, mostly of Ford bits and Dexion, and if it looks like the drawing (which it probably won't, knowing our "engineers"), people will come miles to see it.

Our membership now stands at 150, and our fleet of aircraft is 2 T-21, 4 Tutors, 1 Kite I and 5 Cadets.

Plans for holiday courses are going ahead, and we are hoping to take part in the National Gliding Week.

As a last word, we would like to say that we will be delighted to welcome any visiting pilots or club members.

E.H.

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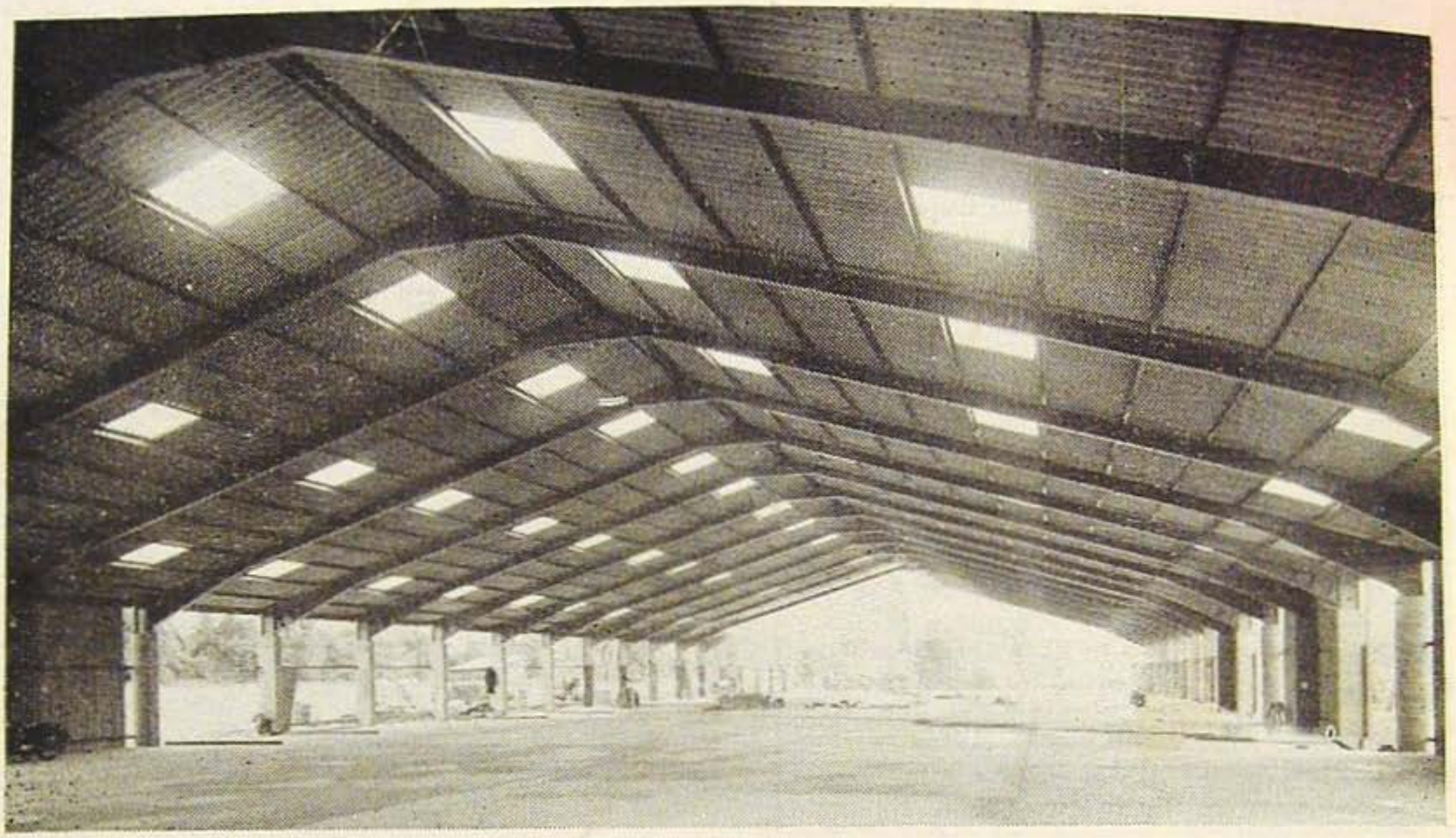
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