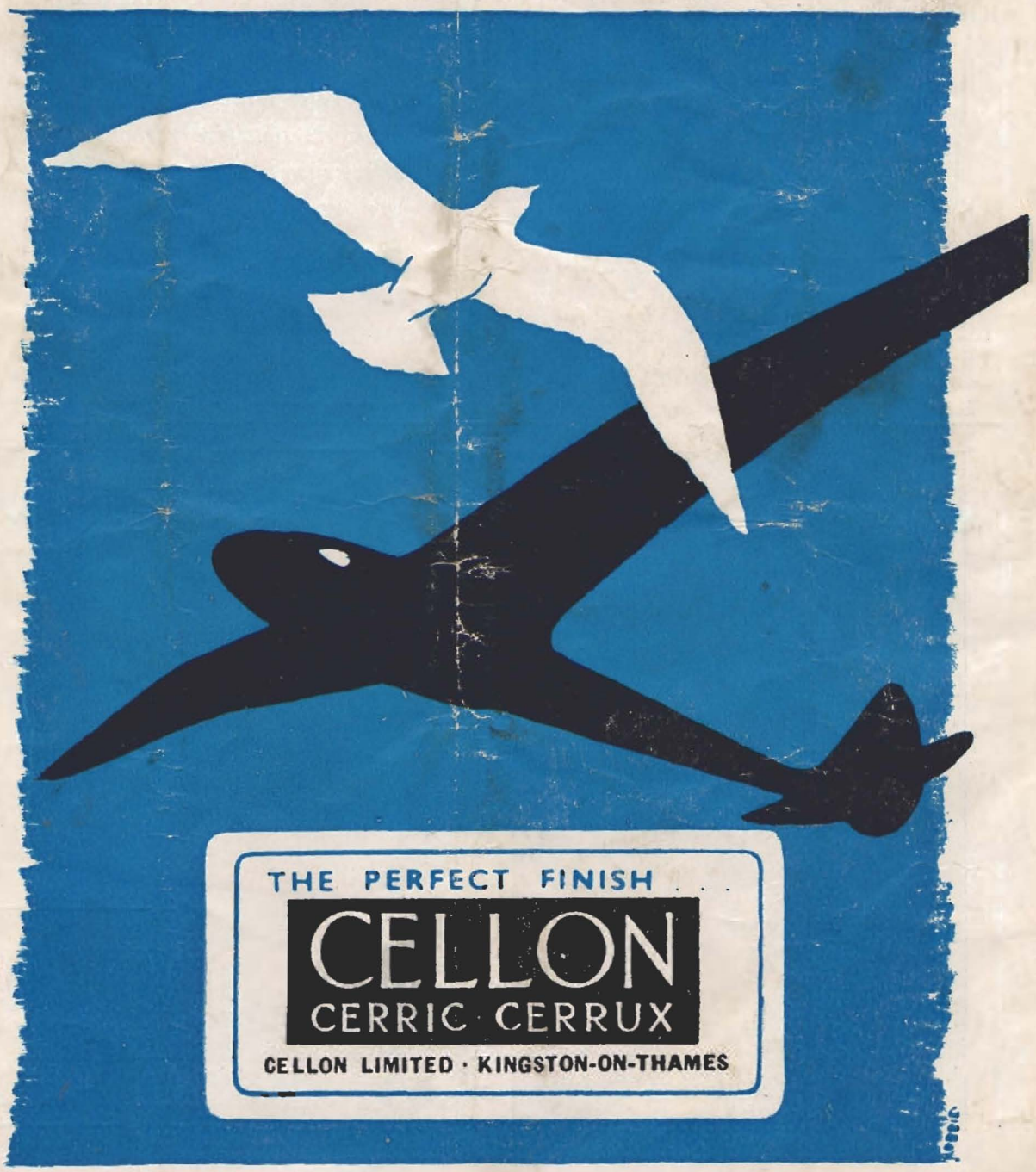
# SAILPLANE AND GLIDER

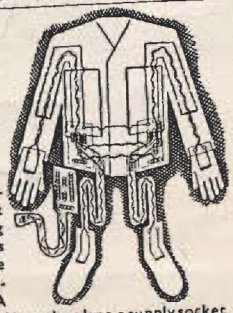
JULY, 1945
Vol. XIII. No. 6.

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JULY 1945 ★ Vol XIII No 6

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The *Sailplane and Glider* is published on the first day of every month. Price One Shilling per copy; 13/- per year posted. Advertising Rates on application.

Published for the proprietors, Glider Press Ltd., by the Rolls House Publishing Co., Ltd., Breams Buildings, Fetter Lane, E.C.4, and Printed by the Mendip Press Ltd., London and Bath.

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# A PAUSE FOR REFLECTION

AT long last the time has really come when it is possible to look forward again to civil gliding and soaring in this country. True, permission has not yet been given for any unrestricted civil flying; nor has any statement yet been issued with regard to licences and general regulations; nor have manufacturers freedom to build machines for any who come along. But for a short time perhaps, this is just as well. Post-war gliding is a subject which will soak up thought, serious or otherwise, like blotting paper.

It is easy to say that there have been five long years in which to think about post-war gliding; that is true, but much of this thinking has been progressively coloured with the pleasant memories of the irreplaceable past. Now is the time to be horribly analytical, fillet off those memories, and take a long hard look at the bones.

Gliding is a very fine sport; one might almost be provoking, and say that it is the finest of all sports. It has so much to recommend it, that one is apt to overlook the faults. In fact, the Pioneers of British Gliding have rather a soft spot for the faults. They have grown up together, and life would not be nearly so much fun without them.

But let us just look for a moment at a part of these filleted remains.

The backbone of British Gliding is the Clubs, and no-one could wish for better hospitality, or more enjoyment, than could be found at any of the active Clubs. But did these Clubs really operate in the most economical and efficient way possible? The instructional methods were a legacy from Germany, and at a time when the Germans had men, but no money. Because of the lack of other knowledge, these methods were developed over here, and used less man power, but the inherent faults of the solo training system used still remained. These were slowness, especially, and the necessity of a large variety of glider types, most of which stayed uselessly in the hangar on gusty days. (Major Deane-Drummond sets out further reasons in a letter published this month.)

Many people will say that solo training requires a much smaller initial outlay than dual training, thereby allowing small clubs to start which otherwise would not have been able to; but surely this is false reasoning, as proved by the fact that in practically every case of a club starting and attempting to operate, with insufficient capital, it departed this life in a short time, and actually wasted the little money it did have.

Perhaps one reason for the continuation of the solo system may have been that it was rather fun for the more experienced members to sit back and watch the new pupils "going through the mill," and bouncing about on the "Primary" as they had done. Anyway, it would have been most expensive for any club to re-equip with two-seaters, when it was already operating a fleet of assorted solo trainers.

This does not apply now. Most clubs, due to the war, have few machines left. The economics and technique of dual training deserve a most careful enquiry.

Gliding was never a cheap sport, and it was only the addition of the subsidy that allowed costs to be within the reach of the average young man. These have now risen considerably, and to an extent that will preclude many who could just have managed to take it up before the war, and so far, there has been no decision with regard to a subsidy.

The Clubs want to operate, and give the best value for money. Many people want to take up gliding, and learn to fly quickly and as cheaply as they can. But only a great deal of clear thinking will make this possible.

This pause for reflection cannot afford to be wasted.

# SOARING METEOROLOGY

## IV
## CONVECTION CURRENTS

BY
J. A. SIMPSON
President, Soaring Association of Canada

*(Continued.)*

IT should always be remembered that due to the very low initial velocity of thermals they may drift a very long way before the glider pilot makes contact with them; thus if there is a light wind blowing the thermal picked up at one thousand feet probably started from a field several miles up wind, and not directly below, as is often imagined. (See reference 5.)

### INTERESTING EXPERIMENT

An interesting experiment has been undertaken at Harvard University where a light plane flew a triangular course at one thousand feet over varied country near the Blue Hill Observatory every sunny day last summer, equipped with instruments to measure the size and strength of thermals encountered at that height. The results of these tests are of great interest to sailplane pilots and are fully discussed in reference 5.

In the late afternoon and evening when the sun's strength decreases, the dark and moist areas on the ground, such as lakes, swamps, woods, and ploughed fields, begin to give up the heat which they have absorbed during the day, and insolation type thermals are then found over these places. They are also formed over hill sides which directly face the sinking sun, whose rays are then striking the level fields obliquely. Thus the regions that cause down drafts in the day cause upcurrents in the evening and at night, and *vice-versa*.

### WIND THERMAL

Wind thermals are formed when marked atmospheric instability is combined with a high wind. They usually occur in warm moist air masses, and are really the result of long rollers formed with their axes parallel to the wind direction, alternately rotating in opposite directions, and thus providing upcurrents between alternate rolls. These thermals may also be formed under similar conditions by the wind blowing over surface obstructions which start the air rising in long streams down wind.

In either case wind thermals provide ideal conditions for long distance flights, as the pilot is able to fly directly down wind at high ground speed and without the necessity of circling to gain height. If cloud forms under the wind due to thermal conditions it appears as cloud streets, almost continuous rows of cumulus lying parallel ot the wind direction.

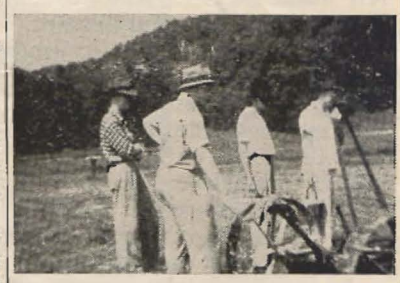
### OCEAN THERMALS

Ocean thermals occur over the open sea when the temperature of the water is slightly higher than that of the overlying air. Due to the thermal lag this condition is most often met during the night and early morning, but may occur at any time. It probably represents the normal state of affairs over the warm ocean currents such as the Gulf Stream.

Due to the homogeneous nature of the ocean surface the thermal pattern produced is of great regularity, as compared with that over the irregular surface of the land. It does not appear that ocean thermals will ever be of much use for sporting glider flying, although such conditions have been used in the crossings of the English Channel and Lake Michigan by sailplane.

### EVENING THERMALS

Eveing thermals, although not of great value in distance or altitude record attempts, have provided some of the most pleasant local flying that may be obtained. On certain occasions pilots who were flying at two or three thousand feet in the early evening have suddenly found themselves in a tremendous area of gently rising air which hold them at an altitude of from three to five thousand feet until long after dark. Others who watched them from the ground were quite unable to reach the area of lift, although they found the lower air extremely turbulent.



*J. A. Simpson (in foreground)*

It is only recently that an explanation has been offered for the evening thermal. It occurs following a day of marked instability to considerable height. When the lower layers near the ground have cooled off, due to the beginning of nocturnal radiation, and are therefore very stable, the instability of the upper air increases, and free vertical movements may occur above about two thousand feet. However, the equilibrium must be disturbed by the entrance of air currents from below. This can rarely happen over flat ground, but may occur when the evening breeze blows up a ridge or other obstruction or when a late thermal is sent up from a hill facing the sinking sun. Thus the evening thermal is only experienced when flying from hill sites.

### ALTO-CUMULUS

Height thermals were discussed in the last section on Atmospheric Instability, where it was explained that they were due to cold air over running warmer air at some distance above the ground, and were independent of ground effects. They often cause alto-cumulus clouds, and offer many possibilities for long distance flights.

If sufficient information is available it is possible to predict the strength and extent of thermal currents from an equilibrium curve of the atmosphere, known as an " emagram " (energy-mass diagram) which is plotted from upper air soundings. As the lapse rate in the lower air changes so rapidly throughout the day it is not as a rule possible to forecast insolation thermal conditions very accurately.

An emagram is shown in the figures below. The left-hand curve shows the temperature lapse rate of the quiescent air; the right-hand curve shows the temperature of a body of air rising from the ground, first following the dry

adiabatic lapse rate until the dew point is reached, and cloud begins to form, then following the wet adiabatic lapse rate. The shaded area between the curves indicates the degree of instability, which determines the rate of ascent and the height to which thermals will rise. It will be noted that there is a change in the ambient lapse rate at A, and an inversion between B and C. The rising air remains warmer than its surroundings until the curves cross at D. The extent of cumulus development is also sketched.

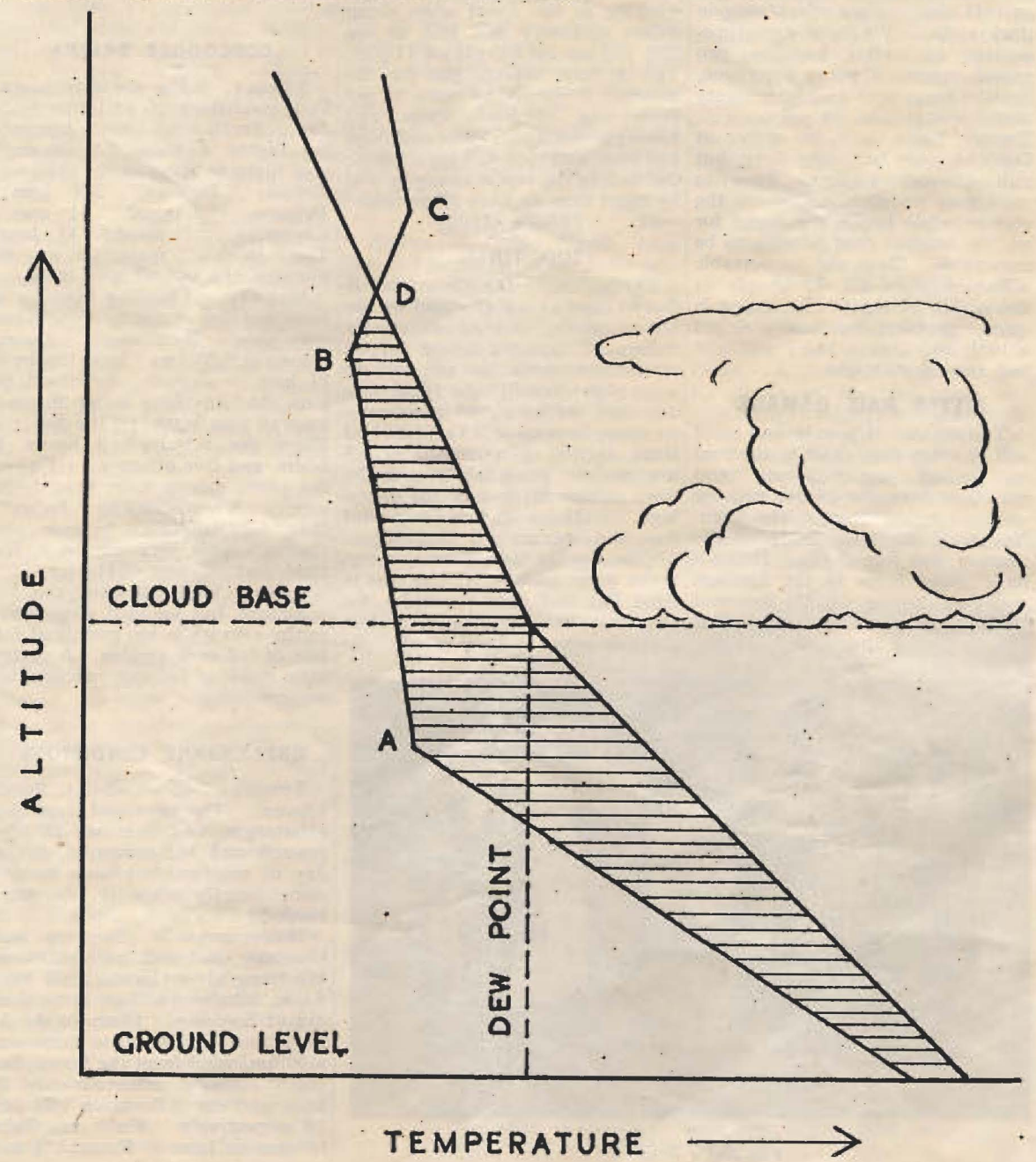
1. The spacing and Structure of Thermal upcurrents. Quarterly Journal of the Royal Meteorological Society. Vol. LXIII p. 271, July, 1937. (G. L. Symons' memorial lecture, March 17, 1937.)

2. Gliding in Convection Currents. W. Georgic. NACA Technical Memorandum, p. 761 (traus).

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# FIRST SAILPLANE CONTEST IN ARGENTINA

## CORDOBA, 10th—25th FEBRUARY, 1945

WEDNESDAY, 7th. Up at 4.45, collect various members and drive to the station. By 7 a.m. we are all together, 76 people in one long railway coach on what promises to be the hottest day of the year, although it began so cold that we are all stewing in dark suits. We have two typewriters, an adding machine, two mouth organs, a piano accordeon, healthy lungs, and no false modesty about using them in public . . . Twelve hours later we arrive at Cordoba, very hot, very dirty, but still cheerful—until we have to wait two hours standing on the station while hotels are found for us, the original ones proving to be impossible. Clean and comfortable accommodation for 76 people in the middle of the tourist season is quite a problem, but finally we get a bath and dinner and crawl into bed around midnight.

### LITTLE RAIL DAMAGE

THURSDAY. Up at 6 and so it will be every day. Out to the field to unload trailers, cars and machines from the twelve railway waggons we occupy on the train. Not much damage considering the journey, but five of the " Babys " have slight holes in the fuselage owing to coming slightly loosened through much shunting. But eventually all the stuff is in the hangar and we can start putting it together. Utterly tired out when we pack up at 9 p.m.—only two machines ready.

FRIDAY. Raining all day (haven't had a drop for eight months). We are crammed together in the hangar working at full speed when along comes authority and tells us we may not use the hangar till 11 p.m. This is later solved, but for the moment it means we have to get everything outside — wings and fuselages and spare tyres and dope and wood and tools and parachutes; but luckily the rain is easing up and by night time we have 13 machines ready.

### TOO TIRED

SATURDAY. The Concourse is due to start at mid-day and we are almost ready, but all so utterly exhausted that we decide to put off the start for a day and only do a bit of practice flying. (Forgot to say that we have had practically no sleep, because it is Carnival and there is the grandfather of all loudspeakers going full blast in the town square till four in the morning. . . .) However, it is a beautiful day and we are all enthusiasm. To the left lie high Sierras, about seven miles away. All the rest is dead flat and semi-deserted. To the East lies flat grassland, but there is never a West wind. So we are limited to North and South, each ceasing to be transitable about 150 miles away except along the rate road, because it becomes pure desert. And even on the roads there is neither telephone nor telegraph.



*The Day's Briefing*

### CONCOURSE BEGINS

SUNDAY. The contests begin. Poor conditions till well after mid-day. North wind. Only interesting flights *Laplace*, " Spalinger," goal flight to Rio Cuarto, 191 kms. *Bobzin*, " Bussard," 212 kms.; *Delpiano*, " Bussard," 81 kms.; *Chourrout*, " Bussard," 31 kms. The " Baby's " maximum was 50 minutes, the rest all very little.

MONDAY. Clouding over for a front arriving at night. Conditions very poor. Wind north. *Lucas*, "Bussard," 53 kms. *Dori*, "Baby," 31 kms.; *Arguelles*, " Baby," 10 kms. (but anything under 30 kms. loses all your marks for the day . . .) Times for " Baby " 3 hours, 2 hours, and five others over 1 hour Six pilots gained more than 1,000 metres. A better day for " Babys " than for sailplanes because the thermals were very narrow. We tried out a new " Hutter 17," launching both by auto and by aeroplane, but found it unsuitable, as the velocity is too great and the rate of fall even greater. A pretty little machine but not practical for our conditions.

### UNPLEASANT CONDITIONS

TUESDAY. Rain all day, thank heaven. The heat and dust and exhaustion had left us all depressed and bad-tempered, but a day of rain and a chance to rest came exactly when it was most needed.

WEDNESDAY. Sunshine and blue sky, but still no conditions. We hung about in the field from 8 a.m. till about half-past one, then did 32 launches. Distance should have been easy because there was a 50 km. wind from the South, but the " Viking " achieved only 33 kms. and the " Bussards " 34 and 10 respectively. Only one flight of over an hour (" Bussard ") and

one " Baby " 57 minutes. Extremely bumpy and unpleasant; five pilots confessed to being very airsick. The " Spalinger " gained 1,150 metres, but most launches were flops. However, the rest had done us all good and we were in tearing spirits.

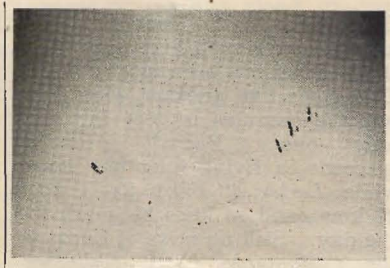
THURSDAY. Clouded over and a cool breeze. S.E. wind, conditions poor until after 2 p.m., but brightened later and at one time there were 11 machines circling together under one cloud. Nobody did distance but most managed to stay up over an hour. *Laplace*, " Spalinger," 3 hours 11 minutes, 1,250 metres; *Madsen*, " Viking," 2 hours, 1,150 metres; *Fraulein Hillger*, " Baby 2A," 1 hour 50 minutes, and three others over 1 hour.

FRIDAY. Still nothing doing. No wind. Sun and cumulus but no distance or height worth recording. Best time *Widmer*, " Spalinger," 5 hours 22 minutes; *Picon*, " Viking," 3 hours 52 minutes; *Delpiano* and *Nasim*, "Bussards," 2 hours 13 and 18 minutes respectively; *Dori*, " Baby," 2 hours 4 minutes; *Valdez*, 2 hours 6 minutes; *Raupenstrauch* (Baby 2A "), 2 hours 1 minute; 5 flights over one hour.

## RADIO

SATURDAY. Much better — cloudless sky but cumulus over mountains. Wind North. *Laplace*, " Spalinger," 228 kms.; *Madsen*, " Viking," 147 kms.; *Noizeux*, " Bussard," 122 kms. Times, *Lucas*, " Bussard," 4 hours; *Moreno*, " Baby," 4 hours 53 minutes; *Ritz* (" Baby 2A "), 3 hours 21 minutes; *Casagrande*, 3 hours 12 minutes. Four "Babys " over 2 hours, 7 " Babys " over 1 hour. Best height, *Jaramillo*, " Baby," 1,800 metres. *Noizeux* flew with radio and heard perfectly all the way, but his transmission did not reach us at all.

SUNDAY. The sky is perfect, the wind is good. North up to 1,500 metres, South above. Half-a-dozen people set off for out-and-back flights, and not one succeeds. *Laplace* in the " Spalinger " (halfway home from yesterday's flight) released his tow owing to extremely unpleasant bumpiness and set out to fly back under his own steam, but only achieved 88 kms. *Nasim* " Bussard," went due South for 215 kms. *Chourrout*, " Bussard,"



*" Formation Flying "*

did 50 kms. out and only 5 kms. short of the return. The rest scattered around fairly short distances. The best times over the field were *Dettinger*, 4 hours, *Murchio* 3 hours 10 minutes. Six others over two hours, two over 1 hour. Heights, " Baby," 2,000 metres max.

## COLD FRONT

MONDAY. Wind North, blue sky and cumulus. Cold front predicted for 8 p.m. Nothing doing at all till after 1 p.m., then *Chourrout* set off in the " Bussard " for 157 kms; *Hereter*, "Bussard," 84 kms. One " Baby " made a goal flight of 63 kms., and three others (two of them the " Grunau 2A ". German group consisting of *Lerlke* and *Fraulein Hillger*, and the other *Casadella* of " Albatros") landed together at Almafuerte, 85 kms. Casadella contacted the fringe of the front and was drawn up into the cloud, flying straight at 100 kms. per hour with a lift of 2½ metres a second. Being completely without blind flying training he had to spin out. We sent two trailers out to retrieve the three " Babys " and they had a singularly uncomfortable night in open cars in pouring rain, with a nasty slippery trip back over mud roads such as one never sees in England. We, retrieving Hereter, travelled with chains on our back wheels and finally overtook the others thirty miles from home and out of petrol. By this time we were back on the asphalt (having sampled a deep and watery ditch *en route*), so we took their car and trailer in tow as well. Other flights, *Latanzi*, " Baby," 2,290 metres, " Spalinger " and "Viking" 2,000 metres each. *Galusser*, " Spalinger," stayed up 6 hours 27 minutes.

## POOR WEATHER

TUESDAY. Rain all day (and this in a part of the country where it hardly rains twice a year . . .). Good. A chance to rest (but not for those of us who were out retrieving—this was where we were being hauled out of the ditch, but we finally arrived dead to the world around 9 p.m., having set out at 3 p.m. the day before).

WEDNESDAY. Drizzle, no flying. I seem to have been lurked with the job of treasurer, but after a hard




*Mrs. Platt in Gaviota Greunau Baby before setting out for the height record.*



*"Bussard Stored"*

six hours' work with the accounts I am rewarded with a delightful drive over the Sierras—the only time in all the Concourse that I ever get above 800 metres . . . .

THURSDAY. It *looks* a nice day—blue sky, white cumulus, pleasant 30 kms. North wind. And what results ? Absolutely Nothing ! Not even the "Spalinger" could stay up. Maximum time, *Dettinger*, "Baby," 42 minutes. 7 flights over 20 minutes and the rest of us all flopped. 40 launches—no fun at all.

## STORM FRONT

FRIDAY. What a day—drizzle and heavy clouds all day, but a storm front hovering so we wait in the hangar. Suddenly at 4.30 it is upon us, travelling N.N.E., and in twenty minutes "Spalinger," "Viking" and three "Bussards" are away. "Viking" got away too late and had to land 12 kms. away. One "Bussard" did 81 kms. to Rio Primero, due E., another (*Chourrout*) 225 kms. to Sol de Julio, due N. No news of the others, but we send out three trailers due E. along the only road. They have horrible country to fly over—incredibly unpopulated and semi-desert, with a low very thorny scrub and invisible salt marshes. Luckily it is raining, so they have water—even though they may not be very grateful right now.

## LAST DAY

SATURDAY and the end of the Concourse—thank Heaven ! We all came with such high hopes and the weather has been most unkind. This *looks* like another good day, but the cumulus is very low and only one "Baby" (*Valdez*) succeeds in flying over one hour, while *Lerhke* ("Baby 2A") does 21 kms., and so loses his mark for the day. Still no news of Lucas in the "Bussard," but *Gallusser* "Spalinger," has turned up, having landed at La Puerta, N.E. on the Western end of Mar Chiquita. We worry a little about Lucas, but in any case can do nothing yet.



*Approach of the Storm Front*

## THE SEARCH

SUNDAY. Three military planes go out to search and our hopes run high. No luck. They come back at 3 p.m., refuel, and go out again. But the area is enormous and he might be anywhere North or East or in between—or even in the lake. He was last seen at Santa Rosa by Chourriut in the worst part of the storm, and though we knew the odds are that he is safe it may be days before we can find him. He has no food and no water and the temperature is 90 degrees with no shade anywhere. There are two railways crossing the zone, so we have advised them to keep a lookout, but when the aeroplanes return at night still empty-handed, we are all very despondent. We have just put up a most successful display for the public, everything going like clockwork (most surprisingly !), but we miss Lucas. It is already dark and we begin to make arrangements to base all our planes on the shore of Mar Chiquita and start our search from there, when suddenly a voice yells from the control tower, "Lucas is safe." He had landed 200 kms. away, 80 kms. from the nearest telephone on the only road for about a hundred miles. Slept in the "Bussard" that night in the rain, found a mud hut next day 5 kms. away and towed the sailplane there with a horse, where he dismantled it and stored it more or less under cover in an open mud and thatch shed 8 feet by 4. The next day (Sunday) he managed to persuade the owner of the only car protesting bitterly about petrol shortages and mud-drenched roads, to drive him to the station, fifty miles away, from whence he could telephone.

## TWO DAYS TO RETRIEVE

That same fifty miles took us 4½ hours to cover with the trailer and another 4½ back, so we are still (Wednesday morning) only at the station, having left Cordoba on Monday. We took 24 hours to cover with the car what Lucas did with the "Bussard" in front of the storm in 3½—alternate mud and dust, boiling radiators, salt marshes to skirt round, water in the carburetter; I could write a book about this trip already and we still have 150 kms. to go ! We carry 4 spare tyres, two 10 gallon cans of water for the car and two demijohns to drink, biscuits and cheese and fruit and a tin of tongue, 200 litres of petrol—and we've needed it all but the spare tyres—and with the thorny cactus that abounds hereabouts that can only be a question of time. Our hair is white with dust, our faces black with sweat and grime, our feet ankle deep in dried mud, but



*After the Search*

it's been a lot of fun and I've learnt a lot about the country. This place has been entirely without water for eight months, so that a bath is out of the question, except with the contents of a sodawater siphon. We expected to be away only one day, so we have no change of clothes; the temperature is in the nineties, and the only lavatory looks and smells like the old French railway ones—but there seem to be no bugs, praise be. Only flies and mosquitoes.

### THEN THE STORM

THURSDAY. Back in Cordoba at last. We finally got away from Sebastian Elcano just half-an-hour before the heavens opened with the nicest bit of storm front I've seen. The road before us rose in one enormous swirling cloud of dust, the bushes bent flat, and then the rain came down in one solid sheet till the entire road was a raging torrent up to the floor boards of the car. No time to put the chains on, so we were stuck till it calmed. Then off with our shoes, roll up our pants, and a mighty struggle to get the chains on before dark. But even with those we couldn't advance because the car still boiled, so finally we had to resign ourselves to spending the night there. Lorries have been known to stick for a month, so I doled out the rations most sparingly and we curled up as best we could round the drum of petrol, three out of the four smoking and the windows tight shut to keep out the everlasting rain. Most unnerving. Things roared and purred and rustled in the undergrowth, and there were enormous furry spiders in the district, so even a sudden death from petrol seemed less alarming! But I was rather glad when a light car came along about two in the morning and made tracks that we could follow till dawn, when we emerged on the main high road. We finally staggered into Cordoba in time for lunch—I hope the photographs will show something of the state we were in! But it was fun even if I did fall asleep at the wheel . . . . I learnt a lot more about driving than I did about gliding, and feel inclined to agree with Lucas, who says one good acrobatic flight is a lot more enjoyable than distance.

VERONICA PLATT.

# Midland Command's Instructors Course

THE first Midland Command Instructors' Course finished at Walsall on May 18th. It was a special course held for the R.A.F. flying instructors at Burnaston, Derby, who had kindly volunteered to form a new E.G.S. for the Derby wing on their own aerodrome, under the command of Wing-Commander Roy E. Harben. Gerrard Smith, of the Lancashire and Derbyshire Gliding Club, was the instructor for the course, assisted by A. J. Benton on the winch. The party either flew or motored over from Derby each morning and returned each evening on the six possible flying days.

The course was of especial interest in two respects. In the first place it was unique, inasmuch as it was confined to a complete power flying team of instructors, receiving training as a complete team of instructors; in the second place it was the first time an appreciable number of "C" certificates have been taken off the winch on an A.T.C. course from a flat aerodrome. Of the seven instructors under training, F./Lt. A. G. Shepard already had his "A," "B" and "C" Gliding certificates from the Lancashire and Derbyshire Club, but the other six stalwarts were new to the engineless art. Their general flying technique, however, was of such calibre, that they were able to utilise the directions and instructions given them so well, that in the six days they made as much progress as many old gliding "sweats" have made in six years.

The red letter day was Wednesday, May 16th, with a south-west by west wind and relatively unstable conditions. On that day a flying time of 1 hour 53 minutes 21 seconds was put in with an average time per flight of just 6 minutes. Four "C.s" were taken on this day—Wing-Commander Harben with 10 minutes 46 seconds, during which he reached an altitude of just over 1,350 feet from an 800 feet launch; Squadron-Leader W. G. Hall (C.F.I.) with 10 minutes 2 seconds; F./Lt. E. K. Strutt with 12 minutes 11 seconds; and F./Lt. V. G. Ward with 10 minutes 40 seconds. All these were taken on the "Kite" with the exception of Squadron-Leader Hall, who, owing to his guardsman stature, was unable to get into this machine and so had to do his stuff on the "Taper Wing Kadet"; this, of course, makes his achievement all the more remarkable, particularly when one considers his 16 stone in conjunction with a relatively light wind at the time he did his flight. His clever utilisation of a thermal point at the end of a long wood is the answer to the miracle, but it is felt that none with less determination than the C.F.I. could have done it. The total flying time for the course was 5 hours 16 minutes 47 seconds, with 101 launches, giving an average time of 3 minutes 6 seconds per flight, including the day of "hops" on the "Dagling," with standard cadet training flights only.

Although the total number of launches was not great, it is felt that the experience of air flow obtained on this course is such that the whole team will be able to answer, explain and demonstrate any question that they may be asked by their pupils when they open up in the near future at Derby.

C. E. H.

# KENT GLIDING CLUB

Will all ex-members and others interested and living in the Maidstone or Chatham area, contact the Secretary:

MRS. R. H. HADDOCK,
"LENHURST,"
HARRIETSHAM,
KENT.

# Revised Order of Production

In view of the unexpected demand for the "Kirby Kite" and the "Olympia II," we have decided to plan the quantity production of these machines forthwith, with priority over the higher performance types.

**Kirby Kite II.** An improved version of the now famous pre-war type known throughout the world for its excellent qualities. The post-war type will include landing wheel, tail trimmer, and other features.

**Olympia II (or Meise).** This sailplane, already so well advertised, will include additional features and refinements. By special attention to jigging and the latest production methods we aim to market this type at a very attractive price.

Our production programme will also include the following :— **Type 21** side-by-side two-seater training machine of 54 feet span. The prototype has been flown by many well-known sailplane pilots and voted a winner.

**Gull III.** A full cantilever version of the "Gull I," a machine of exceptional performance. The prototype, now undergoing tests, will be illustrated in an early issue of the *Sailplane.*

**Petrel II.** A high-performance competition type most suitable for British conditions.

**Every Machine** produced will be up to the highest standards of workmanship and tested by our own sailplane pilots with many years of soaring experience. Sailplane pilots will also supervise the detail production.

## Slingsby Sailplanes, Ltd.

Kirbymoorside, York.

**FULLY APPROVED FOR DESIGN AND PRODUCTION**

Agents :—

| | |
|---|---|
| **CANADA :** | J. A. Simpson, Quarries P.O., Ontario. |
| **AUSTRALIA :** | Light Aircraft (Pty) Ltd., Sydney. |
| **SOUTH AFRICA :** | Thomas Barlow & Sons Ltd., Johannesburg. |

# DERBY & LANCS. GLIDING CLUB

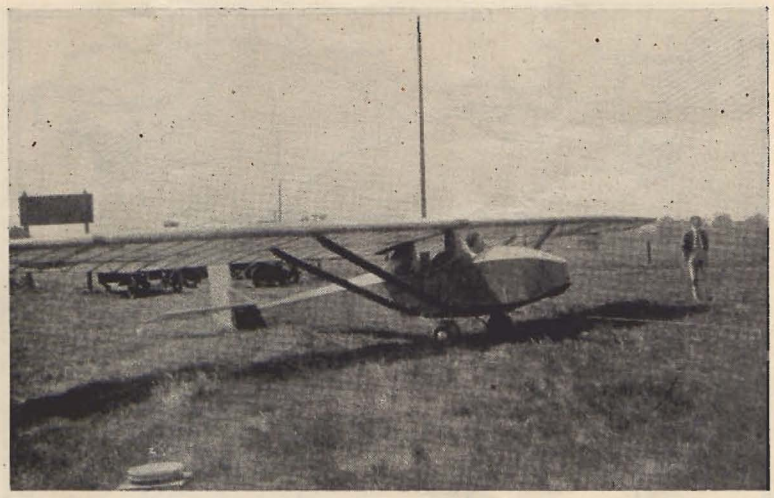
THE Club in its present form was founded in 1935 following the amalgamation of the Matlock Gliding Club, the Derby Gliding Club and the gliding section of the Manchester Aeronautical Society. The Matlock Club was started in 1933 and represents the oldest part of the Club. A. Louis Slater was largely concerned with starting the Matlock Club and in partnership with G. O. Smith and R. G. Robertson constructed the "Golden Wren" in 1933. In November 1934 Louis was launched off the Eyam slope and rounded the corner on to Bradwell Edge. Shortly after that, the Derbyshire and Lancashire Gliding Club was formed and Bradwell Edge became the principal soaring slope.

The amalgamation with the Manchester Aeronautical Society and the advent of the gliding subsidy started the Club on a promising career. The membership quickly rose to 150 members, of which 100 were flying members. No entry fee was charged and the rates of subscription were £3. 3s. 0d. and £1. 1s. 0d. for flying and non-flying members respectively, with concessions for junior members and relatives.

Camphill Farm, which in 1935 was leased to the Club for a period of fifteen years, is situated on the site of a Roman camp. Traces of the old camp may still be seen from the air and the derivation of the name "Camphill" seems obvious. The farm, which includes over 100 acres of ground measuring about 1,500 by 500 yards, is situated half a mile from the village of Great Hucklow and fifteen miles south-west of Sheffield. The nearest railway station is Hope, on the main Sheffield-Manchester line, and is about five miles from the Club. There are nine trains a day running from Sheffield. Millers Dale, on the main London-Manchester line, is about six miles south of Camphill, and trains are also frequent. Buses run from Hope and Millers Dale to Great Hucklow and Bradwell respectively. Private taxi services are also available, including Andrew's Taxi Service. Telephone No. Tideswell 222 and Bull's Taxi Service (Tideswell 200).

The officers of the Club are Roy Chadwick, Esq., C.B.E., of Messrs. A. V. Roe & Company, Limited (President), B. A. G. Meads, at present Lieutenant-Commander, Fleet Air Arm (Chairman), Major C. A. Kaye (Secretary), and B. Thomas, 87, Fargate, Sheffield (Assistant Secretary).

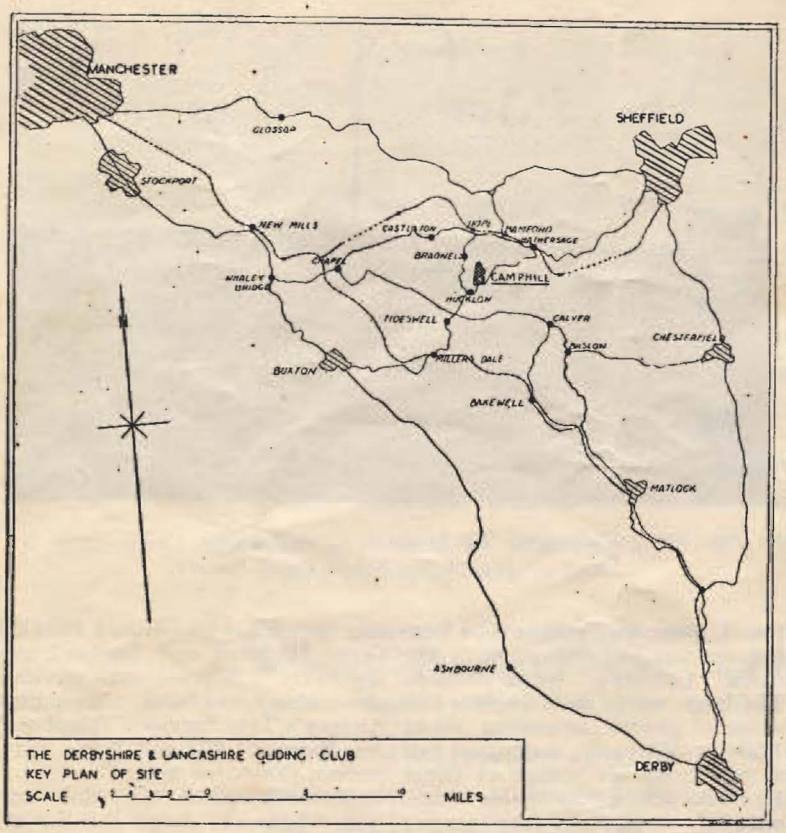
The Club have taken over the



*B.A.C.2 constructed by Members of the Glider Construction Group of Manchester Aeronautical Society.*



*Left to Right*:—F. N. Slingsby, W. Watt, G. O. Smith, C. A. Kaye (*Secretary*), C. W. Verity, A. A. Verity, Mrs. E. Swale, C. J. Faulkner, H. J. Neile, J. F. C. Harris, Mrs. Meads, Mrs. Neile, Mrs. F. S. Coleman, E. Swale, B. A. G. Meads (*Chairman*).




farm as their club-house, and there is a resident caretaker. The farm buildings are on three sides of a courtyard. Part of the club-house is occupied by the caretaker and the remainder comprises an attractive club room recently decorated, and a bar, and upstairs a committee room and a ladies' bunk room. The next building is a barn, which was converted into a workshop on the ground floor, and a bunk room upstairs. The workshop is large enough to hold two or three fuselages under repair and is well equipped with benches and tools. The bunk room will accommodate 24 beds. The building on the third side of the courtyard is the mess room and kitchen. This is also a converted barn and one of the first jobs after the war will be either to renovate it or replace it with an entirely new building. The hangar, which is 100 feet by 50 feet, is adjacent to the landing field.

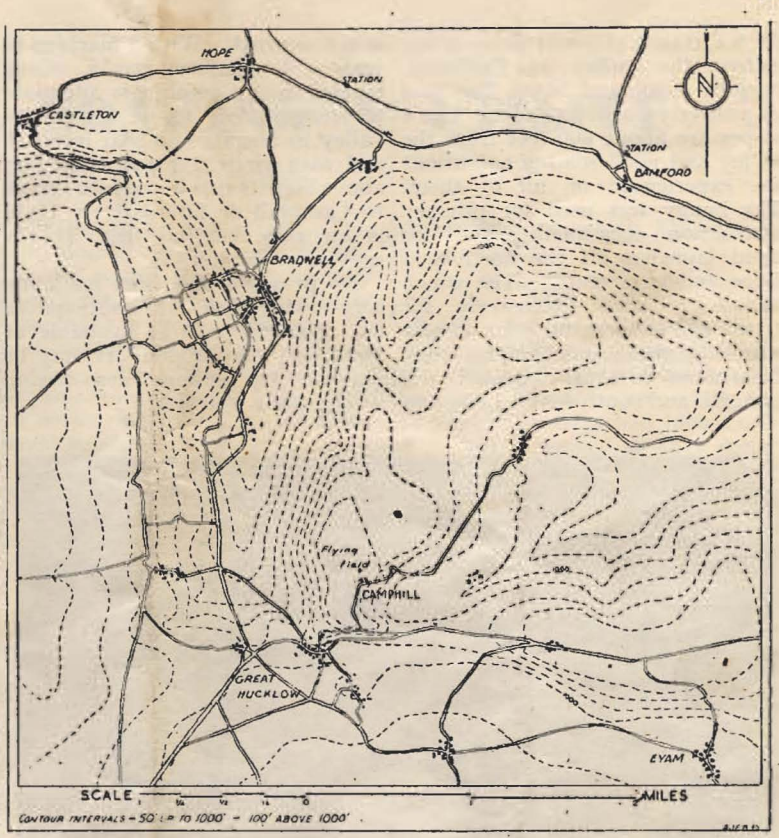
## INSTRUCTORS AND INSTRUCTION

Gliding instruction and soaring took place before the War every evening except Monday and also at the week-end. Experienced members could make their own




*Bradwell Edge from the other side of the Valley.*
1. The Wind Sock. 2. The Bowl. 3. The South-west Point. 4. Eyam Valley and South Slope.

arrangements for flying whenever the opportunity presented itself. Four senior instructors were responsible for seeing that the flying regulations were carried out and that there was an instructor present every day of the week except Monday. There were about twelve instructors altogether, and two full-time ground engineers were employed. The Club Fleet normally consisted of a "Falcon III" two-seater, "Gull I," "Falcon I," "Grunau Baby," a "Tutor," two "Kadets," two "Nacelles," two "Primaries," and a "B.A.C." two-seater. Flying fees for primary training were 6d. for each flight with a minimum daily charge of 2s. 0d.; soaring flights, 2s. 6d. for the first fifteen minutes and 6d. for each subsequent five minutes, two-seater flights the same as for soaring flights. Private owners were charged 1s. 0d. per launch.




## SOARING SLOPES AND LAUNCHING METHODS

Camphill is fortunately situated with regard to slopes. Facing south, Eyam Edge extends for a distance of about five miles. Bradwell Edge, which is adjacent, faces south-west, west and north-west




1. Bungy Launching Slope. 7. Northern extent of Landing Ground. 8. Gulley. 9. Rebellion Knoll.

for a distance of about three miles. Across the valley at Castleton, Siggate Edge and Mam Tor face respectively north and east. These slopes are about 600 feet from the valley and good soaring conditions are experienced on all of them. The bungy was used for primary instruction occasionally and for hand launches off the north-west slope and at Siggate. The winch launch is used extensively for training and circuits. In a west wind a height of about 600 feet may be attained on a winch launch, and in north and south winds 1,500 feet is not unusual. With a machine of reasonable performance a winch launch from Camphill is adequate to enable pilots to fly across the valley to Siggate and soar in north and east winds. From 1,000 feet above Siggate it is possible to return to Camphill or alternatively there is an easy landing field at the bottom of the hill.

No provision has been made for aero-towing, but it is anticipated that facilities will be available at Woodford Aerodrome. It may be possible to arrange aero-towing locally after the war.




MRS. PAT. ARMSTRONG.
*A qualified glider pilot, and one of the Club's most enthusiastic members.*

## CROSS-COUNTRY SOARING

The Club is situated 1,300 feet above sea level, and there is good thermal activity. The suitability of the site for soaring and cross-country flying is demonstrated by the fact that in the four years up to 1939 the National Soaring Contests were held at Camphill three times.

One of the interesting features of the site is the frequent appearance of the evening thermal. This occurs usually on a warm day when the wind swings from south-west to north-west and is usually indicated by the presence of a heavy stationary bank of cloud about ten miles to the west. These evening thermals are not all of the same type and are probably due to different causes. The exciting type is probably due to the standing wave effect and heights of 5,000 to 6,000 feet have been attained. A more frequent type of evening thermal may be caused by the katabatic wind which flows down the slopes of the Bradwell Valley from all sides at sunset. This results in a dropping wind speed and a steady upcurrent of about 6 feet and usually extends between 2,000 and 4,000 feet. Conditions are always very smooth and it is altogether a pleasant experience. In these conditions pilots have taken their "C" certificates in Nacelles at 1,000 feet and over. The first type of evening thermal may hardly be termed smooth and conditions can be exceedingly difficult, some pilots having found the greatest difficulty in getting down at all. There is one recorded instance of a "Kadet" remaining for nearly half-an-hour over the approach area of the site at 500 feet trying to get in.

## OFFICERS OF THE CLUB

The Derbyshire and Lancashire Gliding Club has always been fortunate in obtaining the services of enthusiastic and competent members. As chairman of the committee Basil Meads has rendered inestimable service to the Club in many ways, some of which have not been sufficiently understood to be appreciated at their true value. As a chairman it is doubtful whether his equal could be found anywhere else in the gliding movement. Louis Slater is well known all over the gliding world both as chief instructor, as a pilot, and as the

(*Continued on page* 18)

# THERMAL SOARING A UTILITY

By AVERY HALL

ALTHOUGH the following account was written over three years ago, it is still valuable as positive evidence that the lowly utility glider is capable of good performance under favourable conditions. The flight described is but one of several which were made in the author's " Aeolus "—a standard Franklin utility minus wing skids and equipped with the usual instruments necessary for thermal soaring, *i.e.* altimeter, airspeed, variometer and a small ball bank indicator. These flights were all made from auto-tow starts to altitudes of 500 to 700 feet, and were entirely over the gently rolling country of Georgia's Piedmont region. All lift was purely thermal, with no effect of slope winds. In fact, most of the flights were made during periods of very little wind at all. Even more significant is the fact that several pilots were enabled to turn in good flights of from 15 minutes to one and one-half hours, despite the limited experience of two of them who had never flown any type of aircraft before.

## FAIRLY EFFECTIVE

It has long been the writer's opinion that a utility is easily capable of cross-country flights on a good day, provided that the pilot recognizes its limitations and makes the best use of its low cruising speed to remain in the areas of lift as long as possible without circling. As long as straight and level flight can be maintained, the sinking speed is only slightly greater than that of an intermediate sailplane. However, as soon as a turn is begun, the rate of sink greatly increasess due to the large tip losses and relatively ineffective ailerons which are characteristic of nearly all straight wing gliders of low aspect ratio.

The most effective technique seems to be to cruise at the minimum airspeed possible without actually " mushing " (for the Franklin with a pilot weight of 165 pounds this is approximately 30 to 33 m.p.h.) and to make all turns as wide and gently banked as the area of lift will permit. This is, of course, hard to do at low altitudes where the lift is usually of small diameter, but with increase in height it is often possible to fly for a considerable distance without turning. For this reason it is desirable to obtain a fairly high tow for soaring attempts. All turns should be checked with a ball bank indicator to ensure that they are correct, as even a small amount of skid will greatly affect the sinking speed of a utility.

## DOWN WIND CRUISING

Further, it should be remembered that, unlike a sailplane, the best angle of glide occurs at approximately the same airspeed as the best sinking speed. Therefore, during a cross-country attempt, there is no reason to increase the cruising speed between thermals. The only case in which an increase is justified, is in order to make headway against a wind as in the approach for a landing. Needless to say, it is advisable to make all cross-country attempts in a down-wind direction !

It is hoped that this article will serve to encourage the utility owner who still feels that a high-priced sailplane is his only hope of tasting the thrill of thermal soaring and cross-country flights. The chances are that he is not getting half the performance of which his ship is really capable !



*A Utility.*

## THE DAY

Sunday morning, May 11, 1941, dawned bright and clear, after an unusually cool night for this time of the year. A stiff breeze, which for the past three days had blown out of the West, seemed to have spent itself—if anything, there was a drift of air from the East ; a quarter which generally means little or no thermal activity in the vicinity of Atlanta. Nevertheless, the weekly trek to the Griffin airport, some 40 miles south, got under way at about 7 a.m., including several of the more credulous members of the Southern Soaring Association.

After an hour's rough ride in the Ford roadster used as a tow car, we rolled up alongside of the hangar and began operations. First, the usual array of Cubs and Taylorcrafts were rolled out, and then the veteran Franklin " Aeolus " was lowered from its place among the roof beams, and made ready to fly. Fittings, release and instruments were checked, and eleven hundred feet of five-sixteenths rope was reeled off the drum.

After one or two flights, the wind picked up and blew a steady 5 to 10 m.p.h. from the north-west, and thermal activity began to be felt, though no clouds were to be seen. Almost every flight was prolonged several minutes by one or more thermals, although no spectacular performances were turned in by anyone.

## RECORD UTILITIES FLIGHT

Finally, at about 11.30 a.m., I took off on what was to be a record flight for utilities in this part of the country.

After dropping the towline at approximately 700 feet I immediately encountered a thermal which, while of small diameter, lifted me at 3 to 5 feet per second until the altimeter read 1,100 feet. By this time I had drifted with the wind to the other end of the field, and was able to widen my turns a bit, thus reducing my sinking speed, and

further increasing the rate of climb.

Circling steadily to the left I watched the variometer swing to 10, 12, 15 feet per second up, and at about 2,000 feet a 65 h.p. " Taylorcraft " came up alongside, and I could see its two occupants watching me. Soon it dropped below the horizon, and I later learned from the pilot that I had outclimbed him with the throttle wide open !

Now I was over a wooded area about a half mile east of the airport, and as the lift held out I decided to ride it to the top regardless of the chance that I might have to land in a ploughed field, provided I failed to reach the airport. However, there was no immediate danger of that, as I soon had the satisfaction of seeing the altimeter needle creep past the 3,000 foot mark—still climbing !

### GOOD SENSE

Our old altitude record made in this ship last year was 3,800 feet above take-off, and so as the dial showed 3,500, I squeezed each succeeding foot of altitude with determination that I would break the record. But for the moment luck deserted me—in spite of all my efforts I could go no higher, and the variometer showed that I had levelled off at about 3,600 feet Fearing that down-draughts must soon develop in the wake of the dying thermal, I then headed north in the hope of finding something else.

Holding a constant 32 m.p.h., indicated airspeed, I cruised along without a ripple, watching my precious altitude slip away to the tune of minus three feet per second on the variometer. Also, for the first time, I noticed the cold. As usual, I had shed my leather jacket due to the heat and was flying in my shirt sleeves. Were it not for the enclosure and windshield I would have been really uncomfortable. As it was, I vowed through chattering teeth that I would stay up until I froze before I would yield a single unnecessary foot of altitude!

### AERO MODELLERS PLEASE NOTE

I had gone about two miles, and was down to 2,800 feet, when a sudden lift on my right wing nearly rolled me over. Ah !—a good one, now, if I could just stay in it ! Fighting the tendency of the ship to bank to the left, I circled toward the right and was rewarded with an upward surge that sat me down in the seat hard. And in the next instant, the belt cut into me as I literally " fell out the other side." Tightening my turn to the right I again sliced into the region of rising air, and by cautiously circling, was able to stay inside its boundaries.

Though small, it was strong, and I again climbed steadily until at 3,800 feet I let out a yell—I had tied the record ! And still we climbed ! At 4,000 feet, I rose above the ground haze, and the sky was a deep blue, without a cloud in sight. But at this point the lift began to drop off, and at 4,200 feet above take-off, I reached the " top." (The elevation of the airport was 1,000 feet, which made this 5,200 feet above sea level.) Here there seemed to be an inversion, which effectively kept my " elevator " from going higher !

### OVER THE TOWN

I remained at this height for some ten minutes, neither gaining or losing altitude, and making circles of approximately a quarter mile in diameter. Finally, in an effort to find new lift, which might carry me higher, I straightened up and steered due west, toward the town of Griffin, Georgia. I also had in mind the fulfillment of a year's dreaming—to be able to fly over the centre of town !

Once more, I watched the altimeter crawl slowly down, and in order to make headway against the wind I was forced to step up the speed to 40 m.p.h. ; this, of course, increased my sinking speed. Down, down, I came, slicing into several small thermals which were not large enough to circle in, until at 2,000 feet I was over the centre of Griffin—my dream come true ! Here I banked up and made several steep turns over the square, and yelled down at the people on the street !

Straightening up I headed south until, over the edge of town, I picked up a good thermal which lifted me to 3,500 feet, and I was strongly tempted to head downwind for a cross-country flight. However, as we had no trailer at the airport and had made no previous arrangements for retrieving, I hesitated to leave the vicinity. Therefore, I remained within about five miles of the field, picking up several additional thermals, although none was good for more than 4,000 feet, due apparently to the inversion mentioned previously.

### BACK TO 3,000 FEET

I had no idea how long I had been up, as the clock in the ship was not running, but I estimated about an hour. At any rate, as I headed back, I was satisfied that the record was mine. Down to 800 feet, I began to line up for my approach, intending to land. But at 600 to 700 feet, I encountered a gentle lift over a ploughed field to the east of the runway, which kept me circling at this altitude for about five minutes, and then increased into what proved to be the strongest thermal I had yet encountered. Once again I wound up into a left spiral (I was getting tired of circling to the left, but when I turned to the right I would lose the thermal). And by the altimeter, gained 100 feet for every turn ! The variometer showed close to 20 feet per second climb, and the ground dropped away so fast that before I realized it I was back to 3,500 feet again !

However, this time I discovered that I was drifting much more rapidly than before, and once again was tempted to turn tail to the wind and strike out cross-country, but decided not. Therefore, I put the nose down and cruised at 40-45 m.p.h. to make headway against the wind, which had picked up considerably. This trip, I encountered no more lift until down to about 700 feet again, but this was not sufficient to hold my altitude. Therefore, I came in and landed in a twenty-mile wind. The timers informed me that I had been up one hour and thirty-five minutes, nearly twice the old record !

*(Acknowledgements to " Soaring ").*

## NOTE

**We have great pleasure in welcoming a very familiar gliding enthusiast to our Staff, Mrs. Ann C. Douglas, who will carry out the duties of Associate Editor.**

*(See page 1.)*

**LET'S RECOLLECT**

*One of a series of reminiscences from British Aviation history which will appear from time to time in SIALPLANE & GLIDER and, it is hoped, prove interesting to readers.*




A landmark in the history of travel: Passengers disembarking from a D.H.16 (360 h.p. Rolls-Royce 'Eagle' engine) on arrival at Hounslow aerodrome on the inauguration day of the London—Paris service.

# LONDON TO PARIS!

**On August 25, 1919, the first British commercial air service — and the world's first daily international air service—started from London to Paris. On that day a D.H.4a of Air Transport and Travel Ltd. left Hounslow at 09.10 hrs. and arrived at Le Bourget at 11.40 hrs. It left for London again at 12.40 hrs. and landed at Hounslow at 14.45 hrs. A D.H.16 of the same company also made a return flight on that opening day. Besides passengers, some newspapers with several brace of grouse, a consignment of leather and some jars of Devonshire cream were carried on that first public air service.**

**In 1919 the fare to Paris was £21. Twenty years later in the Summer of 1939 the flight from Croydon to Le Bourget could be made at almost any hour of the day in 75 minutes at a cost of £4 . 10.**

*There is no public passenger service to Paris to-day and the goods delivered to Continental destinations are more substantial than they were in 1919. But when travellers and merchandise are again carried on those and longer routes the British Aviation Insurance Company will be ready to provide insurance protection for aircraft, crews, passengers and freight. In the meantime, B.A.I.C. Staff will willingly place their accumulated experience at the disposal of responsible officers of organisations interested in the post-war applications of aviation.*

**THE**

**BRITISH AVIATION**

**INSURANCE COMPANY LIMITED**

Underwriter and Principal Surveyor: Captain A. G. LAMPLUGH, F.R.Ae.S., M.I.Ae.S., F.R.G.S.

**3-4, LIME STREET, LONDON, E.C.3**

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CANADA — A. G. HAWARD, 500, PLACE D'ARMES, MONTREAL

# Letters to the Editor

2, High Ridding,
London Road,
Camberley, Surrey.
19th May, 1945.

DEAR SIR,

I was amazed to read your editorial in this month's SAILPLANE. (May issue. Ed.) You put forward antiquated ideas on glider training and do not admit of any alternatives, and in my opinion are thoroughly misleading on the whole subject.

First I must say that I myself was trained *ab initio* on the lines you suggest, and I have myself trained many others on similar lines in peacetime (*e.g.* Primary—secondary, etc.), but I most certainly do not agree that this is the best way.

The chief disadvantages of primary training are :—

1. Very bad advertisement value with the general public.
2. High crash rate, especially in the "B" stage. I agree that this practically never hurts the pilot, but it costs money and is again bad advertisement.
3. The pilot sits in the open with no fuselage to protect him. This decreases his confidence in the machine and raises the accident rate (contrary to your statement).
4. Ultra-insensitive controls. The pilot has small chance of getting the feel of a machine with these controls, and encourages ham-handedness and inaccurate flying, which are difficult to eradicate in the "C" stage.

In my opinion dual instruction in two-seater trainer sailplanes should be carried out until the pupil is able to pass the "B" test, going solo in a secondary sailplane of the GB II type. Advantages of this method are :—

1. Pupil learns correct flying from the start. Instinctive correct flying is essential to would-be "Thermallers."
2. Good advertisement value.
3. Minor crashing in training cut out. I understand that this has since been proved by A.T.C. statistics.
4. Only two types of machine essential in a club—two-seater trainers and intermediates.
5. Speedier training. One instructor can train more pupils over a period by this method than the method you advocate.

I don't suppose you will print this letter for one minute, but at least it will increase your own knowledge on the subject and help you to avoid any more bloomers in the future !

I end by saying that I have never had any connection whatsoever with the A.T.C.

Yours faithfully,
A. J. DEANE-DRUMMOND
(Major).

---

2, Cumberland Avenue,
Cleveleys,
Nr. Blackpool, Lancs.
24th May, 1945.

DEAR SIR,

I recently met an old friend of mine, a Silver "C" pilot, E. Collins, and from him obtained some information which should be of interest to readers of the SAILPLANE in particular and to post-war sailplane manufacturers in particular. I suggested to Collins that he publish the information for the benefit of the gliding movement, but he replied that he was too busy to do so, but had no objection to my writing to the SAILPLANE about it.

Collins, who learnt to glide in the London Gliding Club some years before the war, obtained his Silver "C" at Lwow in Poland, subsequently travelling in Germany, Poland and Sweden on gliding matters, finally settling down in Sweden as an instructor on gliding and as a manufacturer of sailplanes. He returned to this country only a few months ago.

Since, during the war, Sweden was probably more advantageously placed for the receipt of information from Germany on gliding matters than any other country, and because of the wartime development of gliding in high performance machines in Sweden, Collins, views are definitely worth hearing.

In his opinion the "Olympic," which he has flown, is a very good machine, its performance being superior to that of the "Minimoa." It is not, however, an easy machine to build in spite of much information published to the contrary. The Mu 13d is a machine of superior performance to the "Olympic" and much simpler to manufacture, although, of course, the drawings are not at present available. He prefers the "Weihe," of which he built twenty in Sweden, to the "Olympic," and thinks it very little more difficult to construct. The modern air brakes of German design apparently take all the skill out of the approach with high performance machines, the sinking speed with brakes on being so great that the machines can be dropped into fields of surprising smallness.

The relative sales prices and numbers of certain machines sold in Sweden during Collins' time there are given in the following table :—

| Type of Machine | Grunau Baby | Olympic | Weihe | Kranich* |
|---|---|---|---|---|
| Approximate Price about 17 Kr. = £1 | 6,000 | 15,000 | 16,000 | 20,000 |
| Approximate number built | 60 | 5 | 20 | 30 |

* Two-seater.

According to Peter Riedel, who was in Sweden and who finally became a refugee there from the Nazis, rocket launching of gliders was well advanced in Germany, the alterations required for rocket launching being relatively simple.

Yours faithfully,
T. H. BARKER.

---

49, Canterbury Road,
Farnborough, Hants.
24/4/45.

DEAR SIR,

I read with interest an article entitled "The Practical Side of Airworthiness" by Icarus in the April number of THE SAILPLANE AND GLIDER Unfortunately there appears to be some discrepancy with regard to the Glider Engineer's Certificate of Competence. I wrote to the Air Registration Board for details, and the reply I received stated that the examinations for this certificate have been discontinued for the duration of the war, and that it is unlikely that the certificate will be issued in the future, as it is understood that when the revised Air Navigation Regulations are promulgated certificates of airworthiness issued by the Secretary of State for Air (or Minister of Civil Aviation) will be required for gliders. In these circumstances certifications in respect of gliders will have to be made by holders of licences issued by the Air Ministry (or Ministry of Civil Aviation).

I suggest, therefore, that Icarus should modify his future articles accordingly, or at least make the situation with regard to these certificates quite clear before continuing.

If, as appears to be the case, present B.G.A. inspectors will not be qualified to make the necessary certifications for gliders, it would be interesting to know what arrangements will be made to inspect the large numbers of gliders and sailplanes requiring Certificates of Airworthiness when flying restrictions are again relaxed.

Yours sincerely,
H. N. MIDWOOD.

# *CRASHES*

9th May, 1945.

DEAR SIR,

The article on the above subject in the May issue of SAILPLANE was of interest to us, especially where it is recommended that the introduction of a similar system to that employed by the Swedish Soaring Club should be carried out in this country.

The Newcastle Gliding Club instituted such a system in 1937, and I have enclosed a speciman copy of our Glider Damage Certificate, which you may consider of interest.

These certificates cover all forms of glider damage, and not just flying crashes. The ratio of certificates to total launches in all types of gliders and sailplanes is 1.5%. This is made up of .85% in Kadet, Tutor, G.B.'s and Kite, and .65% in open and nacelle primaries. 33.3% of the primary damage occurred in the training of Air Defence Cadets.

One of the items included in our post-war proposals is the scientific study of crashery.

Yours faithfully,

ALFRED P. MILLER,
Hon. Secretary.

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THE
## NEWCASTLE GLIDING CLUB
LIMITED.

## GLIDER DAMAGE CERTIFICATE.

Date 21-II-1937

M/c No. 9 C. of A. No. 248 Type GRUNAU BABY

Pilot [redacted] Experience "C" Pilot

Cause Bad piloting and judgement.

Wind S.W. Velocity 15 - 20 Site Chatton.

Signed S.C.O'Grady. (Instructor.)

---

Extent of Damage Leading edge. 8 former and main ribs broken.
Skid, stern post and fin damaged.
All above repairs carried out and m/c test
flown O.K.

Date repaired 4-12-1937. Signed Alex.H.Bell (Engineer.)

---

Insurance Policy No. - Class - Max. liability £ 5- :- s. - d.

| | | | |
|---|---|---|---|
| Material Costs | £ 2 | : - | : - |
| Labour Costs | £ - | : - | : - |
| Estimated Revenue Loss | £ | : 17 | : 6 |
| Total | 2 | 17 | 6 |

Approved by Committee on 7 - I - 1938 to be charged £ 2 : 17 : 6

### Derby and Lancs. Gliding Club

(*Continued from page 12*)

inventor if the Cobb-Slater "Variometer, which instrument is acknowledged to be the most advanced form of variometer yet seen. Together with G. O. Smith and R. G. Robertson these four represent the backbone of the Club. Gerry Smith represented England in the International Competitions of 1937, and has had considerable experience in flying different types of machines. They constructed the "Golden Wren" with their own modifications and all three obtained their Silver "C" Certificates with it.

Looking back, the amount of hard work performed by the members is surprising. Nearly 3,000 yards of walls have been removed; an electric lighting plant was picked off a scrap heap, installed and kept running for two years until the mains were brought to the Club; in three week-ends Club members laid 5,000 square feet of concrete in the hangar and constructed a road. At one time no less than five machines constructed by the members of the Club were operating at Camphill, and under the supervision of Louis Slater six or seven mobile winches were constructed.

#### LOCAL FACILITIES

Gliding Clubs, like monasteries in this one respect at least, are usually situated in attractive surroundings. Camphill is no exception in this respect, and the loveliest parts of Derbyshire are within easy reach of Camphill. At Castleton there are several caverns well worth a visit. Pot-holing is a popular local sport, It is a form of climbing, but consists in descending the deep chasms often found in this part of the country. There are several riding schools in the district, and Mr. Dungworth of the Callow Riding School will bring horses to the Club on receipt of a telephone call. Sickleholme Golf Club at Bamford has a first-class course only about five miles away. There is an excellent swimming pool at Hathersage and one at the Rising Sun, Bamford.

Accommodation is available at the Queen Ann, Great Hucklow, Telephone No. Tideswell 246; at the Marquis of Granby, Bamford; the Rising Sun, Bamford, and can also be arranged in farmhouses and cottages locally.

#### FUTURE PROSPECTS

The Committee of the Club have called for reports on the future policy of the Club. It is generally agreed that the replacement of the Club Fleet is the first consideration and that full training of *ab initio* pupils should be an important feature of post-war policy. Levelling, draining and general improvement of the landing field is the next consideration. Finally, the provision of entirely new club premises if circumstances permit. If it is possible to put up a new clubhouse, the object will be to provide warmth, reasonable comfort, good food and suitable accommodation for married members of the Club.

# AUSTRALIAN GLIDING ASSOCIATION

## NEW SOUTH WALES

### SYDNEY UNIVERSITY GLIDING CLUB

Mr. J. Murray-Evans advises that this Club held its first meeting on 26/4/45 and elected the following Executive Committee: — *Hon. Secretary*, J. Murray-Evans; *Hon. Treasurer*, Frank W. Austin; and L. J. Alexander and R. Tonnison. The Club proposes to construct an "H.17" sailplane.

### CUMBERLAND GLIDING AND SOARING CLUB

The following Office Bearers were elected at Annual General Meeting held in May 1945. *President*, T. A. Reeves; *Vice-President*, B. G. Vickers; *Treasurer*, Miss B. Palmer; *Secretary*, L. E. C. Diekman. *Councillors*, Messrs. Geo. McKay and N. Kershaw. Geo. McKay is a new member. He was associated with the Falcon Gliding Club in 1940.

### SYDNEY METROPOLITAN GLIDING CLUB

*Easter Week-end Outing*. Having surveyed the Kingsgrove site (approx. 8 miles south-west of Sydney) some weeks previously we decided to spend the four days over Easter at this field. (Our activities at Matraville have been stopped because of defence building activity.)

*The Site*. The ridge runs almost east and west and has an elevation of say 150 feet with a flat top of about 200 yards in which to set the machine down, *i.e.* length of tow straight down the hill is about 700 yards. It is not a particularly good ground, being covered with ti-tree scrub and drains.

"Fortunately" a howling southerly blew all over Easter and we looked forward to trying some slope soaring. The beat, by the way, is restricted and would not be much more than 600 yards.

Having arrived at the field at about 9.30 a.m. on Good Friday we started things going. First flight was about 11.30, and Jack Munn took off solo after about 5 yards run. We were using the new winch for the first time since installing the second gearbox and due to my towing him too fast (No. 1 box in 1st gear and No. 2 box in 2nd gear) he only made about 300 feet, and after one circuit came in and landed.

Ron Cosstick then accompanied Jack on the second flight and I got them up to 450 feet (I still hadn't got the feel of the winch). After casting off they hovered over the winch for a couple of minutes with no sink and then actually made about 30—40 feet. However, as they started to move too far away from the field they decided to come in—normal landing—duration about four minutes.

Then it rained—and how!

We dismantled the machine and put it in the garage which we have hired (right on the field). It rained and blew all day and Saturday wasn't much better, so we decided to fly on Sunday.

We had the machine assembled when Jack arrived, and with myself as pupil we took off about 9.30—9.45 a.m.

The tow was good and we quickly cleared the ground and climbed to about 85 feet and the towing cable broke. By the way, we were now taking off at about 45 deg. across the hill, which is the best direction.

When the cable broke we swung left (N) and soared along the ridge with no sink, made a 180 deg. turn and came back over the point where the cable broke and were down to about 50 feet (maybe less), but we had come out in front of the ridge by about 100 yards and she started to sink. Jack took over and made a 90 deg. turn to land down-wind up the hill and everything appeared to be quite normal until we were about 8—10 feet off the ground, and she just flopped in with a a slight drift to port, just missing a stump. Damage—1. Clean break of the 4 longerons between bulkheads 9—10 with half of bulkhead 10 smashed. Actually she was only holding together by the fabric on the underside of the

fuselage. 2. Rear port wing strut broke in tension (due to side drift) about one-third of its length from the fuselage end. 3. Trailing edge of rudder broken in two places. Neither of us was hurt, and I can assure you we got a hell of a shock when we looked around and saw our tail dragging on the ground. Anyway the fuselage is in my garage now. We have repaired the damage and are taking the opportunity of enclosing the cockpits and "plying" the turtle back. We should fly in about four weeks time.

The Winch: The winch has turned out trumps—we are very pleased with its performance and it gives a very smooth tow. It is mounted on an old Morris chassis (4 wheels) but no tyres.

We had to put a second gearbox in to slow the drum down and as you probably gleaned from my earlier remarks it has a wonderful speed range, allowing us a selection of 12 gears in the 2 boxes. In this way we can get fairly close to the optimum revs. for 12 speeds on the drum.

## COMPETENCY CERTIFICATES IN GLIDING FOR AUSTRALIA

On 5/1/44 the Associated Aero Clubs of Australia were asked by letter if arrangements could be made for the issue of Gliding Certificates through its affiliation with the Royal Aero Club. On 2/3/44 a letter was received from the President of the Royal Aero Club of N.S.W. stating that the Secretary of the Associated Aero Clubs of Australia (Mr. S. C. Bridgeland) had unfortunately died and that as there had been no meeting since, his successor had not been appointed.

The President stated that the matter would be raised at the first meeting of the Association, and that the new secretary, when appointed, would communicate with the Australian Gliding Association.

On 20/3/45 a reminder was issued and on 9/4/45 a reply was received from Mr. W. W. Vick, Secretary of A.A.C. of Australia, to the effect that "an enquiry had been forwarded to the Royal Aero Club with a view to ascertaining the conditions under which gliding certificates are issued by that Club in order that any proposed arrangements here may comply with existing standards and so obtain international recognition."

# ROYAL AERO CLUB GLIDING CERTIFICATES

| "A" Certificates (149) | | Gliding School | Date taken |
|---|---|---|---|
| 2511 | Cecil Armer | 201 E.G.S., Meghaberry, N.I. | 11. 3.45 |
| 2512 | Stanley Walter William Field | L.146, E.G.S., Fairlop | 18. 3.45 |
| 2513 | Edward John Horworth | S.E.168, E.G.S., Richester | 15. 4.45 |
| 2514 | Norman Macdonald Craig | E.102, E.G.S., Norwich | 8. 4.45 |
| 2515 | Jack Stevenson | C.125, E.G.S., Denham | 15. 4.45 |
| 2516 | Bernard Maurice Skinner | M.45, E.G.S., Meir | 25. 3.45 |
| 2517 | Donald William Macklin | M.50 E.G.S., Hereford | 25. 3.45 |
| 2518 | Peter Brodie Chambers | Ditto | 25. 3.45 |
| 2519 | Christopher Ullyatt | S.E.161, E.G.S., Brighton | 7. 4.45 |
| 2520 | Raymond Ernest Wigg | M.48, E.G.S., Bretford | 29. 5.44 |
| 2521 | George William John Haydon | S.E.161, E.G.S., Brighton | 7. 4.45 |
| 2522 | Norman MacCarroll | C.128, E.G.S., Theale | 1. 4.45 |
| 2523 | Lawrence Arthur Chappell | S.W.83, E.G.S., Moreton Valence | 25. 3.45 |
| 2524 | Peter Eric Leedham | M.44, E.G.S., Rearsby | 10. 4.45 |
| 2525 | William Gamble | N.W.184, E.G.S., Woodford | 18. 3.45 |
| 2526 | Geoffrey Wallace Singleton | N.W.183, E.G.S., Woodford | 17. 3.45 |
| 2527 | Francis Wilson | Ditto | 8. 4.45 |
| 2528 | Peter Raymond Brister | L.146, E.G.S., Fairlop | 8. 4.45 |
| 2529 | Alan Jones | N.W.183, E.G.S., Woodford | 25. 3.45 |
| 2530 | Norman Booth | Ditto | 17. 3.45 |
| 2531 | Peter Frederick Wood | L.146, E.G.S., Fairlop | 15. 4.45 |
| 2532 | Barnard Latour Eppy | C.125, E.G.S., Denham | 15. 4.45 |
| 2533 | Stanley William Heley | Ditto | 15. 4.45 |
| 2534 | Leslie Stuart Arundel Shears | Ditto | 15. 4.45 |
| 2535 | Colin Ernest Dunn | Ditto | 15. 4.45 |
| 2536 | Bryan Rayner | Ditto | 15. 4.45 |
| 2537 | Cecil Henry Whitehead | Ditto | 15. 4.45 |
| 2538 | Alan Hubert Harris | Ditto | 15. 4.45 |
| 2539 | Kenneth John Swinson | Ditto | 15. 4.45 |
| 2540 | Job Ronald Tremellen Bradford | Ditto | 22. 4.45 |
| 2541 | Kenneth Robert Griffin | M.41, E.G.S., Knowle | 25. 3.45 |
| 2542 | Derck Wilde | C.125, E.G.S., Denham | 15. 4.45 |
| 2543 | Gordon Evander Mackenzie | Ditto | 15. 4.45 |
| 2544 | Raymond Owen Charity | M.50, E.G.S., Hereford | 25. 3.45 |
| 2545 | Graham Stockton | M.47, E.G.S., Great Hucklow | 8. 4.45 |
| 2546 | Ronald Reginald Page | L.142, E.G.S., Stapleford Tawney | 17. 2.45 |
| 2547 | Colin Montgrove Telford | C.121, E.G.S., Halton | 8. 4.45 |
| 2548 | Harry Tanner | S.W.89, E.G.S., Christchurch | 2. 4.45 |
| 2549 | Desmond Gentleman | 203, E.G.S., Newtownards | 8. 4.45 |
| 2550 | Michael Henry Levy | S.E.167, E.G.S., Fairoaks | 8. 4.45 |
| 2551 | James Edward Bamber Mitchell | Ditto | 2. 4.45 |
| 2552 | Wilfrid John Fry | Ditto | 2. 4.45 |
| 2553 | Robert Allen Jefferies | S.W.83, E.G.S., Moreton Valence | 25. 3.45 |
| 2554 | Stuart Martin Mills | S.E.166, E.G.S., Ashford | 15. 4.45 |
| 2555 | Alfred James Hodsdon | L.146, E.G.S., Fairlop | 8. 4.45 |
| 2556 | John Anton Lougmoor | S.E.161, E.G.S., Brighton | 7. 4.45 |
| 2557 | Leonard Edward Jones | L.142, E.G.S., Stapleford | 8. 4.45 |
| 2558 | David Langley Fincham | L.148, E.G.S., Southend | 21. 1.45 |
| 2559 | William Bunn | M.45, E.G.S., Meir | 3. 2.45 |
| 2560 | Colin Barker | N.E.25, E.G.S., Hedon | 20.11.44 |
| 2561 | Peter Perring Rees | N.E.25, E.G.S., Hedon | 20.11.44 |
| 2562 | Edmund Garniss | Ditto | 8. 4.45 |
| 2563 | David Talbot | C.125, E.G.S., Denham | 8. 4.45 |
| 2564 | Louis Emile Edgar Martin | S.E.161, E.G.S., Brighton | 7. 4.45 |
| 2565 | Arthur Francis Becker | S.W.83, Moreton Valence | 13. 4.45 |
| 2566 | Cecil Arthur Morris | C.123, E.G.S., Bray | 14. 4.45 |
| 2567 | Robert Proom Maw | N.E.31, E.G.S., Usworth | 10. 9.44 |
| 2568 | Alexander Dawson | Ditto | 17. 3.45 |
| 2569 | Kenneth James Arthur Fripp | S.E.163, E.G.S., Portsmouth | 25. 3.45 |
| 2570 | John Scholes Aked | N.W.181, E.G.S., Blackpool | 8. 4.45 |
| 2571 | Terrance Reginald Jermany | C.125, E.G.S., Denham | 15. 4.45 |
| 2572 | Terence Alan Muschialli | M.44, E.G.S., Rearsby | 22. 4.45 |
| 2573 | Cyril Morris | M.47, E.G.S., Great Hucklow | 22. 4.45 |
| 2574 | Philip Stuart Jones | S.W.83, E.G.S., Moreton Valence | 15. 4.45 |
| 2575 | David Laufear Miller | Ditto | 13. 4.45 |
| 2576 | John Henry Rowley | Ditto | 15. 4.45 |
| 2577 | Stanley Blackburn | C.130, E.G.S., Oxford | 8. 4.45 |
| 2578 | Eric Dudley Bannister | S.W.81, E.G.S., Yeovil | 11. 3.45 |
| 2579 | William John Candy | Ditto | 22. 4.45 |
| 2580 | Reginald Albert George Hillyar | Ditto | 22. 4.45 |
| 2581 | John Noel Pitman | Ditto | 8. 4.45 |
| 2582 | Michael Warry Hillyer | Ditto | 8. 4.45 |
| 2583 | Alan Smith | N.W.189, E.G.S., Carlisle | 8. 4.45 |
| 2584 | John Langley Hunter | N.W.183, E.G.S., Woodford | 17. 3.45 |
| 2585 | Laurence Edward Smith | E.107, E.G.S., Coleby Grange | 1. 4.45 |
| 2586 | Kenneth Ronald Addison | M.45, E.G.S., Meir | 29.10.44 |
| 2587 | Ronald George Dusart | S.E.161, E.G.S., Brighton | 22. 4.45 |
| 2588 | Brian Clifford Wall | W.70, E.G.S., Swansea | 18. 3.45 |
| 2589 | Derek Ian Brook | C.121, E.G.S., Halton | 25. 3.45 |
| 2590 | Brian Geoffrey Rendle | S.W.83, E.G.S., Moreton Valence | 15. 4.45 |
| 2591 | James Merchant Davidson | L.141, E.G.S., Kidbrooke | 22. 4.45 |
| 2592 | Kenneth John Neale | L.146, E.G.S., Fairlop | 8. 4.45 |
| 2593 | John Kenneth Hendry | Ditto | 8. 4.45 |
| 2594 | Idris John Edwards | W.70, E.G.S., Swansea | 27. 4.45 |
| 2595 | Robert John Twine | S.W.92, E.G.S., Yate | 18. 2.45 |
| 2596 | Joseph Richard Wigmore | C.123, E.G.S., Bray | 28. 4.45 |
| 2597 | Eric Oliver Jarman | M.41, E.G.S., Knowle | 25. 3.45 |
| 2598 | Anthony Charlton | N.E.31, E.G.S., Usworth | 17. 3.45 |
| 2599 | Francis Albert Costin | S.E.163, E.G.S., Portsmouth | 1.10.44 |
| 2600 | Audrey Mary Barry | Ditto | 25. 3.45 |
| 2601 | Eric Alan Keith Blake | L.146, E.G.S., Fairlop | 8. 4.45 |
| 2602 | William Arthur Thompson | M.44, E.G.S., Rearsby | 22. 4.45 |
| 2603 | Frank Henry Jolly | E.103, E.G.S., Bury St. Edmunds | 31.12.44 |
| 2604 | Dennis Ramsay | 203, E.G.S., Newtownards | 8. 4.45 |
| 2605 | Arthur Symm | N.E.31, E.G.S., Usworth | 6. 5.45 |

(*Continued Overleaf*)

## CLUB ANNOUNCEMENTS

### LEICESTER GLIDING CLUB

An aerodynamic course with wind-stream models is being instituted, also a construction group. Those interested should get details from the Secretary, who will also supply details of the visits, etc., arranged for the summer, Leicester Gliding Club, Park Road. Blaby, Leicester.

### THE MIDLAND GLIDING CLUB LIMITED

The Secretary invites enquiries *re* post-war programme at Long Mynd. Subscription rates, etc., forwarded to those interested on application to :—F. G. Batty, F.C.A., 2, Lombard Street West, West Bromwich, Staffs.

### DERBYSHIRE & LANCASHIRE GLIDING CLUB, GREAT HUCKLOW, TIDESWELL, DERBYSHIRE

Still on the active list. Club activities will commence as soon as civil flying is permitted. Full particulars, booklets, etc., from Secretary, 87, Fargate, Sheffield, 1.

### NEWCASTLE GLIDING CLUB, Ltd.

(founded Feb. 1930)

**Applications for Membership now invited in Reorganised Post War Club.**

**Special Registration Fee 6/-**

**Ensures Membership when activities restart.**

*Further Particulars apply*

*HON. SEC., 25, HOLME AVENUE. NEWCASTLE 6*

### The Yorkshire Gliding Club, Sutton Bank, Yorkshire.

**The Club will offer full flying facilities as soon as Gliding activities are permitted. Complete programme of Training from abinitio to advanced soaring stage—including unexcelled Club Flying —will be published later.**

WANTED, new or secondhand, copies of "SAILPLANE," April and May, 1944
Box 2, "Sailplane."

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## Royal Aero Club Gliding Certificates—(*Cont.*)

| | | | | |
|---|---|---|---|---|
| | "*A*" *Certificates* | *Gliding School* | | *Date taken* |
| 2606 | Alan Horsley Stenton | N.E.31, E.G.S., Usworth | | 6. 5.45 |
| 2607 | Thomas William Twizell | Ditto | | 6. 5.45 |
| 2608 | Jack Bertrand Jolliffe | N.E.25, E.G.S., Hedon | | 20.11.44 |
| 2609 | Darrol Stinton | Ditto | | 20.11.44 |
| 2610 | Arthur Wright | N.E.31, E.G.S., Usworth | | 6. 5.45 |
| 2611 | James Harrison | Ditto | | 6. 5.45 |
| 2612 | Peter On | M.44, E.G.S., Rearsby | | 22. 4.45 |
| 2613 | Leslie Smith Robson | N.E.31, E.G.S., Usworth | | 6. 5.45 |
| 2614 | Leslie Didsbury | N.E.27, E.G.S., Woolsington | | 14. 4.45 |
| 2615 | John Alec Hardham | Ditto | | 6. 5.45 |
| 2616 | James Brian Smith | N.E.31, E.G.S., Usworth | | 6. 5.45 |
| 2617 | Samuel Lawson Humble | Ditto | | 6. 5.45 |
| 2618 | Russell Edward Coulthard | S.W.89, E.G.S., Christchurch | | 22. 4.45 |
| 2619 | Alec Crispin Pharaoh | N.E.21, E.G.S., Usworth | | 6. 5.45 |
| 2620 | John Desmond Overton | M.48, E.G.S., Bretford | | 22. 4.45 |
| 2621 | George Douglas Murrell | C.122, E.G.S., Harrow | | 24.10.43 |
| 2622 | Frederick Hays | N.E.31, E.G.S., Usworth | | 6. 5.45 |
| 2623 | Michael Leslie Henney | Ditto | | 6. 5.45 |
| 2624 | Thomas Fowle Balmer | Ditto | | 6. 5.45 |
| 2625 | Alan Green | N.E.25, E.G.S., Hedon | | 6. 6.44 |
| 2626 | Leonard James Wright | Ditto | | 12. 9.44 |
| 2627 | John Leslie Dunn | Ditto | | 11. 8.44 |
| 2628 | Gerald William Spray | S.E.161, E.G.S., Brighton | | 22. 4.45 |
| 2629 | George Charles Calder Palliser | N.W.89, E.G.S., Carlisle | | 7. 4.45 |
| 2630 | Edgar Bradbury | M.45, E.G.S., Meir | | 25. 3.45 |
| 2631 | Frank Whittall | M.43, E.G.S., Walsall | | 22.10.44 |
| 2632 | Geoffrey Reginald Deveson | L.146, E.G.S., Fairlop | | 15. 4.45 |
| 2633 | Arthur Cecil Cromarty | C.122, E.G.S., Harrow | | 22. 7.44 |
| 2634 | Thomas John Clark | C.121, E.G.S., Halton | | 8. 4.45 |
| 2635 | Arthur John Rawden | N.E.24, E.G.S., Netherthorpe | | 18. 2.45 |
| 2636 | Norman Laurence Mellor | N.W.183, E.G.S., Woodford | | 17. 3.45 |
| 2637 | Donald Alexander Percy-Smith | L.148, E.G.S., Southend | | 22. 4.45 |
| 2638 | Derek Jordan | M.44, E.G.S., Rearsby | | 25. 3.45 |
| 2639 | Derek Arthur Lucas | C.122, E.G.S., Harrow | | 1. 8.44 |
| 2640 | Maurice Coulthard | N.E.26, E.G.S., Greatham | | 25. 3.45 |
| 2641 | Dennis Arthur Jeffery | W.62, E.G.S., Cardiff | | 2. 5.45 |
| 2642 | Frederick Smith | Ditto | | 2. 5.45 |
| 2643 | Stanley Alexander Roddick | Ditto | | 2. 5.45 |
| 2644 | George Clement Morgan | Ditto | | 2. 5.45 |
| 2645 | Lionel Frank Savery | Ditto | | 2. 5.45 |
| 2646 | Ronald Norman Hancox | M.48, E.G.S., Bretford | | 11. 6.44 |
| 2647 | George Leslie Thomas | C.129, E.G.S., Waltham Cross | | 22 4.45 |
| 2648 | Colin Garvie | C.124, E.G.S., Aldenham | | 15. 4.45 |
| 2649 | Richard Henry Bragg | S.E.161, E.G.S., Brighton | | 21. 4.45 |
| 2650 | David William Fosbury | S.W.83, E.G.S., Moreton Valence | | 15. 4.45 |
| 2651 | Claude Leslie Grimwood | S.E.166, E.G.S., Adhford | | 22. 4.45 |
| 2652 | Arthur Walter Horley | Ditto | | 6. 5.45 |
| 2653 | Edward Charles William Parsons | C.123, E.G.S., Bray | | 6. 5.45 |
| 2654 | Ronald Leslie Rolls | Ditto | | 29. 4.45 |
| 2655 | Alan David Thake | L.146, E.G.S., Fairlop | | 15. 4.45 |
| 2656 | Geoffrey Arthur Bartman | C.124, E.G.S., Aldenham | | 16. 4.45 |
| 2657 | Albert Edwin Berger | N.W.183, E.G.S., Woodford | | 11. 5.45 |
| 2658 | John James Stone | N.W.186, E.G.S., Speke | | 15. 4.45 |
| 2659 | Robert Brownlee Black | 201, E.G.S., Meghaberry, N.I. | | 8. 4.45 |
| | "*B*" *Certificates* (29) | | | |
| 2519 | Christopher Ullyatt | S.E.161, E.G.S., Brighton | | 7. 4.45 |
| 2520 | Raymond Ernest Wigg | M.48, E.G.S., Bretford | | 30. 5.44 |
| 2521 | George William John Haydon | S.E.161, E.G.S., Brighton | | 8. 4.45 |
| 2522 | Norman MacCarroll | C.128, E.G.S., Theale | | 18. 4.45 |
| 2540 | Job Ronald Tremellen Bradford | C.125, E.G.S., Denham | | 22. 4.45 |
| 2309 | Arthur Rex Byford | L.148, E.G.S., Southend | | 21. 4.45 |
| 2321 | Harold Bailey | N.E.183, E.G.S., Woodford | | 22. 4.45 |
| 2272 | William Hartford Fryer | Ditto | | 22. 4.45 |
| 2556 | John Anton Longmoor | S.E.161, E.G.S., Brighton | | 7. 4.45 |
| 2563 | David Talbot | C.125, E.G.S., Denham | | 15. 4.45 |
| 2564 | Louis Emile Edgar Martin | S.E.161, E.G.S., Brighton | | 8. 4.45 |
| 1863 | John Norman Earl | S.W.81, E.G.S., Yeovil | | 20. 4.45 |
| 1790 | Frederick Hughes | Ditto | | 22. 4.45 |
| 2570 | John Scholes Aked | N.W.181, E.G.S., Blackpool | | 8. 4.45 |
| 2578 | Eric Dudley Bannister | S.W.81, E.G.S., Yeovil | | 20. 4.45 |
| 2583 | Alan Smith | N.W.189, E.G.S., Carlisle | | 15. 4.45 |
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| 2567 | Robert Proom Maw | N.E.31, E.G.S., Usworth | | 5. 5.45 |
| 2333 | Peter Rankin Wilson | N.W.184, E.G.S., Woodford | | 15. 4.45 |
| 2423 | Ronald Herbert George Ruffle | L.145, E.G.S., Colchester | | 15. 4.45 |
| 2603 | Frank Henry Jolly | E.103, E.G.S., Bury St. Edmunds | | 31.12.44 |
| 2608 | Jack Bertrand Jolliffe | N.E.25, E.G.S., Hedon | | 20.11.44 |
| 2629 | George Charles Calder Palliser | N.W.189, E.G.S., Carlisle | | 8. 4.45 |
| 1736 | Frederick Breeze | M.47, E.G.S., Great Hucklow | | 11. 5.45 |
| 2111 | Frederick Roy Eaton Hayter | S.W.89, E.G.S., Christchurch | | 13. 5.45 |
| 2515 | Jack Stevenson | C.125, E.G.S., Denham | | 6. 5.45 |
| 2577 | Stanley Blackburn | C.130, E.G.S., Cowley | | 12. 5.45 |

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When ordering an enlargement from a snap you can often get a much better result if you only have part of the picture enlarged. In this way you can improve composition and exclude distracting objects (see diagram). Don't cut the negative—just show your dealer the part you want enlarged. ***By the way***—when snapping a person do not stand too near or too far away from the subject. With most simple cameras the best distance is about 10 feet. If you have a portrait lens or attachment, or a focussing camera, you may go nearer according to instructions.




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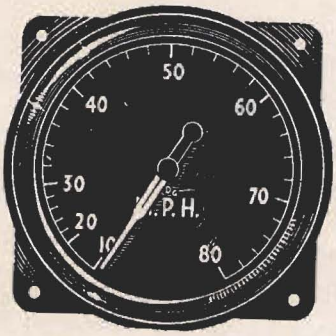


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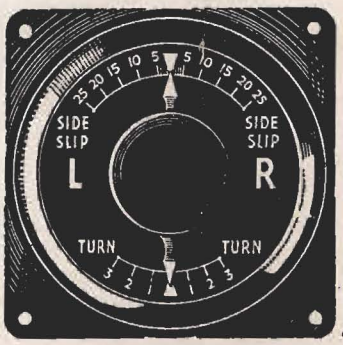
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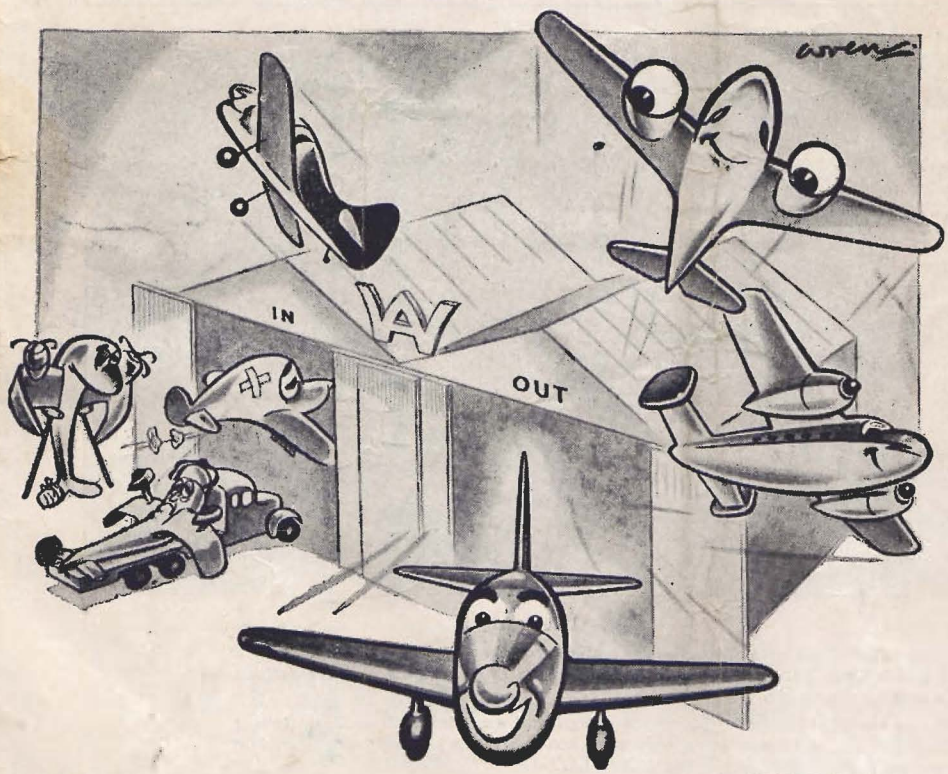
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