

SAILPLANE

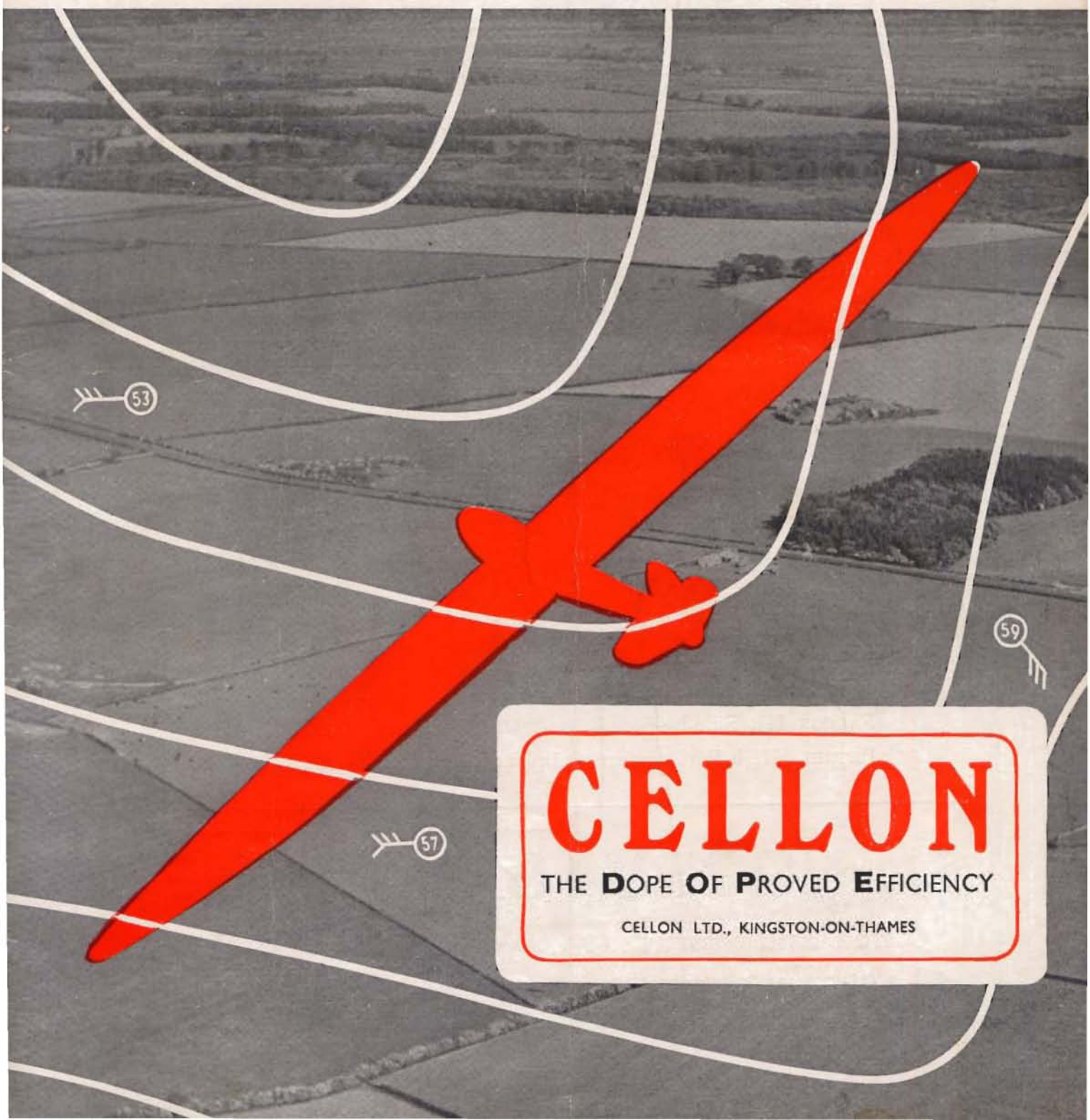
J U N E
1939
Vol. 10 No. 6

AND GLIDER

Published Monthly
PRICE - 1/-
Editorial Offices:
13, Victoria St., S.W.1

Official Organ of the British Gliding Association

EDITED BY ALAN E. SLATER



CELLON

THE **DOPE** OF PROVED **EFFICIENCY**

CELLON LTD., KINGSTON-ON-THAMES



SLINGSBY SAILPLANES, Kirbymoorside, Yorks.

LARGEST MANUFACTURERS of Motorless Aircraft in the British Empire. Machines designed, built, and test flown by our own experts, who have a full knowledge of club organisation, training methods, and choice of sites. Write to us for free advice on all gliding subjects.

AGENTS for Cobb-Slater Variometer and Collins Variometer.

LARGE STOCK OF MACHINES AND SPARES ALWAYS AVAILABLE.

SPECIAL STAFF for prompt attention to Repairs and Overhauls.

PRIMARY Trainer	....	....	....	....	....	£57 10s.
KIRBY KADET Secondary	....	....	....	....	....	£93 10s.
KIRBY TUTOR Secondary	....	....	....	....	....	£99 15s.
G.B. II Sailplane	....	....	....	....	....	£137 10s.
KIRBY KITE Sailplane	....	....	....	....	....	£159 10s.
GULL High-Performance Sailplane	....	....	....	....	....	£196 10s.
FALCON III, Side-by-Side, Two-seater Sailplane	....	....	....	....	....	£220 0s.
PETREL, High-Performance Sailplane	....	....	....	....	....	£266 0s.

SLINGSBY SAILPLANES

Office and Works: **KIRBYMOORSIDE, YORKS.**

Telegrams: Sailplanes, Kirbymoorside.

Telephones: 205, 289.

THE SAILPLANE *and* GLIDER

Official Organ of The British Gliding Association

Editorial Offices: 13, VICTORIA STREET, LONDON, S.W.1 Telephone: ABBey 2615-6-7

Vol. 10 No. 6

JUNE, 1939

Published Monthly—Price 1/-

The 1939 National Gliding Contests

THIS year's National Gliding Contests, conducted by the British Gliding Association, are to be held at the site of the Derbyshire and Lancashire Gliding Club from Saturday, July 8th, to Sunday, July 16th. The contests proper, at which marks can be earned, are from 9 a.m. (British Summer Time) on July 9th to 4 p.m. (B.S.T.) on July 16th. On the 8th practice flights may be made, and there will be a special prize for greatest aggregate duration achieved by any competing machine between 10 a.m. and 7 p.m. All competing pilots (or their proxies) must attend a meeting at Camphill at 8 p.m. on July 8th.

The site is at Camphill, overlooking Great Hucklow, Derbyshire, and is half way between Buxton and Sheffield. For those who want to stay in hotels the club has reserved the whole of the strongly-recommended "Marquis of Granby," on the Hathersage-Castleton Road, which gives special terms to gliding people, and where the club is holding a special party on the second Saturday night. The "Rising Sun," at Bamford, is also recommended. For other visitors the club is letting a number of well-equipped tents on the site, each to sleep four on spring mattresses; information about these can be had from the club secretary, at 63, Clarkhouse Road, Sheffield.

The soaring slopes are Bradwell Edge for west winds and Eyam Edge for south winds; the club's northerly wind site, a few miles away, will also be available. There is nowhere in the neighbourhood where aeroplanes can take off, so, instead of aero-towing, three long-wire winches will be used, with lengths of wire up to 2,500 ft.; these should take sailplanes to heights where there is a good chance of picking up thermals and cloud lift.

The Contests Committee for this year consists of Alan Goodfellow (Chairman), G. O. Smith and Basil Meads.

The Regulations

The full regulations have now been printed, and intending competitors should get them from their clubs or the B.G.A. What we give here is only a summary of the chief points of interest.

In general the rules are much the same as last year. Entry forms with fees must be received by the Secretary of the B.G.A. before noon (B.S.T.) on Wednesday,

June 14th, the fee being two guineas per glider and 10s. for each nominated pilot exceeding three per glider. If less than 30 entries have been received by then, more may be accepted up to noon on June 28th with an extra fee of one guinea. Competing gliders will be in two classes, those with a span of less than 47 ft. receiving a bonus of 10 per cent. on marks earned. Gliders and their pilots must be normally stationed and resident respectively in Great Britain or Northern Ireland.

Awards and Trophies

The Wakefield, De Havilland, and Volk trophies will be awarded for the best distance, height, and duration flights respectively accomplished during the year. For the best distance, height, and aggregate duration during the contests, there is a prize of five guineas in each case to the entrant.

The Manio Cup will be awarded for the best goal flight during the contests. The organisers may announce goal flights or out-and-back flights on particular days, with their own method of marking. Also, we understand, a new scheme is being introduced for marking cross-wind goal flights. In the ordinary way any goal flights, which must be made to recognised aerodromes, will earn extra marks as they did last year, but the amount of extra marking has not yet been decided.

The L. Du Garde Peach Challenge Trophy will be awarded to the club whose team gains the greatest aggregate of marks. Only one team per club is allowed, and the glider must be club property. Another inter-club contest is for machines of KIRBY KITE and GRUNAU BABY type belonging to clubs, with teams of not more than five pilots per machine; a trophy and a prize of not less than five guineas is offered. Also, as a side show, there is a competition between the Midland Club and the Derbyshire and Lancashire Club.

The Open Contest, with a first prize of at least five guineas and second prize of at least 2½, is decided on marks secured by a glider with not more than five nominated pilots. The Firth Vickers Trophy goes to the entrant of the all-British sailplane securing the greatest number of marks. The marking system is to be the same as last year, except for the bonus for

goal flights. For distance, $3\frac{1}{2}$ marks are awarded for each mile above 15 when the longest flight of the day is under 50 miles. When the longest flight is over 50, 2 marks are given for each mile in excess of 20. Altitude flights are rewarded with 1 mark per 100 ft. from 1,500 to 4,000 ft., 1 mark per 40 ft. from 4,000 to 6,000 ft., and 1 mark per 20 ft. above 6,000 ft. Heights are reckoned from the point of release from the winch cable, if used. Duration flights earn nothing for the first 2 hours, then 1 mark per 6 minutes up to 5 hours, and 1 mark per 4 minutes beyond. To avoid congestion, duration marks will not count in the Open Contest, but only in the two inter-club contests.

Special prizes for Daily Contests will be announced during the meeting.

The £100 prize offered by Allied Newspapers, Ltd., for a flight from Camphill to Blackpool will still be open to competition if not previously won.

There are three further contests for which the conditions will be announced later: The Seager Trophy and cash prize, a prize of £10 offered by the Air League, and 5 guineas offered by the Manchester branch of the Royal Aeronautical Society.

The order of starting on flights is determined by the order in which each pilot reports to the Timekeeper in attendance that his machine is rigged and ready at the starting point. At any time before the start he may withdraw and have his name re-entered at the foot of the list as it then stands. Before taking off he must announce in which class of contest he is competing.

Each competing machine must have a Certificate of Airworthiness (to be produced to the B.G.A. before noon on June 26th) and be insured against third party risks up to the limits of the Air Navigation Acts. And it must not be flown into clouds without a parachute.

Instruction Courses

Courses for gliding instruction, open to non-members, are being held by the following clubs:—

London Gliding Club: June 2-11, July 7-16, August 4-18, September 8-17. Particulars from the Manager, London Gliding Club, Dunstable, Beds.

Yorkshire Gliding Club: August 13-26, September 3-16. Also an advanced course from July 30 to August 6. Particulars from G. A. Hinchcliffe, Netherfield, Mill Lane, Bardsey, nr. Leeds.

Midland Gliding Club: August 5-13, August 19-27 (Public Schools Camp). Particulars from Hon. Secretary, 1, Newhall Street, Birmingham.

Surrey Gliding Club: July 15-30. Particulars from the Secretary, Buckland, Betchworth, Surrey.

British Gliding Records

The Royal Aero Club has passed the following National Gliding Record:—

Squadron Leader W. B. Murray, R.A.F., in RHÖNBUSSARD, Ratcliffe Aerodrome to Castle Bromwich Aerodrome and return on April 7th, 1939 ... 68 miles.

As to the British two-seater height record (unofficial), the Yorkshire Gliding Club reminds us that the FALCON III reached 4,500 ft. above start on June 9th, 1938, while being flown from Sutton Bank to Welburn by R. H. Shaw, with a passenger.

From Here and There

"Prelude to Flight."—This film will be shown at the Union Cinema, Dunstable, for three days, commencing Monday, June 19th.

Over 30,000 ft. up.—A climb to 9,200 m. (30,180 ft.) in a sailplane is reported by *Flugsport*, which does not, however, give the date. The pilot, Peter Glöckner, of the German Research Institute at Prien on the Chiem Lake, near Munich, was aero-towed to 5,500 metres, cast off and sank to 5,000 m., then climbed to the height stated. He had to come down unnecessarily early as his oxygen apparatus gave out.

French Two-seater Record.—On April 23rd Lieut. Colin, "C" pilot, and Melleton, "Silver C," both of the *Club Olympique de Billancourt*, flew 205 km. (127 miles) in a CASTEL 24-S built by the Renault works in 1936, and thereby beat the previous two-seater record of 91 km. They left Etampes-Mondésir at 12.15 and landed east of Bar sur Aube at 6 p.m. Most of the flight, the club informs us, was made *en P.S.V. dans les grains*.

Fatalities in France.—Two French women sailplane pilots recently lost their lives. In April Mme. Edmée Jarlaud, holder of the French women's altitude record, was killed at Beynes-Thiverval as the result of a collision in the air. On May 14th Mme. Girod, whose husband may be remembered as having visited the London Gliding Club in 1933, was being aero-towed at Coulommiers-Voisins when she suddenly dived to the ground. One English paper says she had cast off the cable, another that she had not, and *Flugsport* states that the sailplane got into the propeller slipstream.

Crossing the Channel.—The Council of the British Gliding Association, at its meeting on April 28th, decided that "a letter of congratulation should be sent to Mr. G. H. Stephenson on his fine achievement in gliding from Dunstable to France on April 22nd." Meanwhile, anyone intending to do likewise should take note of the following. The French gliding organisation has informed Mr. Stephenson that whenever a British sailplane pilot lands in France he may telephone to the office of *l'Amicale du Vol à Voile Français*, 6, Rue Galilée, Paris (16e), tel.: Kléber 76-40; or to the gliding centre of Beynes-Thiverval, tel.: Beynes 5. They will then be happy to put themselves at his disposal in any way they can.

German Distance Flights.—On April 19th Herr Bräutigam, flying a KRANICH carrying a passenger, flew 225 miles from the gliding school at Gross-Rückerswalde, near Chemnitz, to the Aspern aerodrome at Vienna. The flight, which took $5\frac{1}{2}$ hours, involved crossing Bohemia. The Press wrongly describes this as a world's distance record; it may, however, have been a record goal flight. *Flugsport* reports a flight of 470 km. (292 miles) by Air Force Lieut. Paselak, who flew a RHÖNBUSSARD from the Wasserkuppe to Stargard in Pomerania, climbing to 4,350 m. (14,270 ft.) on the way; also a flight of 189 km. (117 miles) by a 17-year-old pupil at a course from the Wasserkuppe into Saxony.

Air Cadets Learn Gliding

THE first of the gliding camps for Air Defence Cadets has finished and the second is in full swing as we write. The London Gliding Club has been responsible for both.

Cadets who arrived at Dunstable on April 22nd for the first course were just in time to see Mr. Stephenson go off on his cross-Channel flight. When some of them asked how long it would take to learn to fly like that, and were told that the answer was a lot more than a year, they just whistled with astonishment, having evidently expected to achieve the freedom of the sky before the end of the fortnight's camp. As things are, it is hardly possible to expect any normal Cadet to reach soaring stage at all, and, until there are facilities for them to pass on to more advanced training, the whole business can only be regarded as a side-line, serving its own purpose and incidentally helping the clubs; this would still be true even if the number of Cadets able to glide downhill should eventually far outnumber the ordinary club members, who only glide as a first step to soaring.

However, those who had yearnings to soar appeared to be more than satisfied with plain gliding, in spite of limits set by the atrocious weather. For most of the first week it blew too hard to allow of more than a few gingerly hops, but by balancing gliders on sandbags and setting pupils to waggle the controls, which reacted well in the circumstances, a lot of useful practice was put in, and several club members turned up to give the Cadets two-seater rides. Then there followed four days of almost continuous rain. Up to this time there had been little opportunity to break anything, or lessons in construction and repair might have provided a good indoor occupation. By the evening of the third wet day Mr. Hervey, the chief instructor, in desperation secured a large stock of paper, glue and plasticine, and set the whole camp to work making model gliders. Everyone was happy that evening.

In the second week, although the wind persisted in blowing down the hill, it had a habit of easing up just before sundown, allowing an "A" certificate or two to be snatched in the gathering darkness. The first Cadet to get an "A" takes his place in gliding history; he was Cadet-Sergeant F. R. Kindell, of Squadron 39 F. But by the last day of the camp only 6 "A's" had been taken, including one by an officer, Victor Burnett, of the *Daily Express*.

On this last day, Saturday, May 6th, twenty were ready to be sent off the hill-top. Most of them had to go home with the wind still blowing downhill. But eight stayed on, and were rewarded at 6 p.m. by a change of wind. In a light westerly drift they all climbed hopefully to the top. The first to go off whizzed down in 25 seconds, but after that all eight, including the first unsuccessful trier, passed their "A" tests one after another and took the last train home to London.

The training in quantity of glider pilots between the ages of 15 and 18 is a new experience for this country, where the average age of a gliding club member is considerably higher. Some of these "A" flights were



Photos taken at the first two camps for Air Defence Cadets at Dunstable. Above: members of the April camp watch a colleague being packed into the "Falcon III" two-seater. Below: some of the May campers enjoying themselves with a retrieving car. Most of the Cadets had their first experience of driving, as well as of flying, but could not often be persuaded that a car should be driven over rough ground at any other speed than the maximum possible.

perfectly done, though nearly all were on the slow side. One very young lad "pump-handled" in slow motion till he had drifted over a hedge; but, contrary to appearances, his mind remained clear as a bell, for he explained afterwards how he found his rudder had no effect, reasoned out that he must be stalled, lowered the nose, put on rudder again, and calmly regained the club ground.

It used to be said of Japanese airmen, whether truly or not, that they were more prone to accident than others because they had no sense of fear. The same may be true of boys—indeed, the Germans are said to have found it so at ages below 16—for the amount of minor crashery has certainly been more, in proportion to pilots' numbers, than at an ordinary club camp. This, however, may be largely accounted for by the intensity of the training. One proof of this intensity is the fact that three pairs of rubber launching ropes were worn out during the fortnight—and, incidentally, the club financiers have thereby been able to work out that bunjy launches cost 4d. each, for each rope was good for 500 launches and no more.

The first lot of campers at Dunstable came from three different squadrons: Luton (10 F), Barnes and Richmond (39 F) and Kensington (46 F). The second camp was recruited from Battersea, Wandsworth, Chingford (Essex) and Bushey (Herts.). On June 1st the Yorkshire Club starts with Cadets from Leeds, and on June 3rd the Derbyshire and Lancashire with Cadets from Leicester. Later the Cambridge, Midland, Southdown, Oxford and Newcastle Clubs take a hand, and by the end of the season 700 Cadets will have been trained.

The "Goevier" Two-Seater

By MARTIN SCHEMP

[The side-by-side two-seater "Goevier," produced by Sportflugzeugbau Schempp-Hirth, of Göppingen, near Stuttgart, was described in THE SAILPLANE in April, 1938, when the first model had been produced. It has now received its approved type certificate in Germany, and the machine is already in production on a large scale and is in use at many gliding centres. The following article gives some further particulars of the machine.]

THE GOEVIER is the product of one and a half years' work by the well-known sailplane pilot and designer, Wolf Hirth, and his assistant, Wolfgang Hütter. It is going to be used wherever quick training with diminished risk is required.

One of the most important advantages of dual training is undoubtedly the possibility of showing a student the dangerous flying positions like spinning, stalling and spiral dives, getting him well acquainted with their dangers and how to avoid them in getting back to normal flight. The side by side seats give close contact between instructor and student, and only one set of instruments is necessary.

The full cantilever wings, of 15 metres span, have a J-shaped open spar and the normal plywood torsion nose. The wings are equipped with the S.H. air brake flaps, which swing out of the bottom and top side of the wing vertically, and which reduce the terminal velocity to 200 km. (124 miles) per hour, but are also a great help in landing. The special advantages of the Schempp-Hirth design of these flaps are: Simple and inexpensive construction in wood; only a narrow slot goes vertically through the wing and can easily be sealed waterproof towards the inside of the wing so that no moisture can get inside; even if the flaps themselves should be somewhat deformed by moisture, the wing profile would not be disturbed. The total weight of the air brakes, including their actuating mechanism, is only 6 kg. (13 lbs). The lever for the air brake is between the pilots, and when it is pulled beyond a certain position it also works the brake of the landing wheel. (The S.H. air brake is also used on the Olympic sailplane Meise.)

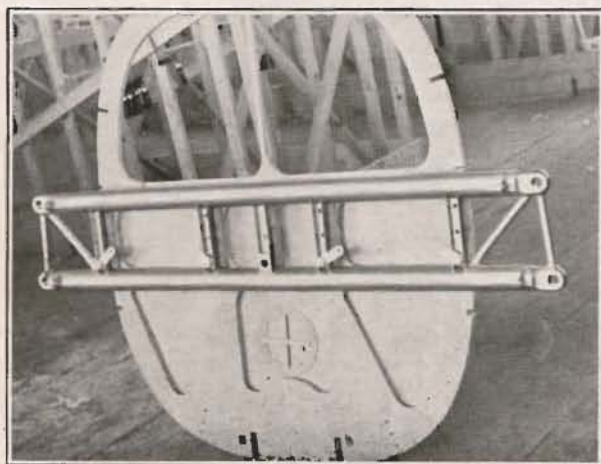
The large cockpit cover is made of steel tubing and "plexiglas." The visibility for both pilots is excellent. A large compartment behind the seats gives plenty of space for baggage and for two complete sets of oxygen equipment for high altitude flights.

The fillings between wings and fuselage, as well as the fuselage nose, are not made of balsa wood, plywood or aluminium, but of several layers of cheap cotton cloth stiffened with a certain glue which preserves the desired pressed shape and makes it waterproof.

Views of the production model of the "Goevier." The centre picture of the empty cockpit shows the space for shoulder and elbow in the wing root. In the bottom photo the seat has been removed to show the cockpit floor, with the two control sticks and, between them, the lever which actuates the air brakes.

[Photos by Euler, Göppingen.]





The main bulkhead of the "Goevier," with fittings for the wing roots at the main spar.

[Photo sent by Martin Schemp.]

The main fittings of the GOEVIER are of hardened chrome-molybdenum steel tubing, 50x2 mm., which allow the main bulkhead to be built comparatively simple and light. A quick, rigid and safe assembly is given through the conical steel bolts, which in dismantling are pulled through with a special instrument.

The GOEVIER may also be flown solo. A cast weight of 25 kg. (55 lbs.) which is supplied with the 'plane, is fastened to the floor-board of the cockpit with two screws.

The GOEVIER has to be forced into a spin and will come out immediately if controls are put neutral. It may be flown as slowly as 50 km. (31 miles) per hour without slipping off sideways; if flown too slow the nose will drop. Each 'plane is test-flown before being shipped by the manufacturer.

The technical data are:—

- Span, 15 m. (49 ft. 3 ins.).
- Length, 7.2 m. (23 ft. 7 ins.).
- Wing area, 19 sq. m. (204.5 sq. ft.).
- Weight empty, 200 kg. (441 lbs.).
- Pay load, 210 kg. (463 lbs.).
- Wing loading, 21 kg. per sq. m. (4.3 lbs. per sq. ft.).
- Sinking speed, 0.90 m. (2 ft. 11½ ins.) per second.
- Gliding angle, 1 : 19.
- Normal flying speed, 60 km. (37 miles) per hour.

Gliding Certificates

The following gliding certificates, for which qualifying flights were made on the dates shown, were granted by the Royal Aero Club on April 30th:—

"A" Certificates

No.	Name.	Club.	Date.
1226	J. Whittaker ...	Newcastle ...	11.3.39
1227	M. R. Alston ...	Cambridge ...	7.2.39
1228	Eileen Forbes ...	Yorkshire ...	14.8.38
1229	E. R. Stafford ...	Southdown ...	6.8.38
1230	J. F. Mather ...	Newcastle ...	19.2.39
1231	A. B. Starks-Field ...	Newcastle ...	24.7.38
1232	H. A. Dalrymple-White ...	Surrey ...	4.3.39
1233	B. E. Moss ...	Oxford ...	18.3.39
1234	I. A. Forbes ...	Yorkshire ...	10.4.38
1235	P. J. Torrie ...	Oxford ...	15.3.39

No.	Name.	Club.	Date.
1236	F. C. J. Butler ...	Oxford ...	29.3.39
1237	Ruth C. Walder ...	Oxford ...	1.4.39
1238	W. H. Wilson ...	Oxford ...	2.4.39
1239	E. C. Whatmough ...	Yorkshire ...	19.2.39
1240	W. Jackson ...	Midland ...	9.4.39
1241	G. V. Thom ...	Surrey ...	8.4.39
1242	R. Burns ...	Midland ...	8.4.39
1243	K. Wild ...	Midland ...	9.4.39
1244	A. Robson ...	Midland ...	7.4.39
1245	Elizabeth M. Matthews ...	Surrey ...	7.4.39
1246	W. A. Mitchell ...	Surrey ...	5.4.39
1247	E. Marianne Wakefield ...	London ...	18.2.39
1248	O. W. Neumark ...	London ...	14.4.39
1249	D. N. Milligan ...	London ...	8.4.39
1250	E. Livingstone ...	London ...	14.4.39
1251	R. R. Hasler ...	London ...	14.4.39
1252	M. S. Houdret ...	Surrey ...	20.3.39
1253	R. Baker ...	Newcastle ...	7.4.39
1254	H. J. Horsey ...	Surrey ...	18.3.39
1255	L. G. Ditton ...	Surrey ...	15.4.39

"B" Certificates

No.	Name	Club.	Date
1226	J. Whittaker ...	Newcastle ...	19.3.39
1205	F. G. Buckle ...	Oxford ...	19.3.39
1220	O. P. Jones ...	Surrey ...	10.3.39
345	H. Jones ...	Yorkshire ...	8.5.38
1234	I. A. Forbes ...	Yorkshire ...	19.4.38
1229	E. R. Stafford ...	Southdown ...	2.4.39
1228	Eileen Forbes ...	Yorkshire ...	20.8.38
1239	E. C. Whatmough ...	Yorkshire ...	26.3.39
1242	R. Burns ...	Midland ...	9.4.39
1243	K. Wild ...	Midland ...	10.4.39
1244	A. Robson ...	Midland ...	8.4.39
1157	Jessie Gent ...	Derby and Lanes. ...	9.4.39
1187	J. Aspell-Verdi ...	Oxford ...	2.4.39
1190	A. D. Jones ...	Surrey ...	8.4.39
1183	L. K. Hodgson ...	Midland ...	1.1.39
1158	T. Pye ...	Derby and Lanes. ...	10.4.39
1248	O. W. Neumark ...	London ...	16.4.39
1251	R. R. Hasler ...	London ...	15.4.39
1090	I. Blakeway ...	London ...	16.4.39
1254	H. J. Horsey ...	Surrey ...	12.4.39
1255	L. G. Ditton ...	Surrey ...	15.4.39

"C" Certificates

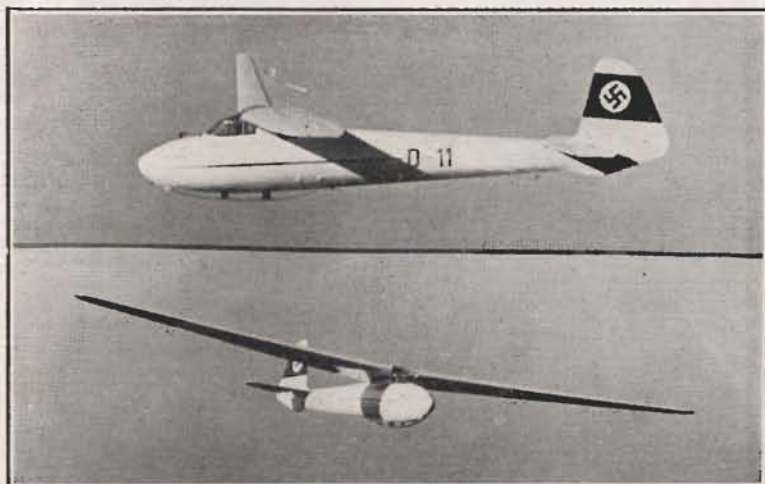
No.	Name.	Club.	Date.
1080	T. G. Griffiths ...	Southdown ...	18.3.39
1083	G. C. Kyberd ...	Southdown ...	19.3.39
1225	H. J. Kirkpatrick ...	Oxford ...	26.3.39
1210	Barbara M. Nicklin ...	Oxford ...	26.3.39
345	H. Jones ...	Yorkshire ...	8.5.38
1234	I. A. Forbes ...	Yorkshire ...	8.5.38
1228	Eileen Forbes ...	(Taken in Poland)	11.11.38
669	S. A. Cox ...	Southdown ...	9.4.39
1180	J. D. Bolton ...	Cambridge ...	8.4.39
1183	L. K. Hodgson ...	Midland ...	26.2.39
1175	R. S. Bramwell ...	Cambridge ...	2.4.39
1220	O. P. Jones ...	Surrey ...	12.4.39
1190	A. D. Jones ...	Surrey ...	12.4.39
1244	A. Robson ...	Midland ...	15.4.39
1242	R. Burns ...	Midland ...	15.4.39
391	L. A. Lansdown ...	Midland ...	16.4.39
840	W. P. Waid ...	London ...	16.4.39
1015	P. Davie ...	London ...	16.4.39
1068	H. G. Wheateroft ...	London ...	16.4.39
1170	W. G. Worton ...	London ...	15.4.39
1174	J. C. Cooke ...	Cambridge ...	2.4.39
1198	D. J. C. Pinckney ...	Cambridge ...	2.4.39
1251	R. R. Hasler ...	London ...	17.4.39
1254	H. J. Horsey ...	Surrey ...	19.4.39
1194	M. C. Crosfield ...	Cambridge ...	9.4.39

Those veteran aviators, Captains O. P. Jones and H. J. Horsey, of Imperial Airways, have now, with the passing of their "C" tests, learned to fly. John Aspell-Verdi, aged 10 (or is he 11 by now?) has reached "B" stage. L. A. Lansdown, who has got his "C" with the Midland, was for many years a leading light in the Dorset Club.

The Olympic Sailplane

By E. P. ZANDER

The "Meise," shown in flight in the adjoining photos, has been chosen as the type to be used by all countries taking part in the sailflying section of the Olympic Games to be held in Finland next year. It is designed by Hans Jacobs, of the German Research Institute for Soaring Flight (D.F.S.), from which, through Mr. B. S. Shenstone, we have received an illustrated description of the machine.



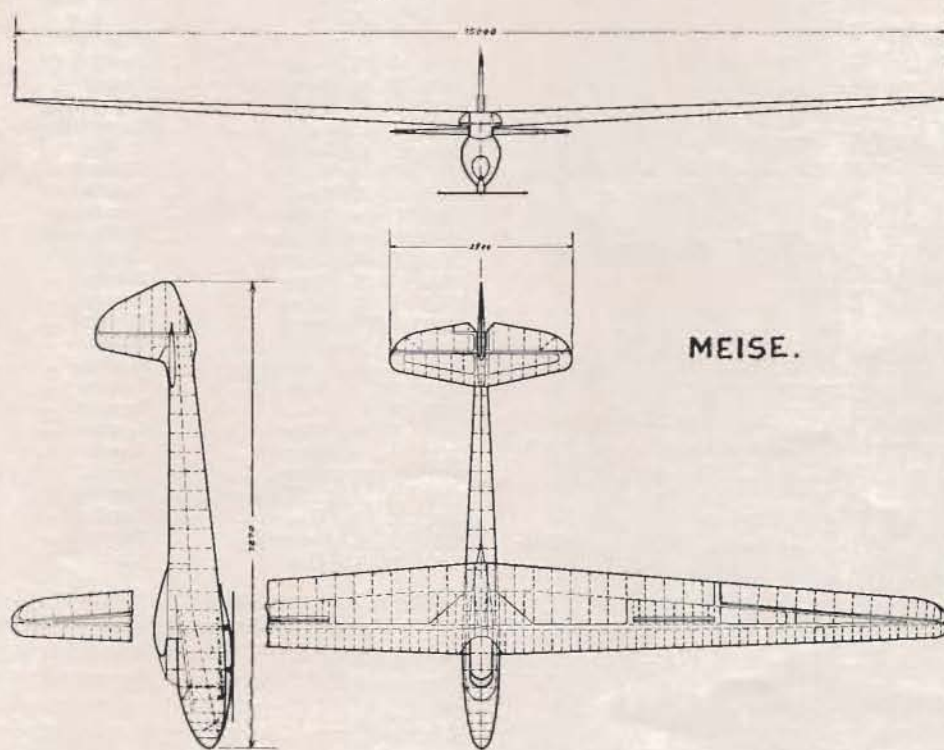
THERE was a competition for the selection of the Olympic Sailplane on the Italian aerodrome of Sezze (Rome) from February 19th to 25th. Six machines were entered: three Italian, two German, and one Polish, of which the German MEISE, designed by Jacobs, was selected as having the best all-round performance and being easily constructed.

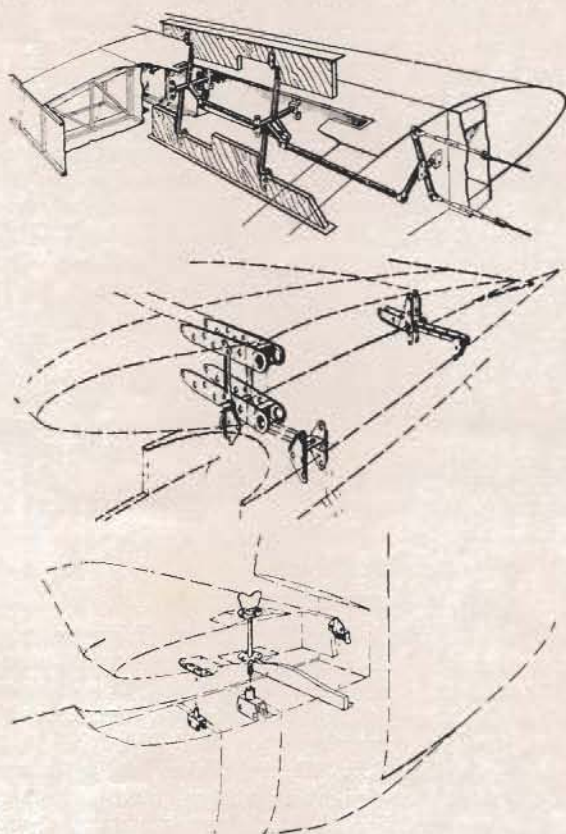
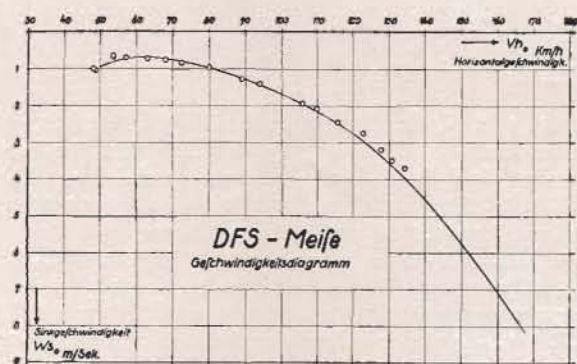
The MEISE, now renamed OLYMPIA, is a high wing sailplane, in appearance similar to the RHÖNBUSSARD, but with slightly larger span and of considerably greater length. Hans Jacobs explains that in his opinion a machine of this size with slight dihedral has at least the same stability in circling and blind flying as a gull-shaped wing, if the rudder has sufficient area. On the other hand, he thinks that this straight wing is preferable for ease of construction and repair.

All parts and fittings have been designed with simplicity being the governing factor. Therefore he has not used any automatic connections which require a very high standard of workmanship.

The wing construction is the usual one: one single "I" spar, with a short drag-spar on the wing root, plywood torsion nose. The lift-spoilers on top and bottom of the wings are built of wood, not of metal. The main wing root fittings are connected by two horizontal tapered pins; the rear fittings have two cylindrical pins. All fittings are very simple indeed with very little welding; they are fastened to the wood with tubular rivets. All pulleys are standardised so that they can be fitted in any position necessary. Rigging is supposed to take eight minutes with the help of three men.

Tailplane, elevator and rudder show very few diagonal





The top diagram, in which sinking speed is plotted against forward speed, gives the calculated and observed performance of the "Meise." Next is the air-brake mechanism, and below it the wing-fuselage junction, while the lowest drawing shows the method of attaching the elevator fin.

[Courtesy D.F.S.]

ribs, torsion being taken by the plywood leading edges; the elevator has a spring loaded trimming tab with Bowden control.

Span, 15.0 m. (49 ft. 3 ins.); wing area, 15.0 sq. m. (161 sq. ft.); aspect ratio, 15. Elevator area, 2.13 sq. m. (22.9 sq. ft.). Greatest diameter of fuselage, 0.55 sq. m. (5.92 sq. ft.).

Wing sections: Göttingen 549, thickened up, and Göttingen 676.

Weight, empty, 354 lbs.; flying weight, 496 lbs.

Performance figures: gliding angle, 1 in 25; sinking speed, 0.67 m. (1 ft. 2 ins.) per second; minimum flying speed, 50 km. (31.5 miles) per hour.

A Use for a "Drone"

[When the Ely Flying Club's "Drone" ultra-light aeroplane looked in at Dunstable, Mr. John Simpson used it to investigate the up-currents around an April shower, and we publish this article as a stimulus to others who are in a position to make similar trials.]

ALTHOUGH I was on holiday on April 24th, I had no retrieving car or driver for the KITE, and so kept away from Dunstable as long as possible. In the afternoon I could not resist it any longer and arrived at about 3 p.m. to see what could be done about motorless aviation. I was delighted when Dimock offered me a flight in his "Drone," as there seemed a chance of having a thermal flight after all without having to go across country.

At 3.35 p.m. I took off along the hangar ridge (wind W.N.W.), and after climbing 300 ft. made for the hill-lift in which I climbed at cruising revs. to about 800 ft. I found a thermal near the bastion in which I climbed in the usual way to 1,200 ft. There was then a large storm cloud out beyond Totterhoe and I flew up-wind towards this, still at cruising revs. I had no variometer, but I was soon able to feel the lift from the storm, and when I judged myself to be in the strongest part started circling again, with the motor throttled back as near as I could guess to give a sink of 2 or 3 ft. per second. In this way I reached a part of the cloud at 2,400 ft. I say a part of the cloud because there appeared to be two main cloud base heights.

The cloud was mostly above 2,500 ft., with one area lower down at 2,000 ft. The latter was very black indeed and obviously powerful as small streamers of cloud could be seen forming below and going up into it very rapidly. As I had no turn-and-bank, parachute, or compass and the A.S.I. did not work, I decided to postpone further investigation of this part, and had a look around at the side of the cloud which was three or four miles long.

I found lift along the outside in the clear air on the south side of the storm and climbed there to 3,000 ft. Elsewhere conditions had been smooth, but here I found it fairly rough. I flew through small areas of hail and patches of cloud formed below me, in front of the main cloud wall. Small turbulent pieces of cloud were swirling around and when one began to form around the "Drone" it seemed time to return to the club ground, which I succeeded in doing.

I landed from this, my second soaring flight in a "Drone," with the feeling that this aeroplane is sometimes a good substitute for a sailplane. For week-day flying when it can be operated alone, and for light wind days when no towing aeroplane is available, one might almost go as far as to say that it has some advantages over the real thing.

In case some of your readers accuse me of heresy, may I point out that Wolf Hirth has been saying things like this about the "Motorsegler" for years.

Sailflyers in general tend to despise all activity with "stink wings," but I think more of us with even a little power flying experience can use this as an additional way of exploring the air and finding out what goes on there.

J. E. SIMPSON.

Cross-Country Flights

THE table below gives all the cross-country flights of over 10 miles which have been reported to THE SAILPLANE in the last month.

It will be seen that Frank Charles's PETREL has done its first cross-countries, but news of these reached us too late for inclusion in the map on the opposite page. That of March 26th was a "cold front" flight in a north-easterly wind, starting from an east-facing slope some distance from Ireleth. While he was crossing Ulverston Channel, a part of Morecambe Bay, at 3,000 ft., soft hail clung to the leading edge of the wing for a time. The landing was made at the south-westerly point of the Furness peninsula. The flight on April 24th started at 3.35 p.m., when the best of the thermals had passed. Since then, on April 27th, Charles has climbed in the PETREL to 5,510 ft. above take-off, thus completing his "Silver C." Details of this flight will be given next month. Altogether he has now done about 250 miles of cross-country soaring, mostly in his former KIRBY KITE.

While Mr. Stephenson was crossing the Channel on April 22nd, pilots in other parts of the country were also finding conditions good. S. C. O'Grady made a valiant attempt to reach Sutton Bank from the Newcastle Club's site near Cross Fell. And S. G. Stevens got out over the Channel from the Southdown Club at 4,500 ft., but managed to return to the club via Ditchling Beacon. The three legs of this triangular course would be about 6, 6 and 4 miles respectively. Three other out-and-return flights are mentioned in the list.

Philip Brown had little luck with his MINIMO, which he kept at Norwich for some weeks in the hope of getting a good north-easterly. Mostly the good thermal conditions only came in west winds. Before the Mareham flight he had already, on another occasion, got half-way there and decided to return owing to poor conditions ahead. This must have been an out-and-return of about 30 miles.

Mrs. Allen, who describes her fine flight of 90 miles on the next page, now holds the British women's distance record, formerly held by Mrs. Price with a flight of 76 miles from Reigate to Frinton-on-Sea, done just a year ago. The British women's height and duration records should also be hers if flights abroad are allowed, since she reached 8,000 ft. from Darmstadt in 1936, and once did a 10 hours' flight at the Hornberg gliding school.

Mr. J. C. Dent, who was flying the blue GULL at Duxford on this day (May 7th), has some interesting things to say about the clouds. They were cumulus,

unusually well developed vertically and tending to cumulo-nimbus. After an aero-towed launch, he found little lift below them, if any, and although he rose from 3,200 to 6,200 ft. inside a cloud, it was a comparatively small one between two much larger ones which towered above him every time he popped out of his own. He has the impression that on such a day the larger clouds have stopped growing and so have little or no lift. While circling under his cloud before going in, he found lift at 10 ft. per second, but on one side of the circle only. Inside the cloud, where he spent half an hour, the greatest lift was 5 ft. per second. After coming out, he found lift at 6 ins. per second, but no more, over a large area.

On May 21st Mr. Hiscox, having gone to Reigate, found a west wind instead of the forecasted southerly one. Nevertheless he picked up a thermal while coming in to land over the farm, barely kept height at first, then gradually rose in improving lift to 2,800 ft. Being then nearly up to the clouds, he made off along the hills to Titsey with plenty of lift. Then, at Biggin Hill, he found a thermal in exactly the same place as the day before, which raised him from 2,000 to 3,000. The next place visited was the Standard Telephones and Cables Club at Shoreham, at 2,000 ft., after which another climb to 3,000 ft. enabled him to reach Gravesend at 4.50 after a two hours' flight. "What hospitality the instructors handed out!" he remarks.

Corrections to last month's list: Dent on March 5th flew to Detling, not Debden; Stephenson on April 15th went about 11 miles, not 15.

Empire Air Day.—On May 20th gliding displays were included in the programme of events at several R.A.F. stations. At Biggin Hill, Kent, D. G. Hiscox flew his GULL and E. J. Furlong his VIKING. Mr. Hatcher's winch gave launches to 1,000 ft. At the morning rehearsal Mr. Hiscox picked up a thermal, rose to 3,000 ft., and went on a 45 minutes' tour to the North Downs and back. At the actual show he got a thermal on the second launch, but had to leave it at 2,000 ft. because the next "turn" was due. Mr. Furlong was under doctor's orders not to fly, so he contented himself with stalled turns and vertical banks, greatly impressing the public which, unknown to him, included the said doctor. At Upper Heyford the Oxford Club's KIRBY KITE and TUTOR took part. The KITE was aerobatted by J. S. Sproule, who had come over specially in a "Blenheim" from Airspeeds at Portsmouth. The crowd numbered 10,200 (Official).

Date	Starting Place	Pilot	Sailplane	Mode of Start	Landing and Mileage
Mar. 26	Cartmel Fell ...	F. Charles ...	PETREL ...	Slope lift ...	Rampside ... 18
—	Cambridge Aerodrome ...	D. MacClement ...	KIRBY KITE ...	Aero-tow ...	Gullden Morden, Cambs. ... 15
—	Cambridge Aerodrome ...	H. W. F. Jones ...	KIRBY KITE ...	Aero-tow ...	Stevenage, Herts. ... 30
April 14	Long Mynd, Salop ...	—, Sanders ...	KIRBY KITE ...	Slope lift ...	Long Mynd, via Bishops Castle ... 14
" 22	Hartside, Cumberland ...	S. C. O'Grady ...	KIRBY KITE ...	Slope lift ...	Richmond, Yorks. ... 40
" 24	Ireleth, Furness ...	F. Charles ...	PETREL ...	Slope lift ...	— ... 22
May 6	Norwich Aerodrome ...	P. Brown ...	MINIMO ...	Aero-tow ...	Mareham Aerodrome, Norfolk ... 32
" 7	Norwich Aerodrome ...	Mrs. N. Allen ...	MINIMO ...	Aero-tow ...	Desborough, Northants. ... 91
" 7	Duxford Aerodrome, Cambridge ...	P. A. Wills ...	MINIMO ...	Aero-tow ...	Duxford, via Cambridge ... 16
" 13	Duxford Aerodrome, Cambridge ...	D. F. Greig ...	GULL ...	Aero-tow ...	Buntingford, Herts. ... 12
" 21	Reigate, Surrey ...	D. G. O. Hiscox ...	GULL ...	Winch into thermal ...	Gravesend Airport ... 30
" 21	Norwich Aerodrome ...	A. E. Firmin ...	KIRBY KITE ...	Aero-tow ...	Norwich, via S. Walsham ... 16

Norwich—Desborough: 91 miles

By NAOMI ALLEN

THE flight, which I made from Norwich to Desborough on Sunday, May 7th, took $3\frac{1}{4}$ hours, and was fairly easy going while it lasted.

I took off at 11.30 a.m. in Philip Brown's MINIMO, and released at 1,400 ft. in what I imagined to be lift. However, I lost it and sank to 1,000 ft., cursing myself roundly all the way down for trying to be too clever instead of allowing myself to be towed up to 2,000 ft. as arranged. (The towing pilot, incidentally, continued happily up to 2,000 ft. in the direction of a magnificent cumulus, only to look round when he had reached it to see me sinking ignominiously on the opposite side of the aerodrome!)

In the interval I had left the north side and flown right over the town, as from there I could see a good cloud street stretching away to the west in the direction of the wind. Having circled up to 2,000 ft. I then pushed the stick forward and away, keeping, wherever possible, both variometer balls down.

Five miles short of Mareham I lost height again but did not worry unduly, as the aerodrome was well within reach, and there was a good cumulus on its leeward side. Once there, the lift was strong and took me up to 3,500 ft. at the rate of 10 ft. per second, though I had to circle, as it was concentrated only underneath the centre of the cloud.

The next bit was downhill, and I passed close to Feltwell, in case I should fail to rise again. However, the Fates were kind and Bedford River was crossed at 2,000 ft. Here a powerful but friendly cloud took

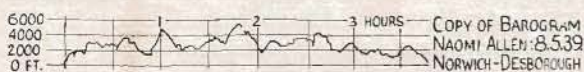
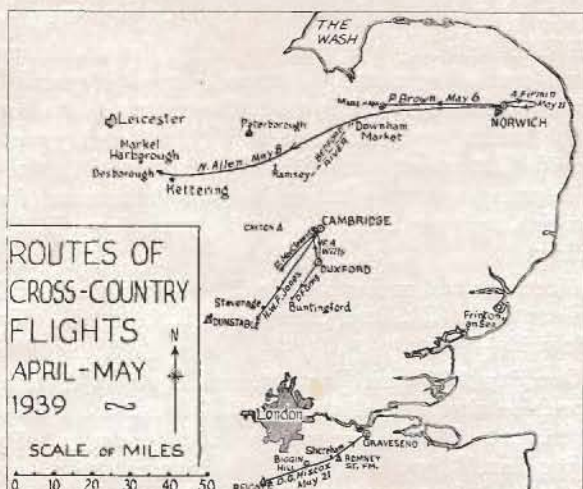
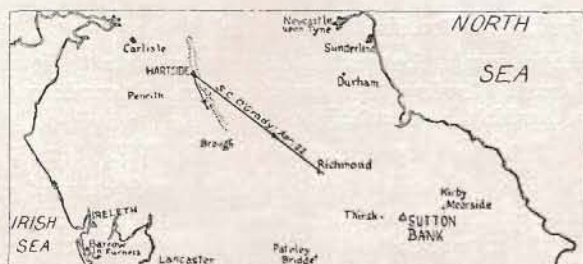
me up to my highest point, 3,800 ft., the last 300 ft. of which I spent sampling its misty interior.

Then nose down and away again till another aerodrome hove in sight, though, as it was not marked on my 10-inch map, I did not know which it was. Afterwards I discovered that it must have been Ramsey aerodrome; 800 ft. above it another thermal lifted me up to 2,000 ft. and I was able to leave it at a safe altitude, though from now on, apart from one more short, sharp kick from below, every yard was a struggle, and I could ill afford to pass straight through even the weakest thermal.

Just north of Kettering I was down to 500 ft. and had already picked my landing field, when the red ball suddenly did me the kindness of disappearing for a couple of seconds, while the green was obviously endeavouring to rise, though without much success. For a few seconds I circled grimly, hanging on desperately to my 500 ft. Gradually the lift increased, giving me another few hundred feet; then everything went flat, and I followed the railway to Desborough, with the red ball up all the time and the air like a mill pond.

As a place in which to land I would not recommend Desborough for choice. A local inhabitant told me afterwards that I had chosen the best field in the vicinity, and it certainly didn't look too bad from the air, in spite of the horses and cows grazing peacefully at the far end. So I came in low over the hedge, reckoning that by use of the wheel brake I should be able to come to a standstill a few yards short of the animals. But I hadn't reckoned on the surface! And just as I was about to touch down, huge ruts, stretching right across the field at a horizontal angle to the nose of my machine, loomed in front of me. And I was too low to do anything about it! This, I think, was an occasion when the wheel definitely saved the machine, for had there been only a skid, it could not possibly have stood up to the ensuing unavoidable bump. As it was, a perfectly smooth landing might have been made for all the effect it had on the machine.

Here, I think, a few words would not be amiss on the generosity of owner-pilots who lend their machines to others less fortunate than themselves. A short while ago Philip Brown invited me to spend a week in Norwich taking it in turns with him to fly his MINIMO. The first four days were hopeless: rain every day. Then gradually the weather improved, and we had a couple of flights each over the aerodrome. On Saturday, May 6th, our last day but one, conditions looked suitable for a cross country flight, and Philip set off in a westerly direction. He arrived over Mareham aerodrome, 30 miles away, at 4,000 ft. Yet, because he knew that unless the machine could be towed back, the chances were that we might not be able to get it rigged again in time for a flight the following morning, he landed on the aerodrome. The next day, Sunday, conditions were better still, and though I hadn't even a tenth share in the machine, and he had spent weeks waiting for a day like this, he insisted on tossing up for the first tow, and when I won, made me promise to get away if I could. There can't be much wrong with gliding clubs that comprise men like that!



Correspondence

Winds, Clouds and Temperatures

SIR,

1.—The notes, observations and diagrams appearing from time to time in this journal to illustrate the experience of sailplane pilots are very interesting to a meteorologist, and it has occurred to me that some notes on a meteorologist's ideas of how winds, clouds and temperatures serve the sailplane pilot may interest other readers.

2.—If one watches the velocity pen of an anemometer on a sunny, breezy afternoon with wind of an average speed of 20 m.p.h. and occasional gusts 30 m.p.h. at about 30 ft. above ground level, it will be noted that the pen moves up and down in about five seconds, and as one hour occupies about half-inch on the chart these and smaller oscillations are mainly lost in the confusion of the tracing of the pen. But these movements indicate eddies in the atmosphere of about 150 ft. across which follow in quick succession most of the day (A).

These are superposed on the other variations in the wind strength which will be seen to recur at intervals of the order of three minutes, representing eddies of about one mile across and suggesting connection with the spacing of cumulus clouds (B).

Still larger variations of the wind speed occur at about half-hour intervals, often corresponding with rarefactions or compressions in the grouping of the cumulus and other clouds (C). All these time intervals are only approximate, and vary with time and place, but give the order of magnitude of the variations.

3.—To give an idea of the wind speed resulting from all these combined variations I have drawn an *imaginary* record for one hour based on the variations marked A, B and C in the preceding paragraphs, and this is shown in Figure 1 with the time scale magnified four times for the sake of clarity.

For comparison, Figure 2 shows an actual wind record on a fine April day with a moderate breeze; this has the normal time-scale.

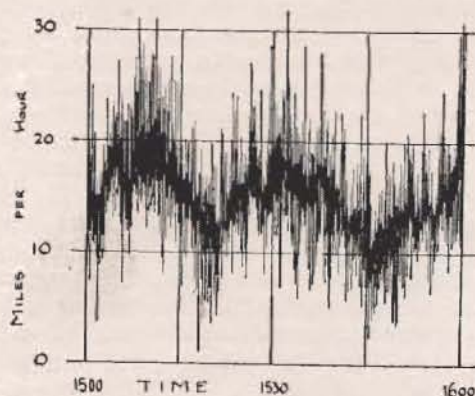


Fig. 1—Composite wind speed record with time scale four times the ordinary scale.

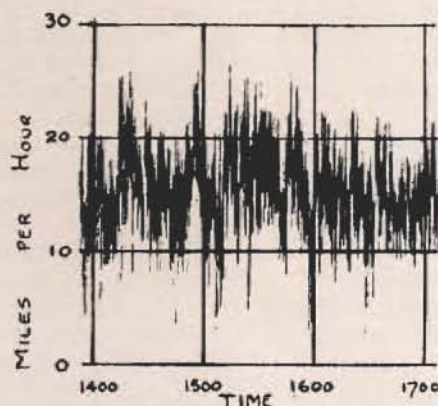


Fig. 2—Actual wind record on a fine day with moderate breeze.

4.—Figure 3 is intended to show how these variations of wind and cloud would fit in with the observations of a man in a balloon floating in sunshine under cumulus clouds and observing vertical air movements as indicated by feathers floating in various positions and heights. (We are thus eliminating the general 20 to 30 miles an hour movement of air.)

From the ground to about 150 ft. we have heated air rising in many eddies (A), sometimes proceeding upwards, and at others being driven downwards by surface turbulence among buildings and hills, to be re-heated and to rise later.

At intervals the heated elements mingle to form a "thermal" leading to a cumulus cloud at condensation level, which is at a height of

215 (Air temperature - Dew point (°F.)) feet.

Between the ascending currents are downward currents less marked and generally less intense; it seems that the concentration of the up and down currents is in about the ratio 1 : 4½, and the velocities, of course, 4½ : 1.

The descending currents increase the wind speed already existing near the ground, causing gusts (G), while just in front of the ascending currents the backward turning currents cause lulls (L); these appear on the wind traces as rises and falls, respectively, referred to in paragraph 2 by letter (B). Predominance of up-currents over tar-mac and down-currents over lakes is indicated.

Closeness and continuity of wind arrows are desirable for continued lift, and these conditions seem unlikely below 150-300 ft.

One day this week [last week of April] a balloon in a position similar to that marked X found a continuous up-current of 10 ft. per sec.; on another day a balloon in position Y, just in front of the first raindrops, found an unusual down-current of 9 ft. per sec. for three or four minutes during which its normal ascent of 500 ft. per min. was more than neutralised.

5.—Readers who may like to go into the matter more thoroughly will find interesting reading in a contribution on "Eddies," by C. S. Durst, in *Geophysical Memoir*, No. 54, of the Meteorological Office, London.

Another paper on "The Lapse Rate of Temperature in the Lowest 100 Metres of Atmosphere," by N. K. Johnson and G. S. P. Heywood (*Geophysical Memoir*, No. 77), gives useful information about temperature variations: on a fine summer day rapid variations of temperature of 4°F. occur at 4 ft. above ground, and these are reduced to about 1°F. at 250 ft. Below this level lapse rates of 10 times the dry adiabatic rate are common, but are considered to be reduced to about the dry adiabatic rate by mixing by the time the 300 ft. level is reached.

R. M. POULTER.

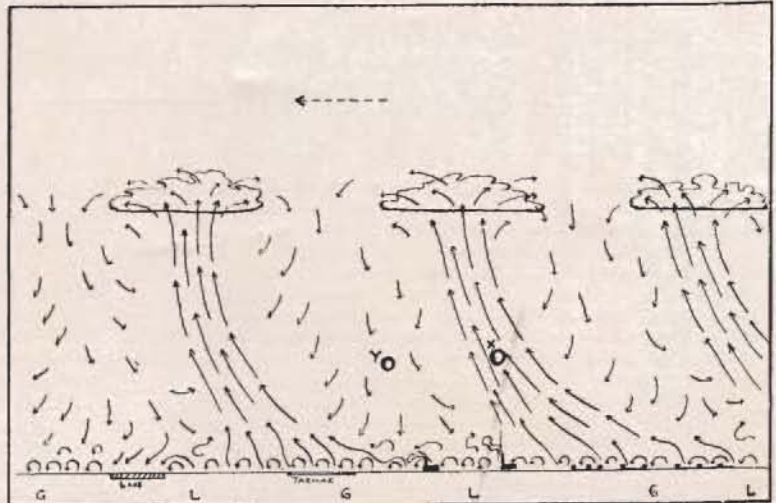


Fig. 3.

British Gliding Association

A Council Meeting was held on Friday, April 14th, at 6.30 p.m. Present:—Professor D. Brunt, in the Chair; Club representatives: F. N. Slingsby (Furness), E. G. Sanguinetti (Kent), A. Sweet and J. R. Ashwell-Cooke (London), F. J. Davies and J. V. Rushton (Midland), P. A. Wills (Newcastle), R. Kronfeld (Oxford), L. H. Heath (Yorkshire); individual membership representative: Miss R. H. Sinclair; in attendance: H. E. Perrin (Secretary), E. H. Spence (Asst. Secretary).

Constitution of Council, 1939.—The nominations received for the Council for 1939 were reported as follows:—

CAMBRIDGE UNIVERSITY GLIDING CLUB	...	J. W. S. Pringle.
DERBYSHIRE AND LANCASHIRE GLIDING CLUB	...	Major A. Goodfellow.
FURNESS GLIDING CLUB	...	F. N. Slingsby.
LONDON GLIDING CLUB	...	H. E. Bolton.
	...	J. R. Ashwell-Cooke.
	...	A. Sweet.
	...	A. W. Lacey.
MIDLAND GLIDING CLUB	...	F. J. Davies.
	...	J. V. Rushton.
NEWCASTLE GLIDING CLUB	...	P. A. Wills.
NORFOLK AND NORWICH GLIDING CLUB	...	A. R. Colman.
OXFORD UNIVERSITY AND CITY GLIDING CLUB	...	R. Kronfeld.
	...	G. Ryle.
SCOTTISH GLIDING UNION	...	D. F. Greig.
SOUTHDOWN GLIDING CLUB	...	G. A. Little.
SURREY GLIDING CLUB	...	Miss A. C. Edmonds.
YORKSHIRE GLIDING CLUB	...	L. H. Heath.
ROYAL METEOROLOGICAL SOCIETY	...	Prof. D. Brunt, M.A.
ROYAL AERONAUTICAL SOCIETY	...	W. O. Manning.
ROYAL AERO CLUB	...	Major H. A. Petre, D.S.O., M.C.
INDIVIDUAL REPRESENTATION	...	Miss R. H. Sinclair.
	...	Capt. C. H. Latimer-Needham.

Election of Officers.—Professor D. Brunt, M.A., was unanimously elected Chairman. Mr. J. R. Ashwell-Cooke was unanimously elected Hon. Treasurer in place of Mr. D. Hiscox, retired.

Election of Committees.—The following committees were elected:—

TECHNICAL COMMITTEE: H. E. Bolton, G. A. Little, W. O. Manning, Capt. C. H. Latimer-Needham, F. Slingsby, B. S. Shenstone.

FINANCE COMMITTEE: J. R. Ashwell-Cooke (Treasurer), Major H. A. Petre, D.S.O., M.C., P. A. Wills.

SUBSIDY COMMITTEE: Major A. Goodfellow, D. Hiscox, P. A. Wills, J. V. Rushton, L. H. Heath, J. W. S. Pringle, E. G. Sanguinetti.

CONTEST COMMITTEE: It was decided to appoint Major A. Goodfellow Chairman, and to request the Derbyshire and Lan-

cashire Gliding Club, who were organising the Contests this year, to nominate the remainder of the Contest Committee.

SPECIAL COMMITTEE (for matters arising out of Air Defence Cadet training): Major A. Goodfellow, J. R. Ashwell-Cooke, C. E. Hardwick, L. H. Heath, J. W. S. Pringle.

Subsidy Trustee.—Prof. D. Brunt was re-elected as B.G.A. Trustee on the Board of Trustees.

Certificates of Airworthiness.—The Council welcomed a proposal by the Air Ministry that all airworthiness inspections should be undertaken by the Air Registration Board, but hoped that the fees would not be increased.

"The Sailplane."—It was reported that clubs, as a whole, had not carried out the recommendation of the Council regarding Club advertisements in *THE SAILPLANE*. A draft layout prepared by the Publisher of *THE SAILPLANE* was submitted to the meeting. It was decided to circulate the proposal to all Clubs with a recommendation that they should support the paper with an advertisement on the lines laid down.

At the **Council Meeting** held on April 28th, at 6 p.m., there were present:—Club representatives: J. W. S. Pringle (Cambridge), B. Meads (Derbyshire and Lancashire), E. Jarvis (Essex), F. Slingsby (Furness), E. G. Sanguinetti (Kent), J. R. Ashwell-Cooke, A. Sweet and D. Hiscox (proxy) (London), F. J. Davies and J. V. Rushton (Midland), P. A. Wills (Newcastle), R. Kronfeld (Oxford), D. F. Greig (Scottish Union), G. A. Little (Southdown), M. S. Houdret (proxy) (Surrey), L. H. Heath (Yorkshire); individual membership representative: C. H. Latimer-Needham; Royal Aero Club representative: Major H. A. Petre; in attendance: H. E. Perrin (Secretary), E. H. Spence (Asst. Secretary).

Nominations.—Additional nominations to the Council received since the last meeting were reported as follows:—

KENT GLIDING CLUB	...	E. G. Sanguinetti.
ESSEX GLIDING CLUB	...	E. Jarvis.
DERBYSHIRE AND LANCASHIRE GLIDING CLUB	...	B. Meads (2nd representative).

Air Defence Cadets.—The Secretary stated that he would arrange with the Royal Aero Club to waive fees for the issue of Glider Certificates gained by Cadets during the camps. It was decided that Certificates gained by Air Defence Cadets during camps shall not count for marks towards the allocation of subsidy.

Allocation of Subsidy, 1939-40.—After a full discussion, the Council reached the following decisions:—

- (1) The total points gained by subsidised Clubs in the previous year to be reckoned in the apportionment of subsidy.
- (2) Clubs now in existence which had not received a total of £200 subsidy to be entitled to special treatment as "new Clubs."
- (3) The total sum to be allocated to new Clubs to be £500.
- (4) £500 to be reserved for the B.G.A.
- (5) The remaining £4,000 to be allocated to Clubs on the points basis.

News from the Clubs

Norfolk and Norwich Aero Club

Empire Air Day.—The gliding section co-operated in the Empire Air Day show, and Philip Brown very kindly lent his MINIMO (and 'chute). Baron de Sarigny, our "power" chief instructor, being a very able aerobattist, put MINNY through her paces properly. Aero-towed to 3,000 ft., she was aerobatted all the way down and finally "shot up" the crowd from about 700 ft. and went almost back to 700 ft. again with the resultant speed—hence the reason for using MINNY instead of our aerobattist H-17. MINNY was spun, stall-turned and tightly looped until even de Sarigny confessed to having had enough.

H-17 then gave a car-tow demonstration, climbing to 1,200 ft. The pilot had threatened to rival MINNY's antics, but he gave up after only two really tight loops in quick succession had left him wondering which way up he was. Being still at 1,000 ft. he contented himself with showing how beautifully accurately and slowly the H-17 will descend in tight circles.

MINNY did her stuff twice during the day. After the final item the crowd burst through the ropes and positively *streaked* across the aerodrome and made (believe it or not) straight for the gliding hangar—not the power machines. We were unable to get MINNY and H-17 into the hangar before the arrival of the masses and spent a few frightening minutes until sufficient police, etc., arrived to clear a pathway and the hangar doors were shut amidst sighs of relief from Brown and Firmin.

Sunday, May 21st.—Our towing aeroplane being away until 3.30 p.m., and lots of work being necessary in preparation for our visit to Derbyshire at Whitsun, we did no flying until 3.45, when Firmin was aero-towed in the KITE. By that time the sky, which had looked to be quite useful earlier, was fully overcast by a thick haze.

Climb to 5,200 ft.

Firmin cast off at 2,100 ft. and was quickly down to 1,200 ft., not once having seen the red ball go to the bottom of the variometer, but then he found isolated small patches of lift at from 6 ins. to 3 ft. per sec., which had no apparent origin, so were difficult to hang on to, but he managed to get back to 2,000 then down to 1,200 again, and back to 2,000 in the same type of turbulence, having by then been in free flight for three-quarters of an hour.

At this point the haze began to clear and he saw an apparently lifeless cloud approaching from up-wind. It was obviously much higher than 2,000 ft. and did not look the sort of cloud to be the slightest bit of use. Without going under it intentionally, he was astonished to find himself rising at 20 ft. per sec. without any need to circle. On looking up, he found the cloud to be very elongated, so flew to and fro under it, and quickly found himself at 5,100 ft. and cloud base. Ever since having been caught out at 4,000 ft. without warm clothing or barograph, he has made it a habit to take both on every aero-tow, but, nevertheless, he was now shivering violently.

Visibility was very bad, there being no horizon from 3,000 ft. upwards. The wind was taking him straight towards the North Sea (ten miles away). He had no blind flying instruments or parachute. The cloud was not a pretty white isolated one, but nasty, wet, unfriendly, and dark. So he decided not to go through it, although rising in it at 20 ft. per sec. in straight flight. As its base appeared to get lower and lower towards Norwich (eight miles away), the problem was to get back there without going through it. He nosed down to 40 m.p.h. and was still climbing at 8 ft.; at 50 m.p.h. climbing at 3 ft. per sec., and can't remember at what speed the red ball finally re-appeared. The turbulence was such that it was only just possible to keep right side up flying straight, and luckily no turns were needed to get out of the cloud. Firmin came out of the bottom at about 4,300 and hared off back to Norwich, ignoring all lift and thinking only of a hot drink. The flight lasted 1 hr. 40 mins. Luckily the barograph worked.

Meanwhile the H-17 was being car-launched, but nobody could keep it up.

A party of four pilots and four women ground engineers are taking H-17 to Derbyshire for Whitsun and hope to collect four "C's."

Our only crash for months was when a power pilot, with hundreds of hours, dead-stalled the primary (HARRY TATE, Norfolk born and bred) from 15 ft. and broke two landing-wire fitting bolts. It was flying again in half an hour.

London Gliding Club

During May the club's leading lights have been doing their best flying elsewhere, there having been few west winds, and those mostly with stable air.

Fox, who has scarcely been seen for some months, has been putting in appearances again, and has presented the club with a barograph—the sort used for weather purposes, which takes a week to go round. It has fulfilled a "long-felt want" of many years' standing. His Cloud Base Predictor also hangs in a suitable position, and is constantly being consulted.

Cars which park on the hilltop to give their occupants a free gliding show will in future have to pay 6d. a time at week-ends and on public holidays. Unfortunately, the money doesn't go to the club which provides the entertainment. It goes to National Car Parks, Ltd., which, however, hands over two-thirds of the takings to the Tottenhamhoe Board of Conservators, who control most of the Downs and intend to spend their winnings on "improvements." Apparently the Car Parks Company have secured the contract because they undertook to indemnify the Conservators against third party risks. What risks it is not stated, but we can guess.

Burnett has taken a share in the CAMEL during the absence of Ivanoff on a business tour in America. "Pop" Furlong has joined Horsfield and Wright in ownership of the SCUD II (the original one which Buxton and Wills once flew). Murray now shares the yellow RHÖNBUSSARD with R. Pasold, whose brother has gone abroad.

Stuart, the first Civil Air Guarder to learn to fly in the Auto-giro Section, flew his new toy over one day. But we want to see him finding out whether it can be made to hover in a narrow thermal. It should do so better than a FALCON.

Sunday, May 6th.—In spite of towering cumulus and slight cumulo-nimbus, nobody could get up in a thermal off the winch. Hiscox once did a circle without loss of height, then lost it, and the Furlong-Edmunds VIKING once delayed its descent with a little thermal lift. There was a light west wind, just soarable at times for short periods.

In spite of poor flying conditions, the place seemed very busy. A club camp had started. A constant stream of machines went up the hill and descended by air. The magnificent clouds induced hopeful pilots to persist with winch launches. The public covered the hill and kept oozing through the railings on to the club ground. (Although these railings are not public-proof, they do their job pretty well on the whole.) Among visitors to the club were Filmer, from Southdown, come to see how his VIKING was growing (he gave it a first test flight here a week later); Commander Perrin from the B.G.A.; Kronfeld, who came over from the Oxford club in a "Drone"; Professor Brunt and family; and Bell from the Shell Film Unit.

Air Defence Cadets.—Three full-time instructors are now in action during cadet camps: Hervey, Kearney, and Dixon, of whom the first two are also fully engaged during ordinary club camps which fill the gaps between the cadets. For the cadets the club serves as a driving school as well as a gliding school, and both activities need strict supervision. One of the cadets managed to set a retrieving car on fire, and another was found to have filled a radiator with petrol.

The cadets organised a farewell party on the night of May 5th. Our three instructors and Walker were invited and found themselves presented with useful gifts in recognition of their services. As dancing was part of the entertainment, a subscription had been made to buy three admissions to the Dunstable skating rink; this enabled three cadets to get inside, and they soon came out again with a bevy of potential dancing partners *en route* for the club. But the latter were excessively shy at first, and the ice did not really melt until the company had played an exciting game called "Hyde Park Corner."

The old army hut put up in 1931 to serve as a club house, and later a workshop, then a dormitory, has been converted into a dining room, kitchen, etc., for the cadets. Another similar building has now been put up alongside, and serves as a bunk-house, while a third will shortly be erected, to include recreation room, sick bay, shower baths, and officers' quarters.

Summary of Flying.

Week ending:	Days of Flying	Ground-hops	Timed Flights	Flying Time hrs. mins.
April 2	...	3	89	19 5 52
" 9	...	4	201	31 2 45
" 16	...	7	383	176 80 45
Ratcliffe Meeting*	...	5	—	80 46 47
April 23	...	7	167	103 54 4
" 30	...	7	1,336	46 3 29
May 7	...	6	532	93 2 36
" 14	...	6	240	126 6 8
" 21	...	5	1,141	97 5 46

* The figures apply to London Club members only. All launches were by aero-tow.

Totals since January 1st: 5,777 launches, 439 hrs. 33 mins. flying time.

Certificate Flights.

April 8th.—Walker, "A"; Milligan, "A"; Brooks, "A."
 April 17th.—Hasler, "C"; Fletcher, "C"; Hasler, part "Silver C" (duration).
 April 23rd.—Moos, "C"; C. Adams, "C"; V. Adams, "C."
 April 24th.—Briggs, part "Silver C" (height and distance).
 April 27th.—Burnett, "A."
 May 3rd.—Kindell, "A."
 May 4th.—Worrall, Gracie, Scanes and Revell, "A."
 May 6th.—Stones, Frost, Trevell, Clinton, Howell, Carter, Radden, Lawrence, Cooper, Moore, Pickering, Clarke and Batic, "A."
 May 8th.—Moore and Batic, "B."
 May 10th.—Ottley, "A"; Miles, "B."
 May 14th.—Spearman, "A"; Crane and Walker, "B."
 May 21st.—MacGilchrist and Roberts, "A"; MacGilchrist, Hoffmann, Pickering and Cooper, "B."

Oxford University and City Gliding Club

The north-westerly wind that carried Stephenson across the Channel on April 22nd brought mixed luck to the Oxford Club. On the credit side, it enabled us to use for the first time the main ridge of the Chilterns from Beacon Hill as far as Bledlow Great Wood above Chinnor, a distance of three miles. Kronfeld, Joan Burchardt, and A. M. FitzRandolph made soaring flights in the Kirby Tutor along this ridge, winch-launched from the flying field—to which none of them returned by air. They found satisfactory landing grounds on the other side of the main road, and since then two members have surveyed the fields at the foot of this ridge by car, interviewed farmers and marked possible emergency landing places. With a slightly more northerly wind pilots should be able to bring the Tutor back across the bowl where the road winds up to Stokenchurch, and land in their own field. The two-mile beat from Crowell Wood to Bledlow Cross should provide an excellent site for "Silver C" duration flights.

Whilst everyone's attention was concentrated on the pioneers, the wind showed its ill side by lifting the KADET which was pegged and sand-bagged on the field, and turning it right over, damaging the spars.

On April 23rd the wind had moved round to the south-west and Tutor pilots returned to the Beacon Hill slopes, where Archangelski, Joan Burchardt, Curtis, Exon, FitzRandolph, Barbara Nicklin, and Peggy Thring made a total of eighteen soaring flights. There were forty-eight starts on this day and an aggregate of 3 hrs. 41 mins. 24 secs. hill soaring during the two days. E. F. T. Exon qualified for his "C."

Only two other certificates have been gained, Flight-Lieutenant H. D. Fraser (instructor to the University Air Squadron) and A. Goodheart both qualifying for "A."

Our good record in the crashery line has certainly been marred this month. A few days after the accident to the KADET which suffered the same fate (but is already repaired and in action again). A new system of making parked machines safe in a strong wind by means of screw pickets and ropes has now been devised. One pilot did a spot landing on a sheep in a NACELLE, damaging a wing. The unfortunate sheep suffered the death penalty. Someone else stalled at the top of his launch and brought another NACELLE down in a slow spin; there was nothing left to do but sweep it up.

On April 29th Mr. Drummond, from the Bristol Club, paid us a visit with his GRUNAU BABY, in which he soared for half an hour on the northern slope of Beacon Hill. The great event of the



An evening ascent at the Oxford University and City Gliding Club.

(Photo by M. Leatham.)

month was the arrival on May 6th of the new Kirby Kite, in which members have since been making practice hops. On May 13th D. G. O. Hiscox came over with his GULL and soon the air above Beacon Hill seemed to us quite thick with machines—the club Tutor and Kite and the visiting GULL; the two last reached about 1,200 ft. Various other people, including Professor Brunt, have called in passing to take a look at our site, and we hope to welcome more visiting sailplanes in the future.

Annual General Meeting.

The club held its first annual general meeting on May 4th, when the committee for 1939-40 was elected under the new constitution. It consists of: *City Members*: F. G. Buckle, H. J. Curtis, E. F. T. Exon, A. M. FitzRandolph, Miss B. Nicklin. *University Members*: L. Chalk, L. Dorrien-Smith, W. R. A. Knocker, Professor H. H. Price, and G. Ryle. Mr. Ryle was re-elected as President and Mr. R. W. Sennell, Dr. Marett, and Lord Wakefield as Honorary Vice-Presidents. At a committee meeting immediately afterwards Mr. Ryle was re-elected as Chairman, Mr. Curtis as Vice-Chairman, and Miss B. Nicklin as Hon. Secretary. L. Dorrien-Smith was appointed University Secretary, and Mrs. FitzRandolph Publicity Secretary.

The first annual report, which was adopted, records the history of the club since its foundation in February, 1938, by the late Captain Rattray, without whose enthusiasm it would never have been launched and whose death in May was a very severe loss. Flying began on May 7th at Farmoor, and in June Kronfeld was appointed as full-time instructor. During twelve months of flying 4,342 starts have been made, with only eight crashes, in six of which the machines were only slightly damaged and the pilots unhurt. There have been 113 qualifying flights for certificates, 59 "A's," 39 "B's," and 15 "C's." Seven of the "C's" were gained this year, since the move to Beacon Hill. The membership has grown to 124, of whom 26 have joined since Christmas.

It was announced that the Rattray Memorial Trophy, which has been presented to the club in honour of its founder, will be awarded each year for what the committee judges to be the best flight made by a member in Great Britain.

Mr. Ryle and Professor Price were presented with Life Membership of the club in recognition of the valuable help they have given.

At this meeting the committee reported that fresh capital has been found for the club which makes it possible to add a great deal to the equipment. Plans for certain necessary re-organisation, which will not alter the character or aims of the club, were passed unanimously.

We already have welcome evidence of our prosperity in the shape of a second winch (about which we hope to give more news later), the Kite and the re-erection on the Beacon Hill site of the Farmoor hangar. How enthusiastically we greet this old friend, including even its sectional doors which never fit their sockets, only those can understand who have struggled on winter evenings with the wet muddy canvas of the tent in which our machines were temporarily housed. Even the fact that it had belonged to the ex-Emperor of Abyssinia failed to give it any glamour on those occasions.

Cambridge University Gliding Club

In the absence of the TOTTERNOSE, which is now being rebuilt, members are passing straight on to the CAMBRIDGE after qualifying on DAGLINGS. The production of the GRANTA has been held up recently by the preparation of DAGLINGS for the Air Defence Cadet Corps camps.

Training at Caxton has proceeded steadily with two slight breakages. Seven new members have joined the club, five of them holding power "A" licences. Of these, R. M. Lloyd had an aero-tow a fortnight after his first trundle.

Aero-towing has taken place at Marshall's on week-days, and a hangar is now being built there for the club. On one occasion we managed to fit in four tows during the lunch hour. D. MacClement flew 15 miles to Guilden Morden, and H. W. F. Jones just missed his "Silver C" distance by going 30 miles to Stevenage.

May 6th and 7th.—Twenty-eight aero-tows were made at Duxford this week-end with a total of 18 flying hours. J. W. S. Pringle reached about 7,000 ft. in cloud, but had no barograph with him, and P. A. Wills flew to Cambridge and back in the MINIMO.

The club is giving its usual demonstration on Empire Day at Duxford.

Certificates Gained.—"A": Lloyd, Hammick, Melvill, A. Walker, Sharp, and Walton. "B": Lloyd, Hammick, Melvill, Selenyi, Clapin, and Lyon.

Newcastle Gliding Club

The past few weeks have seen considerable activity both in flying and non-flying sections of the club. Much of our efforts have been engaged again at Hartside, where negotiations for a permanent site are now well advanced. Three machines are now being kept at Melmerby and flying has been increased in consequence, although this is still hampered by the present lack of adequate facilities. We are very hopeful of this being rectified in the next month or so.

Thanks to some stout work by our long-suffering secretary, preparations for the training of Air Cadets at Cramlington are now practically completed, and we are looking forward to an interesting and probably strenuous summer season.

Easter Week-end proved disappointing for soaring, our earnest prayers producing nothing but beautifully fine and absolutely windless conditions over the entire holiday. The training squad, however, came into their own and kindly obliged with one or two certificates.

April 15th and 16th.—Soaring conditions proved good and several members enjoyed themselves in the TUTOR, GRUNAU, and KITE, without producing any cross-countries except for two pleasure jaunts down the ridge of 5 and 10 miles respectively.

Saturday, April 22nd.—Soaring conditions were really good, but unfortunately only one pilot, O'Grady, was able to get out in time to take advantage of them. Launched rather late in the afternoon, he set off for Sutton Bank, but after flying in cloud for some 40 miles had to land just east of Richmond, about 15 miles short. The following day proved hopeless for any sort of soaring, but enabled further training to be done at Cramlington, Robertson obtaining his "A."

Midland Gliding Club

All January and the first week in February, no flying due to south and N.E. winds.

Saturday, February 11th.—A soaring wind at last. Very strong S.W. wind enabled Reilly and Edwards to spend some 15 mins. each in the KITE over the gully. Area of lift was very limited and conditions very turbulent. Only 400 ft. was reached.

Sunday, February 12th.—A west wind of about 30 m.p.h. with gusts up to 40 m.p.h. Reilly took off in the KITE in really violent conditions about 10.30 a.m. His ceiling was 1,400 ft., at which height down-draughts bringing one down to 300 or 400 ft. at one gulp were very frequent. These down-draughts always preceded areas of strong up current, and it was easy to pick out the associated cloud. On forging out over the valley alternate bands of up- and down-draught were very noticeable. Later in the day, as conditions got quieter, the ceiling rose and 2,000 ft. on hill lift was attained by G. Edwards in the KITE. Price and Testar also flew this machine up to similar altitudes. The TUTOR was flown by Mike Edwards, who unfortunately fetched off the skid after a low turn on landing.

Sunday, February 19th.—Doubtful-looking conditions, consisting of a steady wind about 15 m.p.h., very oblique to the hill, coming from the N.N.W. Reilly was launched in the KITE and scraped along the hill-top to the south end of the slope, making for over Myndtown. Here he struck the text book thermal and circled up to 1,200 ft. It is interesting to note that on this flight he found conditions almost exactly as described by Espin Hardwick in his article in *Wing Tips*. This thermal seemed to be the only one about and could be returned to with confidence after exploring the valley. Over the valley a steady 2 ft. 6 in. sink was general and conditions were exceptionally smooth. On landing after 35 min., the wind turned more northerly, so this was the only flight of the day.

February 26th.—Wind W.S.W. The KITE was soared by Testar, James, Price, Sheffield, and Beck, all of whom reported favourably on the conditions, although these were somewhat squally and cold. One member flying at 1,700 ft. had some anxious moments when the KITE was engulfed in a nasty hail-storm which obscured the horizon. By flying upwind at 50 m.p.h. air speed through what appeared to be a clean channel under the cloud he managed to keep the ground in sight despite a continuous 5 ft. per sec. rise.

M. Edwards, Holland, and Colcombe gave polished exhibitions in the TUTOR. Holland's display of soaring over the Asterton Gully as the lift died down in the evening was interesting, particularly to the newer members.

Thwaite rigged and put H-17 through her paces in the afternoon. This interesting machine held her own over the North End for three-quarters of an hour.

Hodgson passed the "C" test in KADET II, but was forced behind the ridge and landed some distance from the hangar. He made an excellent approach on his subsequent flight in the same machine.

One pilot in a great hurry to spend part of the afternoon aloft in the KADET II was astonished to find himself joyfully soaring with an unfastened safety belt. He landed at once.

March 5th.—Wind westerly. G. Edwards, Saunders, Price, Horrell, Sheffield, Testar, and Beck flew the KITE. The day was promising and several pilots took barographs, but were unable to make more than 3,000 ft. without getting too far down-wind.

Saunders took the TUTOR to 3,100 ft., despite the strong wind. This machine was also flown by Niel, Holland, and Sheffield. It suffered its first serious mishap when it cart-wheeled into the hillside after a launch, and the fuselage was broken clean in two in the process.

G. Edwards and C. E. Hardwick, our president, took turns at piloting passengers in the two-seater. There was some excitement when this big machine took off in a gust as it was on its way to the launching point, behind the retrieving car. The pilot quickly had the situation in hand and no damage was done.

North wind next week-end; no flying.

March 18th.—After a N. wind all morning it obligingly turned dead west for a few hours and enabled G. Edwards to spend half an hour in the KITE. Cloud kept him down to 500 ft., however, for the first quarter of an hour, finally pushing him down to 200 ft., when he had to stall-turn continually to keep out of it, and was very busy dodging round corners looking for fresh holes. He had several moments completely blind, and ultimately he had to circle in a hole and drift back with it to land. On straightening out to approach he found cloud down to the level of the hill-top and the final touch down was in really Q.B.I. conditions.

N.E. wind next week-end; no flying.

Easter Camp.

In spite of rumours of the camp being cancelled, we finally received eleven applications, most of which were for the first five days. Of the applicants everyone had flown either a glider or an aeroplane, thereby leaving us a possible twelve certificates to gain, six of which were "C's."

Unfortunately the deep depression centred over the Atlantic and moving slowly eastwards did not bring westerly winds until three days after the bulk of the members had left, so they had to be content with many circuits off the winch and the glorious holiday weather.

Thursday, April 6th.—Members continued to turn up long after midnight. G. O. Manning brought his motor-bike up the track from Plowden, and on reaching the top lost his way, spending 35 minutes doing tight circles over the heather! All late comers were pleased to find food and cheer in the club house, and also a heated tent to retire to.

Friday, April 7th.—The camp was started with all the club fleet intact. A. Robson took his "A" with a steady flight of 41 secs.



Scenes at the Midland Club's Easter Camp at Long Mynd. Mr. J. A. Rooper, "Silver C" pilot, who flew 70 miles from the Mynd last August, is third from the left in the top picture.

(Photos by W. Hardwick.)

Unfortunately, in the evening, M. H. Coombs spun KADET III into the ground from 250 ft., sustaining a cut nose and a few bruises, but after seeing a doctor, G. E. T. Scrase kindly took him home.

Saturday, April 8th.—Winch launching all day up to about 400 ft. There was a little lift over Asterton Gully, which helped to lengthen the short flights. Rooper kept the KITE up for just over 6 mins., while Bill Hardwick got 2½ mins. from KADET II. Robson got his "B" with 1 min. 12 secs., and R. Burns his "A" with 59 secs.

Sunday, April 9th.—The President, C. E. Hardwick, relieved Theo Testar, chief camp instructor, for the day. Manning on his first KITE flight had to circle in 2 ft. per sec. fall in order to get down, while Burns and Lansdown had very hectic flights on the NACELLE. Burns got his "B" with 1 min. 39 secs.; Jackson "A," 57 secs.; and Wilde "A," 50 secs.

Monday, April 10th.—Lansdown and Burns to KADET II; Cuss, Scrase, and Robson to FALCON I. Wilde got his "B" with 78 secs. We were pleased to welcome Commander H. Perrin to the club for the first time; he inspected at first hand our very inadequate quarters; we hope he fully realised the difficult conditions under which we have to work.

Tuesday, April 11.—Very little flying, bad conditions.

Wednesday, April 12th.—Wind went west for 2½ hours before lunch, enabling us all to put in a little flying. Cloud base was at only 600 ft., so nothing enjoyable was encountered. Unfortunately at the Mynd caution has to be exercised when the wind first goes west, for a bottom landing puts a machine out of commission for nearly four hours.

Thursday, April 13th.—Low cloud all day. Colcombe gave elementary woodwork lessons to those mending a panel on a machine.

Friday, April 14th.—Flying started at 12.30 in a fresh west wind. Rooper took the KITE up to 2,100 ft. in cloud lift; he eventually flew from the vicinity of the cloud at 65 m.p.h., still going up at 5 ft. per sec. Sanders also flew the KITE and did a seven mile out and return up-wind to beyond Bishops Castle. In the evening Testar, flying the KITE, reached 3,100 ft. in "our" evening thermal up the north end.

Saturday, April 15th.—Another good day. Burns, Robson, and Lansdown took their "C's." Two-seater instruction continued all day; Gerald Ellwood, the new assistant ground engineer, progressed favourably with his flying.

Total flying time during camp: 31 hrs. 36½ mins.

Total number of launches: Ordinary, 66; winch, 135.

Certificates: "A's": Robson, Burns, Wilde, and Jackson. "B's": Robson, Burns, and Wilde. "C's": Robson, Burns, and Lansdown.

Derbyshire and Lancashire Gliding Club

April.—The north and easterly winds which have haunted us for so many week-ends took complete possession during Easter, and the super-pilots having departed to Leicester, the trainees turned up in force and had four and a half days' superb training weather completely to themselves. Thanks to the hard work of Messrs. Smith, Coleman, and Thompson, who had stayed at home, the week-end resulted in five certificates.

For the Leicester meeting our thanks are again due to Sir Lindsay Everard for his hospitality. The week-end was enjoyed by all the members attending, and our youngsters, Slater and Swale, Jnrs., proved that they will be in the front rank of pilots before very long. A. Verity returned with an interesting barograph record of a flight made on Friday, when his climb to 4,000 ft., after releasing from the aeroplane, was so steep that the chart showed a continuous line which rose vertically without a break from ground level to its maximum.

Three months ago, in forecasting the season's activities, we anticipated that our organisation would be working to full capacity, but since then the addition of the National Competitions and four camps of Air Defence Cadets have caused us to make certain changes, including the appointment of a full-time instructor for the summer months, and additions to the ground staff.

That we should again be asked to organise the National Competitions is very gratifying, and has met with the approval of all our members. Whilst it is anticipated that no lack of assistance will be forthcoming, we would remind one and all that their help is a vital necessity in order to ensure the smooth running which is so essential to this competition. Any visiting members who are not flying, but who are willing to give assistance for a day or more, will be allotted a job if they will advise us beforehand.

Saturday, April 1st.—Wind east, 10 m.p.h. Bungy and winch training.

Friday, April 7th.—Calm. More training. J. Coatman took his "A," and Pat Gent the first leg of her "B."

Saturday, April 8th.—Wind W.S.W., 10-15 m.p.h. Continuous training and a little soaring in the KADET and Coleman's G.B.

Sunday, April 9th.—Wind E., 5 m.p.h. To-day the instructors were dragged from their beds at 5.30 a.m., and a good two hours' training was put in before breakfast. Jerry Smith was kept busy in the two-seater all day, giving rides to the multitude. Pat settled down to some well-flown circuits, and completed her "B" in one of 62 secs.

Monday, April 10th.—Wind S.E., 15-20 m.p.h. More flying at 6 a.m.; three more "B's," this time for Harris, Coatman, and Pye, and many two-seater flights for the public—more than we could cope with, in fact.

Tuesday, April 11th.—Wind E.S.E., 10 m.p.h. The week-end had taken such a toll of instructors that they could not be persuaded to leave their beds until breakfast time, and a further day's training continued for those who had not returned to work.

Sunday, April 16th.—Wind W., 45 m.p.h. in the morning, moderating to 25 m.p.h. by 5.30 p.m., when flying commenced, and continued until dusk, this being the first day of summer time.

Week-nights, April 18th to April 21st.—An evening thermal greeted the first night of this week's flying, and a few members enjoyed some really smooth soaring up to 1,200 ft. The last machine arrived in to the light of car headlights. Of the rest of the week, one night's soaring and two trainings were possible.

Sunday, April 23rd.—Wind W., 15 m.p.h. Low cloud and rain prevented any activity in the morning, but during the afternoon for two hours the cloud lifted and the rain eased off, and a couple of soaring flights were possible. Even then the machines were dodging in and out of cloud at 300 ft., and further flying was suspended.

Week-nights, April 24th to April 27th.—Soaring on Monday, and training on Wednesday and Thursday under more reasonable conditions.

Saturday, April 29th.—Wind N.E., 10 m.p.h. Winch training until dark. Next day too rough for any operations.

Summary of Flying During April.—Bungy launches, 200. Winch launches, 219. Flying time, 13 hrs. 54 mins.

Certificates: 1 "A," 4 "B's."

At Leicester.—Aero-tows, 48. Flying time, 21 hrs. 18 mins. Cross Country Flights: A. Verity, 20 miles; G. Slater, 14 miles.

May.—The early part of this month has coincided with a definite improvement in the weather in this part of the globe, and although soaring days are few, training has proceeded apace, and a number of trainees waiting for an opportunity to take certificates have had their chance, and have taken it.

Two G.B.'s caught thermals directly off a winch launch, and climbed to the 3,000 ft. region but, as usual, no barograph was

on board. When will people remember that no flight should be made without one, as they are always available?

An evening thermal arrived on the evening of Wednesday, May 10th, and what a thermal! Seven sailplanes toured the district at between 2,000 and 3,000 ft., and Brough took his "C" despite considerable roughness at a lower altitude.

Week-nights, May 3rd-5th.—Training, and two G.B.'s did over an hour's soaring one evening.

Saturday, May 6th.—Wind S.E., 5 m.p.h. Training, and several delayed descents, due to small thermals being caught off winch launches.

Sunday, May 7th.—Calm. A grand training day, with all the primary groups hard at work. Just after lunch several machines were launched to 500 to 600 ft., and some small thermals became apparent. E. Taylor, in the club G.B., caught a useful one on top of the launch and climbed quickly to 2,000 ft., and then more steadily to 3,000 ft., but as there was no horizon, and a considerable haze at that height, he decided to return.

Tuesday, May 9th.—Wind N.W., 10 m.p.h., veering N. Poor soaring gradually improved, until the wind suddenly switched round, leaving Shepard in the Bussard, who was on his way to Rebellion Knoll, with no height at all, and even less on the return journey. On arriving back he was very glad to make use of the hole in the wall on the N.W. slope.

Wednesday, May 10th.—Wind N.W., 20 m.p.h. A fine warm day, with cumulus forming early in the day. About mid-day an inversion occurred, and the sky cleared until evening, when the usual roll of dark cloud collected on the western horizon.

The first launch was B. Thomas in a Kite at 6.30 p.m., and he had a few minutes' very sticky flying, owing to roughness, but soon afterwards the effect of the evening thermal became apparent, and up he went. He was soon followed by the Bussard, Gull, two G.B.'s, and another Kite. The effects of this thermal were curious. At the most northerly point of the Edge tremendous roughness occurred at 900 ft., and it seemed impossible to break through this. So rough was it that the Bussard stalled completely and lost 200 ft.

Then it became apparent that, by starting again at the south end of the valley and flying north, it was possible to catch another wave of rising air. The areas of these waves were quite limited, for on one beat the Bussard gained 800 ft., and a Kite following not far behind lost 50 ft., but eventually all machines were at 2,000 to 3,000 ft., and the effect of the sunset over the fore-mentioned roll of cloud was a sight that makes gliding well worth while.

As usual, darkness curtailed flying, and it was so rough at lower levels that one or two pilots experiencing their first evening thermal found themselves deposited in entirely unexpected places on the landing ground, more by good luck than judgment. Despite this, John Brough took his "C" with 10 minutes' well-judged flying.

Thursday, May 11th.—Wind N.N.E., 10 m.p.h. Training. Boulton, our ground engineer, decided that this was the great day, and made no mistake about his "A" in 40 secs.

Saturday, May 13th.—Wind N.N.E., 5 m.p.h. Training, two "A's" for Hall and Baker.

J. Parker in a G.B. picked up another thermal on top of his launch, and in 15 mins. was at 3,000 ft. over Tideswell, but no barograph, so he came home. Meanwhile Louis Slater, after a launch at Camphill to 800 ft. in a Kite, departed to Siggert and arrived there with 200 ft. to spare, but the 5 m.p.h. wind was insufficient to hold him on this slope. When half-way down the hill he caught a thermal which was quickly converted into 800 ft. of welcome height, but here the lift disappeared, and as to waste time searching would possibly have resulted in a landing on stony ground in the shape of lime kilns and quarries, he returned to a safer landing.

Sunday, May 14th.—Wind, N.W., 10 m.p.h. Cloud at 400 ft. most of the day. Rain all morning, through which a stout-hearted instructor persevered with an enthusiastic bungy squad.

In the afternoon, when the rain paused for a while, several machines were towed out by the optimists. Three sailplanes soared, although rather uncomfortably because of the low cloud base. One particularly vicious cloud spread out its tentacles and gripped young Duncan Swale, who was flying the Bussard, and rapidly elevated him to 400 ft. inside it. When next he appeared over the moor he was doing some 70 m.p.h., and very glad to see home again.

Rain started again, but much to everyone's surprise a test flight in the N.D. showed that hill lift was just right for "C" attempts, and as we had several candidates there was considerable activity in the camp. The first aspirant was Pat Gent, and accompanied by everyone's good wishes she departed in steadily in-

creasing rain to make a completely confident flight of 6½ mins., when she was flagged in. Wagstaffe followed, and his flight of 13 mins. included several disappearances into cloud. J. Smith continued the ramp by doing 7½ mins. in decreasing lift, and when we thought that he was about to make a descent into the valley a puff came up the slope and deposited him safely on top again. Heavy rain suspended flying, and everyone returned to cover, damp, but cheerful, with the exception of the instructor in charge, who was soaked, and on emptying three inches of water from his boots was heard to enquire if this blank gliding was really worth while. To-day's "C" gathering coincided with a visit from representatives of the Press, and the fact that a lady member had made her first soaring flight under such conditions resulted in their highly developed imaginations running away with them, and the following morning the whole of the northern Press was blazing with snappy captions to the effect that "Woman Glider Braves Downpour while Men Seek Shelter," together with suitable photos and comments.

Week-nights, May 18th and 19th.—Training. Boulton again performed and recorded a sound "B."

Saturday and Sunday, May 20th and 21st.—Two excellent training days, with a little soaring on Sunday. The two-seater did stout work, creating air-mindedness among the public on Empire Air Day.

Summary of Flying to May 21st.—Bungy launches, 258. Winch launches, 302. Flying time 28 hrs. 8 mins.

Certificates: 3 "A," 1 "B," 4 "C."

Yorkshire Gliding Club

May.—From the weather "angle," May has been a wretched month. There has been a certain amount of training weather, but little enough of this. The wind has been consistently in the east and south-east. "A," "B," and "C" certificates have been gained by two members, and many others, notably Durham County Branch members, are awaiting conditions for "C's" at Sutton Bank. West Riding Branch reports another "A" this month and is to be supplied with a NACELLED DACTLING in order to speed up the training and give more advanced practice; so far, only an open PRIMARY (wheeled) is in operation. Whilst mentioning this branch, we have to record, with much regret, the death of Sir Emmanuel Hoyle (president of the branch). Although of recent formation, and therefore its association with Sir Emmanuel of necessity short, the branch has received many kindnesses from him, one of which is the provision of their hangar.

There are little or no flying feats in the log worth recording, but we can say that what small amount of possible weather there has been, we have utilised.

On May 20th, Empire Air Day, our GULL, piloted by Barker, was towed over by the "Avro Cadet" (by permission of our president, Major Shaw), first to Linton-on-Ouse and thence to Leconfield Air Stations (R.A.F.), to give displays of flight and aerobatics. The weather was reasonable, and the events went off to time and were much appreciated. Mr. McMurdo, of course, was in charge of the "Avro." Those taking part in and organising this event are grateful for the kind hospitality shown to them at the air stations.

Our Air Defence Cadet Camps start on June 1st. All arrangements are now complete in this respect, also the Whitsuntide instruction course will commence on May 28th.

Pick put in about four hours on Sunday, May 21st, but has a long way to go to the 150 hours or so which he sets himself to do each year. Rumours that he is building a trailer seem to point to the fact that the local scenery is at last becoming boring!

Barker's SCUP III has returned to the Bank after repairs to the fuselage; the FALCON III (S) will soon be back with a new C. of A., and another private machine is expected. The STEDMAN two-seater had a full overhaul last year, and will soon emerge from winter quarters, so that we shall have three two-seaters this year, all of which can be used for dual instruction, etc.

Durham County Branch.

March and April.—Several week-ends, unfortunately, had very strong N.E. winds, so that flying was out of the question. However, every available hour of good days was made use of and progress continues, including our new members who are doing very well.

Two visits were paid to Sutton Bank.

We are trying out mid-week flying and hope to operate regularly during the summer on Wednesday afternoons and evenings.

Southdown Gliding Club

Saturday, April 22nd.—Wind N.W., 20 m.p.h. L. Huggett was launched at 1.35 in the GRUNAU for his five hours. He enjoyed the flight so much that he was up for nearly six hours. He was most of the time above 3,000 ft. and took several photographs. S. G. Stevens, in his KITE, struck a 10 ft. per sec. thermal soon after his launch. Finding himself above the Channel at 4,500 ft. he came out of it, and returned to the Dyke via Ditchling Beacon.

The TWO-SEATER was up most of the afternoon, once reaching 2,000 ft. Griffiths cross-countryed it to the bottom of the hill, but with several willing hands it was carried shoulder high over a cornfield and two fences before being pulled to the top by wire; Youles then flew it till 9 p.m.

Murray was not the only one trying to beat the endurance record on this memorable day. With a very satisfactory weather forecast from the Air Ministry for the night and following day, Grantham also made an attempt on the record. With car lights on, on top of the hill, he was launched at 9 p.m. in the GRUNAU, being duly witnessed by a passing bobby. With Maltisers for food, a crash helmet to protect his face from the elements, and an eighteen-penny torch to illuminate the instruments, it never occurred to him that a landing would be necessary in the dark. After half an hour the wind dropped for about a quarter of an hour, and he gradually got below the top of the hill and out of sight of the car lights. He used the torch to shine on the side of the hill in an effort to get as close as possible to it. Finally, on one of the beats, the tops of some bushes were noticed to pass very close under the GRUNAU, and it was then that all hope was abandoned and a landing in the dark confronted him. He turned in the direction that what wind there was should have been blowing, and made a successful landing at 9.50 p.m. in a cabbage field.

Saturday, April 29th.—Wind N., 10 m.p.h. S. Youles was launched at 1.30, complete with goggles and bowler hat, but less umbrella, for his five hours. He explored much of the countryside, to return with only just enough height to continue hill soaring.

Week-end, May 6th and 7th.—New members put in 77 hops or slides in the PRIMARY.

Sunday, May 14th.—Hill-soaring the KITE and GRUNAU in the hope of reaching the necessary height for the "Silver C." Grantham was the last to be launched and took 10 minutes to reach the bottom of the hill. Sliding and hopping the PRIMARY.

Saturday, May 20th.—Empire Air Day. An exhibition of gliding was given at Shoreham Airport with the club GRUNAU, Little's TERN, and Filmer's new VIKING I. After auto-launching towards the hangars the TERN and VIKING circled above the club and tarmac before landing in front of the crowds in the enclosures.

Sunday, May 21st.—Three hops on the PRIMARY before damaging a wing by stalling it from 20 ft. Solo and dual in the B.A.C. two-seater during the afternoon.

Surrey Gliding Club

Wednesday, April 19th.—White, Reynolds, and Miss Mathews did circuits on KADET, the latter being unfortunate in removing an aileron on the fence. The primary continued its ploughing and scattering.

Friday, April 21st.—Payne tried again for his five hours on the TUTOR, but after 4 hrs. 40 mins. he was forced to land through lack of lift. The G.B. soared about all day, A. G. Douglas making many excursions out of sight up-wind. Horsey followed this up with his "C." Slides and hops were committed by various members, new and otherwise, on the PRIMARY.

Saturday, April 22nd.—Wind very strong, N.W. Powell went straight up in the GRUNAU, turned round and came vertically down. We put everything away again.

Sunday, April 23rd.—Five Pilots did a total of 30 minutes' soaring between them on G.B.; circuits on TUTOR and hopper on the PRIMARY. Next Wednesday, much slidery and hopper.

Friday, April 28th.—Bucknall came and did some more circuits in the GREY KITE, others hopped and slid, and A. Graham Douglas and Ann Edmonds got married.

April 29th and 30th.—Hops, rains and gales.

Wednesday, May 3rd.—Training as usual. C. Annear got his "A" on the PRIMARY with a very nice flight of 36 seconds, and all three Morris brothers have now joined the club.

Thursday, May 4th.—Hatcher and Copeland came and gave each other launches on the CAMBRIDGE, and got in some good soaring on the six-mile beat.

Friday, May 5th.—The only happening was soaring on TUTOR by Arnold for 24 minutes.

Saturday, May 6th.—The new PRIMARY was rigged and test-flown, after which Colonel Murray did circuits and gained the first leg of his "B," the old PRIMARY continued in its usual manner, and circuits were made by TUTOR, BLUE GULL, and the new KITE of the Higson, Lavington, and Pears partnership.

Sunday, May 7th.—Both PRIMARIES very busy. The three Morris, two Soutars, two Gills, and others all hopped. Circuits on TUTOR, KIRBY KITE (Bucknall), Higson's KITE, the CAMBRIDGE, and Joan Price's BUSSARD, which she has just finished repainting, and looks extremely well in ivory with a flame streak.

The wind was extremely variable and once changed right round in the middle of a launch on TUTOR. Tovey released with just enough height to land in a tiny field on the opposite side of the lane.

Wednesday, May 10th.—The two primaries hopped and circuted all day, but the air was so lifeless that nothing remained up long enough for certificate purposes.

One of the retrieving cars has now been out of action for a fortnight, due to a blackbird which insisted on building a nest on top of the engine, very successfully using the plug leads as primary structure. She now has five eggs, and is sitting happily. We are wondering if running the engine for a short time each day would have the desired effect.

Standard Telephones & Cables, Ltd.

April 16th.—The gliding club opened with a demonstration of hill soaring by D. G. O. Hiscox at Romney Street Farm (Shoreham, Kent). In spite of very adverse conditions he managed three beats along the ridge on the east side of the valley as far as Eynsford. A "cold front" arrived immediately after the GULL had been de-rigged.

May 7th.—After three weeks of feverish activity of wing covering and painting, 17 *ab initio* members were given their first lesson in ground sliding. After the tea interval four of these were given a 20 m.p.h. slide, and the result shows early promise of "A" certificates.

The club extends a hearty welcome to members of other clubs and has arranged landing facilities at Upper Austin Lodge Farm, adjacent to Romney Street Farm.

[This is not the first time Eynsford has seen a glider. It was there that Percy Pilcher built his fourth glider, the HAWK, in 1896, and flew it in that and the following year. Once he crossed a valley 250 yards wide, towed by a fishing line, though history does not relate what, or who, pulled it. Perhaps Eynsford's oldest inhabitant could indicate the site.—ED.]

South African Gliding Association

The quarterly publication of the South African Gliding Association, *Gliding*, is appearing again after an interval of 12 months. The editorial address is: P.O. Box 2951, Cape Town. The January issue is entirely given over to a report, by Mr. H. G. Horrell, of the South African National Competitions and associated training camp, held last October, when nine competing machines put up 262 hours' flying and covered 1,295 miles in cross-country flights. An account of this meeting, written by Mr. Frank Hatfield, was published in *THE SAILPLANE* last December.

Bloemfontein Gliding Club

Some months back we had a major crack-up with our GRUNAU PRIMARY—one of our instructors tried a slow turn down-wind. Fortunately we profited from the misfortune, the stalwarts got together and decided that we should tackle the repairs ourselves. It proved laborious as we had to construct a whole wing, but it taught us a lot. In the meantime our new GRUNAU BABY arrived, but it was resolved that no one was to fly it until he had passed out on the PRIMARY; so all we could do was to get on with the job and admire and stroke the soarer as affectionately as we liked.

The primary is back in commission, and we have been asked by the local Agricultural Society to put on an exhibition—our GRUNAU BABY will be flown by a "Silver C" who is coming down specially from Johannesburg.

As a further step forward, and in order to prevent a repetition of the calamitous circumstances that put us out of the air, we have placed an order with Luton Aircraft for a DAGLING. That will bring the club's fleet up to three.

The prospects are now really bright, and although we have missed the best summer weather we are hoping to make rapid strides.

Other Gliding Clubs

Scottish Gliding Union.—According to Press reports, training this year was to begin on May 7th. During April members had been working at the Bishop Hill site, supervising the erection of a permanent hangar, decorating the new clubhouse, and laying new roads. Two summer camps have been arranged to take place at the end of July and the beginning of August. A German resident in Scotland, it is reported, has been engaged as trainer.

Elgin.—Gliding at the Elgin and District Gliding Club almost came to a standstill last year, the local Press states. Practically all the regular members have either left the district or given up the sport. Yet the subscription is only 10s. 6d. per annum. Club officials are making a drive for new members, and negotiating for a much bigger site, where auto-towed launches will be introduced.

West Riding.—The West Riding branch of the Yorkshire Gliding Club has secured a new site at Crow Edge, near Huddersfield, which is said to be an improvement on the old site at Harden Moss.

Bristol.—The local papers report an accident at the club ground at Leighterton Aerodrome, Tetbury, on April 2nd. Peter A. L. Gear, who had so far had about 30 or 40 launches, was auto-towed to 90 ft. and, after release, went into a spin and crashed, sustaining multiple fractures on the right side. During the night, in Stroud General Hospital, he died whilst under an anaesthetic which was being given to enable a compound fracture wound to be cleaned. At the resumed inquest on April 12th a house surgeon attributed death to shock following injuries, but considered that it was precipitated by the anaesthetic, and that the patient "must have been more deeply shocked than was obvious on the surface." Peter Gear was the son of the Rev. A. T. L. Gear. His home was in Lancashire, but he was a student at Filton Aerodrome.

Inverness.—The most recent news of the Inverness and District Gliding Club in the Press is that its headquarters are on the Longman Aerodrome, where launching is by winch and aero-towing is likely to be introduced, and that it possesses an open PRIMARV, a NACELLE glider, and a FALCON I.

WANTED

FULL-TIME GROUND ENGINEER—INSTRUCTOR

Apply to—Surrey Gliding Club, Buckland, Betchworth, Surrey

POCKET BAROGRAPHS

Leatherette covered steel and aluminium case. Size approx. $4\frac{1}{2} \times 3 \times 1\frac{1}{4}$ ". Weight 15½ ozs. Reads 0 to 15,000 feet. Records every 30 seconds. Accurate Calibration.

Price - 11 Gns.

Complete with 50 Gummed Charts, Ink. Key and Calibration Certificate.

INSTRUMENTS REPAIRED, CLEANED AND ADJUSTED.

Barograph Calibration Certificates prepared within 48 hours.

CHOWLES, Instrument Maker, WINSLOW, BLETCHLEY, BUCKS.

Proved by years of service to be the best instrument of its kind

THE COBB-SLATER VARIOMETER

ULTRA SENSITIVE
INEXPENSIVE

ACCURATE
RELIABLE

SIMPLE
NEAT

G. H. Stephenson commenting on his wonderful CROSS CHANNEL FLIGHT said: "The Cobb-Slater was about the only instrument we chose without hesitation for the 'Gull.'"

£6 : 15 : 0

Post Free in England

R. B. COBB, Instrument Maker, MATLOCK

Notice to Soaring Pilots and Prospective "C's"

IF you want soaring "par excellence" come to Longmynd and extend yourself. All we can offer you at present is a warm welcome, and soaring "ad lib" on what is admitted to be one of the best, safest and yet most dynamic sites in the Country.

On normal days there is hill soaring up to 1,500 feet, and an abundance of thermals of gratifying proportions—come and try them for yourself. Hill-top scraping may be good training, but we suggest you come and try out our six-mile site on Longmynd, and soar into the blue to your heart's content. We doubt if you will want to go away, for there is enough scope up there to satisfy the greatest gourmand.

Prospective "C" Pilots should remember that 14 ab initio "C" flights were done on one week-end in 1936, the greatest number ever in that time in England, with no breakages; and 51 more "C's" have been recorded since. We have converted a larger proportion of "A's" to "C's" than any Club in the British Isles; ask anyone who has flown there and get first-hand confirmation!

FACTS SPEAK LOUDER THAN WORDS

Club Fleet at Mynd—

2 KITES. 2 FALCONS.
1 TUTOR. 2 CADETS.
2 DAGLINGS (Nacelled).

Site—

Soaring beat 6 miles, averaging
500 feet above Valley.
First option on all West Winds!

For Ordinary Membership, Country Membership, University or Service Memberships, or Instructional Camps, apply to the Hon. Secretary, F. Leslie Felton, 1, Newhall Street, Birmingham. There are still a few vacancies left for the Whitsuntide and August Camps, starting on the 27th May and 5th August respectively.



FOX CLOUD BASE PREDICTOR

indicates directly without calculation the height of low-lying clouds. It forecasts possible clouding-over of a clear sky and also shows the absence of rising air currents.

NEGRETTI & ZAMBRA

38 Holborn Viaduct, London



ELLIS'S HANGAR

(No. A7)—As supplied to Gliding Clubs for the housing of Sailplanes, Gliders & small Airplanes. Carr. paid within 100 miles of works. Easy terms arranged.

£116/0/0



SPECIFICATION 50 ft. long, 30 ft. wide, 8 ft. to eaves, 15 ft. 6 in. to ridge. In complete sections for easy erection. Walls 3 in. T. & G. Stormlock weatherboards on 3 in. x 2 in. framing. Iron-bound roof principals 7 in. x 3 in. on 5 in. loose studs. Iron tie rods and brackets 10 ft. apart. Purlins 4 in. x 2 in. covered 3/4 in. T. & G. matching one-ply bitumen roofing felt, finished barge boards. Three windows each side 21 oz. glass. One end fitted with single hinged doors and light removable shutters. Two 5 in. x 4 in. raking struts as wind braces.

The 'RAINHAM'

Strong framing with 1 in. From weather-boards to string course. Upper portion of asbestos sheets with broad wood overlays.

Roof frames of principals and purlins with covering of Italian Pattern Galvanised Iron. Half glass doors strongly framed and braced. Despatched in sections, all nuts and bolts supplied.

12' x 8' x 6'	...	£13 11 6	16' x 9' x 7'	...	£19 9 9
14' x 8' x 6'	...	£15 3 3	20' x 10' x 7'	...	£24 10 9

Available on Easy Terms. Carriage paid in England and Wales.



ARMY TYPE HUT

Built in complete sections on strong framing covered T.G. and moulded weather-boards Suitable as store shed, canteen, etc.

16' x 12' x 7'	...	£14 3 0
24' x 12' x 7'	...	£18 18 0
32' x 12' x 7'	...	£23 16 0

Carriage paid within 50 miles.

Send for **FREE**
CATALOGUE

G. ELLIS & CO. Coombe Wharf, Gainsborough Road, Eastway, London, E.9



ALTIGRAPH PORTABLE MODEL

Specially introduced to meet the requirements of civil aviation, aero and gliding clubs, etc. Details of flight, such as time and duration, permanently recorded on chart. Invaluable for test flights.

Also Altimeters, Airspeed Indicators, Compasses, and all instruments necessary for aviation

SHORT & MASON LTD.

THE INSTRUMENT HOUSE

ANEROID WORKS, WALTHAMSTOW, E.17

Telephone—LARKSWOOD 3371 (6 lines)

DERBYSHIRE & LANCASHIRE GLIDING CLUB

THE NATIONAL GLIDING CONTESTS

to be held at

CAMPBILL, GREAT HUCKLOW
JULY 8—JULY 16

A GLIDING HOLIDAY AT CAMPBILL

SUMMER TRAINING COURSE

Open to Non-Members.

Please note alteration in date

AUG. 26—SEPT. 9

12 Gns. inclusive

Full particulars from :

Hon. Camp Secretary, A. G. SHEPARD,
55, Moorgate, ROTHERHAM.

SCOTT LIGHT AIRCRAFT

LIMITED

(formerly SCOTT & ZANDER)

Manufacturers of
GLIDERS
SAILPLANES
LIGHT AIRCRAFT

Designers and Manufacturers
of the Famous

"VIKING"

HIGH PERFORMANCE SAILPLANE

Primary Trainer	....	....	£57	15	0
Nacelle Trainer	....	....	£65	0	0
H-17 Sailplane	....	....	£125	10	0
VIKING	....	....	£265	0	0
Trailer for Viking	....	....	£36	0	0
Trailer for H-17	....	....	£28	10	0
H-17 Complete Kits with materials to finish	....	....	£57	0	0

SIDE-BY-SIDE 2 SEATER
VIKINGS shortly available £335

Suppliers of Aero Plywood
to specification B.S. I.V.34
and 4.V.3. Spruce cut to size.
Dope. Fabric. Sundries.

• •

Samples and Prices on Application.
Machines Overhauled for C. of A.
Instruments purchased from us
fitted free of charge at works.

• •

REPAIR WORK A SPECIALITY

• •

27, ALBION STREET DUNSTABLE, BEDS.

Phone 555

RECOMMENDED GLIDING CLUBS

London Gliding Club

(Affiliated to the B.G.A.)

Address:—Tring Road, Dunstable, Beds. (Tel.: Dunstable 419.)
Flying ground, Dunstable Downs (1½ miles S.W. of Dunstable).
Primary training and soaring. Clubhouse and hangar; sleeping
accommodation; 20 gliders and sailplanes for members' use.
Subscription, 3 guineas p.a. (country member, 2 guineas);
entrance fee, 2 guineas. Associate member, 2 guineas p.a.; no
entrance fees. Flying charges, from 3s. per day. Resident full-
time instructors. Flying on Sundays and every week-day except
Thursday. London Secretary: Arthur Sweet, F.C.A., 11, Bow
Churchyard, E.C.4. (Tel.: City 5997-8.)

Yorkshire Gliding Club

(Affiliated to the B.G.A.)

Secretary:—L. A. Alderson, "Malham," 32, Wensley Green,
Chapel Allerton, Leeds 7. Primary training and soaring.
Flying ground, Sutton Bank, between Thirsk and Helmsley,
Yorkshire. Clubhouse and hangar. (Tel.: Sutton under White-
stone Cliff 219.) Resident Steward; full residential facilities.
Full range of machines for members' use. Branch Clubs: Co.
DURHAM (Sunderland) and West RIDING (Huddersfield). Regular
Instruction Courses for Beginners and Advanced Pilots.

Newcastle Gliding Club

(Affiliated to the B.G.A.)

Secretary:—A. P. Miller, 25, Holme Avenue, Walkerville,
Newcastle-on-Tyne 6. (Tel.: Wallsend 63320.) Headquarters,
Primary and Secondary training at Cramlington Aerodrome
(7 miles north of Newcastle). Soaring site at Hartside. Club-
house, resident steward and residential facilities. Nine gliders
and sailplanes. Full time ground engineer. Subscriptions, 3
guineas p.a., 10s. 6d. entrance fee. Country members, 10s. 6d.
p.a. plus 2s. 6d. per day to 3 guineas max. Flying fees,
primary, 6d. per launch; soaring, from 1s. per launch to 5s.
per hour.

Southdown Gliding Club

(Affiliated to the B.G.A.)

Secretary:—S. G. Stevens, "Southerlea," Meadow Close, Hove,
(Tel.: Preston 3284.) Soaring at Devil's Dyke and Atlingworth
Ridge. One of the finest Primary and Secondary training sites
in England. Clubhouse and hangar ¼-mile S.S.W. of Devil's
Dyke Station. Subscription, 2 guineas and 1 guinea entrance.
Auto towing and winch launching facilities. Very moderate
flying fees and expert tuition.

Oxford University and City Gliding Club

(Affiliated to the B.G.A.)

Secretary:—Miss B. M. Nicklin, 532, Banbury Road, Oxford.
(Tel.: 58300.) Primary training and soaring site at the Lambert
Arms, Aston Rowant, Oxon, 15 miles E.S.E. of Oxford on the
Oxford-High Wycombe-London road and 39 miles from London.
Resident full-time Instructor: R. Kronfeld, A.F.R.Ae.S. Flying
every day except Mondays. Subscription, 3 guineas p.a. Entrance
fee, 1 guinea. Flying charges, 1s. to 2s. per winch launch.
Temporary (course) members, entrance fee, 1 guinea. Subscrip-
tion, 1 guinea per week. Flying charges, 1s. to 2s. per launch.

Scottish Gliding Union

(Affiliated to the B.G.A.)

Patron: Lord Weir. President: Hon. A. R. Boyle. Secretary
and Treasurer: R. B. Rogerson, 20, Blythswood Street, Glasgow,
C.2. (Tel.: Central 4209 and Shettleston 1328.) Main training
and soaring site and clubhouse: Feal Farm, Bishop Hill,
Lochleven, Kinross; also other training sites in other parts of
Scotland. Primary training and soaring. Full residential
accommodation, including rooms for married couples. Flying
and training every week-end, together with organised camps.
Flying charges from 6d. per flight. Soaring flight from 2s. 6d.
Subscription, £3 3s. flying member per annum. Associate, £1 1s.
per annum. Entrance fee, £2 2s. Full range of machines for
members' use. Large hangar accommodation.

THE

"RHONADLER"

Wings have just been recovered and C. of A'd. Now flying better than ever.

Owing to internal shellac finish when constructed, and to super care and storing ever since, it is said to be in better condition than any club plane to-day. All fittings in perfect condition; recently renewed. Cost price of whole complete outfit about £360

■
Anyone interested to purchase, write:

PETER DAVIS, Harpenden Common, Herts.

or

J. S. FOX, Rookery Wood, Rickmansworth

■
"Rhoadlers" constituted 60% of entries for last German competitions.

A golden opportunity for some lucky person.

FOR SALE**"SCUD II" and Trailer**

Flown few hours only.

£25 spent in 1938 on overhaul (not crashery) and not flown since.

First offer over **£25** secures. Instruments can be had.

Apply—

Walker, London Gliding Club, Dunstable

FOR SALE**MODIFIED "SCUD I"**

IN GOOD CONDITION

Has been auto-launched at 60 m.p.h.—seen flying. Trailer with Graiseley quick release car fitting for Minx. Canvas needs re-covering, **£20**

Turner Heavy Bungy, well preserved, **£5**

Cobb-Slater Variometer, **£5**

E. R. WILSON, 60, HIGH STREET, PWLLHELI

The Art of Soaring Flight

By

WOLF HIRTH

Translated from the German by NAOMI HERON-MAXWELL, with additional chapters by British and American Pilots

The world's best-known soaring pilots—Wolf Hirth, Robert Kronfeld, P. A. Wills, L. B. Barringer, J. S. Fox, Heini Dittmar, Peter Riedel, W. Späte, etc., etc.—have written down their latest experiences in soaring flight

Price 5s. Post free 5s. 4d.

214 pages, with numerous Illustrations

Obtainable from *The Sailplane and Glider*, 13, Victoria Street, London, S.W.1

Support Your Own Paper

BECOME A REGULAR SUBSCRIBER

TO 'SAILPLANE & GLIDER' - 10/- per annum
(Post Free)

PUBLISHER

13, VICTORIA STREET

LONDON :: S.W.1

PIONEERS 10 YEARS AGO

Right from the earliest days of Civil Aviation, Manufacturers, Operators and Owners of Aircraft realised the necessity of Insurance protection.

In 1924 this organization was formed to specialise solely in AVIATION INSURANCE and to meet the vital demand for adequate and reliable Insurance cover of British needs the world over.

Valuable pioneer work was carried out, and now it is recognised that the security of sound insurance has contributed a very great deal to achieve the stability that the British Aircraft Industry now enjoys.

The British Aviation Insurance Co., Ltd., after over 10 years of successful operation, can justly proclaim

RECOGNISED LEADERSHIP TO-DAY

Over 90% of the leading British Aircraft Manufacturing and Air Line operating Companies entrust their Insurance business to the Company.

In ever increasing numbers, private owners and those hiring Aircraft are realising the advantages of the sound Policies and technical appreciation of their needs.

Experience counts—the pioneer work of yesterday has been the foundation on which has been built the unrivalled leadership achieved by the Company in the Aviation World to-day.

THE

BRITISH AVIATION INSURANCE CO., LTD.

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

Telegrams :

Aviacoy, Lime, London.

Telephone :

MANsion House 0444 (5 lines).

Underwriter and Principal Surveyor :

CAPT. A. G. LAMPLUGH, F.R.Ae.S., M.I.Ae.E., F.R.G.S.

DUNSTABLE SAILPLANES

	Drawings.	Materials.	Semi-Manufactured.	Complete.
KESTREL Sailplane	£5 0 0	£24 10 0	£70 0 0	£110
KESTREL Secondary	£5 0 0	£22 10 0	£67 10 0	£90
DAGLING Primary	£2 10 0	£17 10 0	£39 10 0	£50

ALL MATERIALS AND INSTRUMENTS SUPPLIED
Spruce, Plywood, Cable, Dope, etc.

The Kestrel Fluid Light Aero Compass - 15/6

THE DUNSTABLE SAILPLANE CO.

(Luton Aircraft Ltd.)

Phoenix Works, Gerrards Cross, Bucks.

Telephone - 2545

BLUE PRINTS FOR AMATEUR BUILDERS OF THE "WOLF" SAILPLANE

The Complete Drawings for the utility Sailplane Type "WOLF" (50 sheets of 24 in. x 34 in.) are free for sale. The "WOLF" carries a German approved type certificate and also a permit for simple aerobatics. The price of £8 : 0 : 0 for the drawings includes the right to build one plane. For an additional royalty of £4 : 0 : 0 for each, more planes may be built after one set of drawings.

Sportflugzeugbau Schempp-Hirth, Goeppingen,
GERMANY.

DART AIRCRAFT LTD.

29, High Street North
Albion Street

DUNSTABLE, Beds.

Phone: DUNSTABLE 429

Construction and Repair of Powerplanes
and Sailplanes to A.I.D. Standards.

AEROPLANES and SAILPLANES to OWN
DESIGNS.

Reconstruction and Reconditioning of
HISTORICAL AIRCRAFT.

SUB-CONTRACT and EXPERIMENTAL
WORK relating to Aircraft.

Wind Tunnel and High Precision Models.