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The First Journal devoted to Soaring and Gliding



MAY 1948

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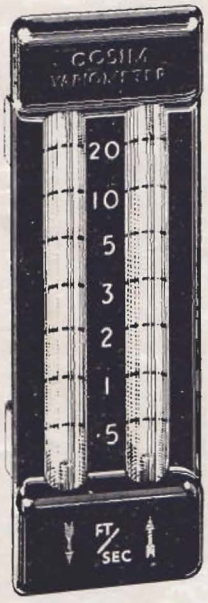
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THE FIRST JOURNAL DEVOTED TO SOARING AND GLIDING

MAY 1948 ★ Vol XVI No 5

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Airmanship

INTERESTED parties, both Service and Civilian, are waiting with the publication of the results of an exhaustive examination by the Empire Central Flying School as to the value of Gliding and Soaring to Power Flying and vice versa. Too many times in the past the Service experts in Great Britain have taken the position that Gliding and Soaring has no Service value, in spite of what are apparently outstanding examples that the opposite is true. Nowadays in view of the facts that France, Sweden, Spain, Argentina, Turkey and most of all (as well as most important of all) Russia, are subsidising Gliding and linking it to their National Defence schemes, they have been moved at least to put it to the test. This same question has been put by "Sailplane" to probably a hundred Power-pilots who have become Sailplane pilots, and those who have learned their flying the other way round. Curiously enough the only pilot who thought the two styles of flying had nothing in common was a Silver "C" who transferred from Flying Control to the General Duties Branch of the R.A.F. and got his wings. His view was that Tiger flying may have polished up his glider flying but that "the fan" and flying straight and level made comparison impossible. From that narrow angle that view might be correct. But it is not on that basis that gliding devotees lay their case. It is upon the much wider field of "Air-manship." Airmanship is not merely flying a machine up and down straight and level, and aerobatting. "Airmanship" is understanding the medium in which a pilot operates, using it, avoiding its dangers, and knowing when it is safe or dangerous to proceed.

It is surely no fluke that experienced pilots like Wills and Nicholson can go on pulling British Gliding records higher year by year. Two recent flights of theirs, on Sunday, April 25th, are the latest example of the claim that Airmanship is what counts. It was not a particularly brilliant day for a cross country flight (in spite of Anson's maiden cross country of 118 miles on the same day) yet from aero-towed launches at Staverton, near Cheltenham, Wills flew to Fowey in Cornwall, for a flight of 158 miles, and Nicholson got half way (to Chard) after a flight of 80 miles. Anson flew from the London Club to Winterbourne Abbas in Dorset. All these flights might have been achieved by a fledgling power pilot even on an early cross country flight, but he would be foolish not to attribute the journey to his machine first and his own skill as a pilot next. Whereas, although some Sailplanes are more efficient than others and "fly themselves," no one would place the responsibilit[illegible] r a successful height, duration or distance flight in the Sailplane first and the p[illegible]econd.

The claim that gliding b[illegible]nefits flying, comes in the early stages of *ab initio* when control, balance and approach are learned, and in the more advanced stages when "met. gen" becomes of real value in flight planning and execution. For example, we have heard of the B.O.A.C. pilot who, whatever his machine, always seemed to have a lower petrol consumption on the flight to Cairo than any other pilot on the run. It was discovered that the reason was that he habitually used cloud lift to gain height and was an expert at pre-front flying.*

This sounds reasonable at any rate, and is the sort of thing Gliding enthusiasts mean when they talk of "Airmanship."

The thing to be guarded against, therefore, is that the investigation by the Empire C.F.S. is not wide or comprehensive enough and that a narrower angle may result in an adverse report which may damn for ever any hope of real Service interest in Gliding. An adverse report might result in the end of A.T.C. Gliding and an affirmative answer might well lead to an extension of gliding in the R.A.F., and to help with non-Service gliding as well.

*(This was stated during a discussion with a British bird watcher from Egypt who was investigating how it was that small birds were able to fly such long journeys across the Mediterranean to and from Egypt. His observations on weather conditions and bird migration are promised for publication in "Sailplane"—one day).

PYRAMID WAVE SOARING

of

The Gliding Society of the University and City of Cairo in 1947 and 1948*

IT is to Professor A. Aziz, Professor of Meteorology in the University of Cairo and President of the late-formed Gliding Society of the University and City of Cairo, that the world of glider pilots is in debt for the inception and executing of the remarkable glider soaring done in 1947 and 1948, which attracted notice in the press of many countries and in the *TIMES* newspaper of London. The printed accounts have been too brief and the exact account now given is from the notes of the lecture by Prof. Aziz to the Society and on the reports of the pilot and Chief Instructor, M. B. Lague.

Most travellers in Egypt have for years remarked the Pyramid Cloud seen almost always on photographs; the Arabic name for this cloud means "The Umbrella of Khufu." In the strong prevailing wind of most part of the year this cloud is quite stationary over the Great Pyramid of Khufu at Gizeh. Meteorologists at once see this as a true lenticular cloud associated with air wave formations. But it was not before 1947 that Prof. Aziz made a special study of this and showed that the phenomenon has direct relation to the three Great Pyramids themselves.

The three Great Pyramids are Menkaura (66 metres) Khafra (145 metres) and Khufu (148 metres) and it is a notable fact that they stand in direct line with the prevailing wind. This is the clue to the making of the Umbrella Cloud. By Prof. Aziz's theories, high air "waves" are formed when 2 or 3 hills, mountains or other large obstructions are spaced according to the air waves. Each wave over an obstruction makes an artificial hill over which the preceding wave must climb to even greater height. This shows well in the diagram from Prof. Aziz's sketches. The topmost wave goes to the level of condensation where the Umbrella Cloud is forming. Near by such a cloud, large lift can be surely expected.

These theories gave to the new Gliding Society a first object of large scientific importance, to explore the supposed Pyramid Wave. Unfortunately no light aircraft was available for making the test flights or for towing gliders, and indeed the only gliders owned were two "Waco C-G-4a" types obtained from U.S.A.A.F. Disposals Unit at Almaza. This was a 15-place military type and was by many thought not at all suitable for soaring flight. But owing to the persistence and labour of M. Lague, our Chief Instructor, and to the good help of the students of the School of Aerodynamics in the University of Cairo with a workshop at Heliopolis near to our flying sites, one of these was modified into a good two-place glider. All military equipment was removed and much surplus structure and with necessary change of the C.G. it has quite a good performance as follows:—

Best flight speed	64.5 K.P.H.
Stalling speed	55.00 K.P.H.
Speed of Sink	1.2 m/sec.

Flying trials were first made with rubber cord starts and heights of 15 to 20 metres gained. For higher starts a winch was kindly lent by the Royal Air Force which was lying at Cairo West Airfield. On December 20th, M. Lague under the direction of Prof. Aziz made an essay of the supposed waves and from a height of 200 metres maintained position for several minutes. More promising flights were made but higher starts were needed.

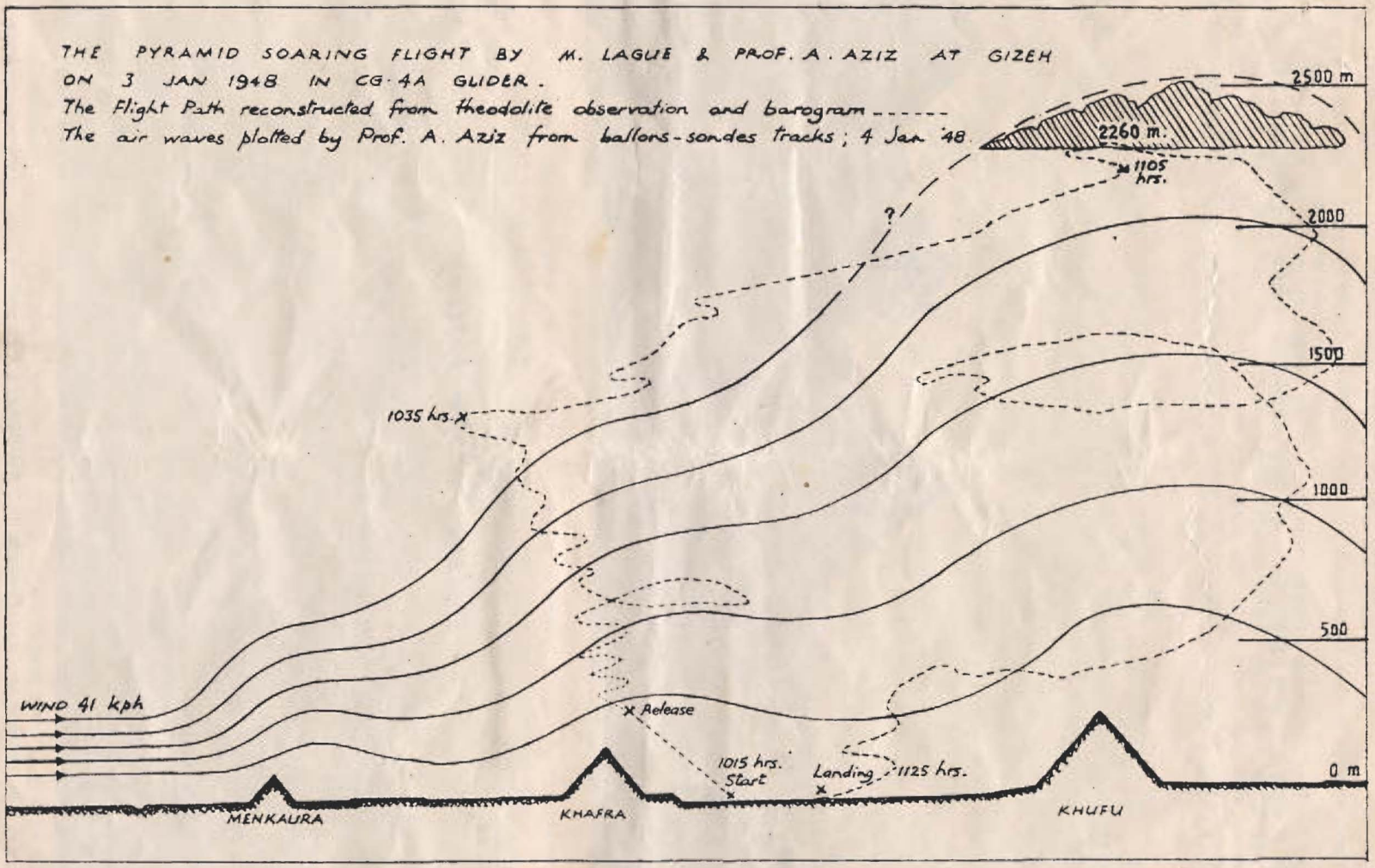
On January 3rd, 1948, trial was made of a winch start with a hook attached to the C.G. and a much bigger initial climb was made. M. Lague and Prof. Aziz occupied the glider on this great occasion. Their remarkable flight is pictured in the diagram and is plotted from observations with a theodolite to show the flight path.

Very smooth lifting air was found as predicted and on average showed 4.5 m/sec. and in a flight of 1 hr. 10 m. altitude of 2,265 metres was obtained by barogram. The glider was briefly in the base of the Umbrella Cloud for a few minutes. Unfortunately Prof. Aziz became ill at this time and the flight was not prolonged. In the course of landing the glider

(*Continued on page* 4)

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*R. K. Hafid,
Societé des Planeurs de l'Université et du Cité du Caire, Rue Abdul Hamid 42, Le Caire, Egypt. Tel: 76229.


THE PYRAMID SOARING FLIGHT BY M. LAGUE & PROF. A. AZIZ AT GIZEH
ON 3 JAN 1948 IN CG-4A GLIDER.
The Flight Path reconstructed from theodolite observation and barogram ------
The air waves plotted by Prof. A. Aziz from ballons-sondes tracks; 4 Jan '48.
2500 m
2260 m.
1105 hrs.
?
2000
1500
1035 hrs.
1000
500
WIND 41 kph
Release
1015 hrs.
Start
Landing
1125 hrs.
0 m
MENKAURA
KHAFRA
KHUFU

was damaged and no further trials have yet been made.

The next day Prof. Aziz made scientific observation by theodolite of the tracks of ballons-sondes released into the waves, and was so able to plot out the form of the waves with exactitude, as in the diagram.

It is expected that the glider will be ready for more flight by the Spring and an altitude of at least 3,500 m. is fully expected. The lifting air is certainly extended much above the area plotted on the diagram. The Gliding Society in the University of Cáiro will happily welcome any visitors from British or other countries who like to try this easy way to altitude for Gold C. and specially to any who bring their sailplanes for proper exploration of this very remarkable phenomenon.



The "CG-4a" approaching the pyramid of Khafra. On right, pyramid of Khùfu ; on left, pyramid of Menkaura.
(The lenticular clouds which surround the sailplane have not come out in the reproduction.)

Letter to the Editor

The Kemsley Newspaper Ltd. was so kindly to name me your organisation as the controlling body for gliding in England. So I am a Sailplaner by all my heart since some time I am looking for a group in England. But it was impossible to get an address. I am much delighted to hear of you through the *Sunday Empire News*.

You will know soar is forbidden in Germany. Yes, we have lost the war, and nowaday we know that we are much guilty. I don't know how you think about German youth, but let you say, we fought against the world because we was in mind to defend the culture and the life of our folk. You will know few about the system in which we lived since we were borne. Through all the years we heard nothing of the other parts of the world which was good. Yet war is over and we see the consequences ; we are awaked. Since this time we will work for a better world and for more love between the peoples. So the most of the youth think in Germany, and I hope that you understand our mind. But back to soaring. I am 19 years old and have flown the C-examination. Because it is impossible to improve the practical of flying I wish to change letters with sail-flyers in England. There is so much to tell and it will be a little step to a long piece and perhaps to friendship between the nations.

In hope that you fulfill my request in naming me one or two addresses of sail-flyers or groups in England.

Yours faithfully,

HANS DEUTSCH.

Germany-
American Zone,
Frankfurt a. Main,
Ruppertshainerstr, 14.

Soaring at Malvern—Easter, 1948

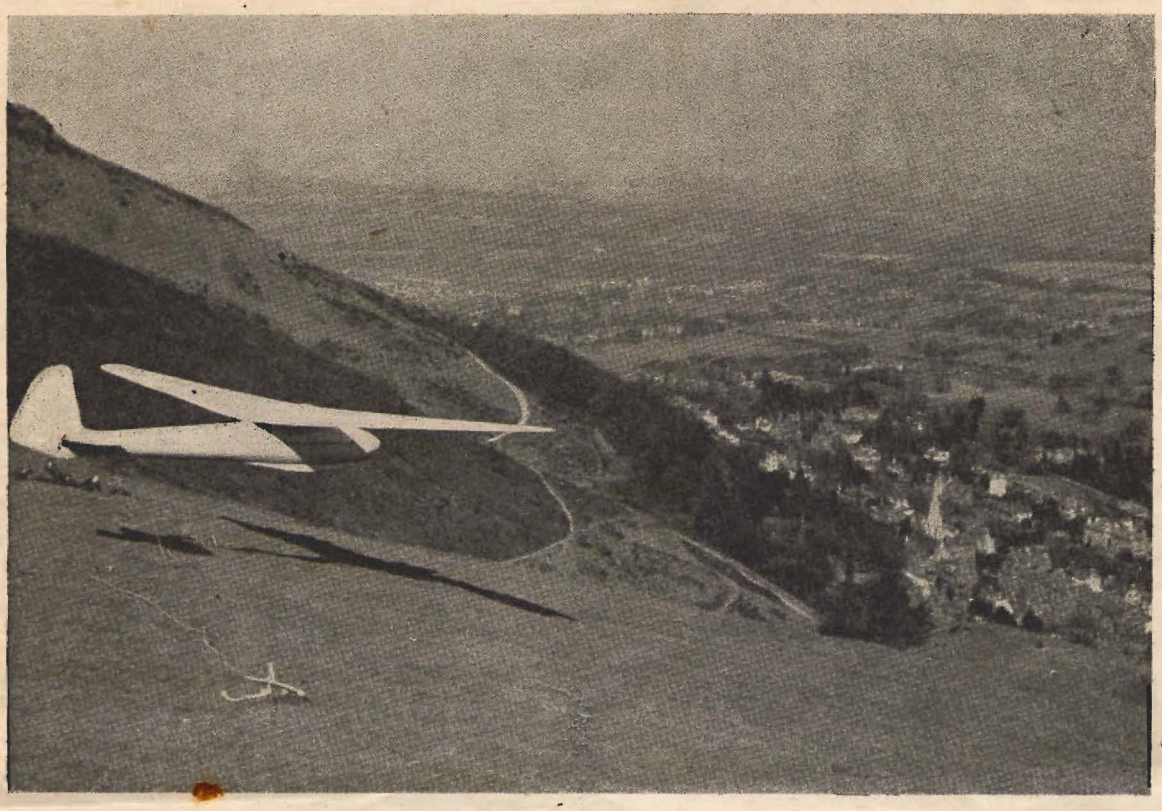
The Malvern Hills are a granite ridge six miles long forming the western boundary of the Vale of Severn. The Worcestershire Beacon, which is the highest point, is near the north end of the ridge and is 1,400 feet above sea level; the Herefordshire Beacon, a mile and a half to the south, is nearly as high and forms a projection from the ridge to the westwards with a deep bowl on the east side containing a reservoir. On the east side of the ridge the ground falls away steeply to the Vale of Severn, with the town of Malvern nestling close to the north end of the hill; on the west side the slope is more broken, but for much of the ridge there is still 600 feet of steep hillside overlooking the Herefordshire landscape.

The opportunity to try out this hill as a soaring site came at last this Easter, with the Cambridge University Club's "Olympia" and an enthusiastic team of helpers, most of whom, like myself, had been stationed at Malvern during the war. We arrived on the afternoon of Good Friday, to find a strong, stable east wind blowing up the slope and a textbook lenticular cloud at about 10,000 feet five miles to the west, with a train of lesser lenticulars stretching out over the Welsh mountains. In spite of this invitation, the party decided to prospect the hill by car before taking up the trailer, and it was not until 5.30 that a good bungy-launching point was located between the Beacon and the North Hill, with access for the trailer by the track leading up from West Malvern. By then it was too late to fly.

On Saturday the east wind was still blowing, and the clouds cleared by 10.30 a.m. I was launched at mid-day, and had no difficulty in remaining for the next four hours between one and two thousand feet above the hill-top. The lift extended along the whole ridge from Malvern Link to Castlemorton Common, and at least a mile in front of the hill; level with the summit it was more than 20 f.p.s. The inversion at 4,000 feet above sea level was easily reached several times in strong thermals. Unfortunately the lenticular clouds failed to develop, perhaps because the inversion was higher than the day before, and when, at 4.30, I flew off down wind to see if the wave itself was there, the result was a steady descent all the way to Hereford. Here a surprise awaited me, for the Hereford Aero Club gave me a fine welcome, and after discussing gliding over tea, towed me back to Malvern with their "Tiger Moth." I landed,



Landing near Great Malvern.



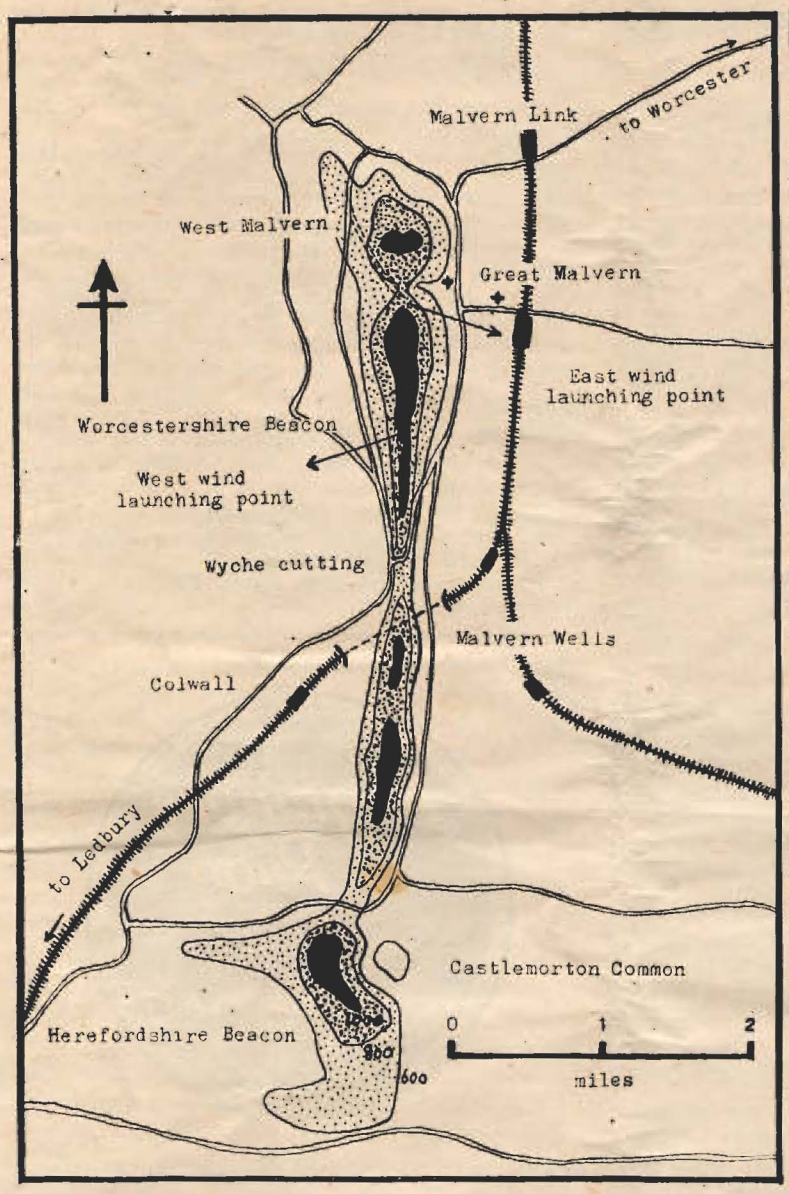
The East Wind Launching Point.

as arranged, in a hockey field below the town.

On Sunday the wind was still easterly, but much weaker. From a launch at 11.00 I flew for an hour below the level of the top of the Beacon, and the photographers on the top had a field day. In the afternoon I could only stay in the air for 40 minutes, and that was entirely in thermals coming up the east slope; once, down to 300 feet below the launching point and turning in and out of the houses along the Wyche road, I worked up to nearly level with the Beacon, but finally had to come in after flying over the whole of the town of Malvern below the tops of the steeples. The slope of the ground on which the town is built is steeper than the gliding angle of the "Olympia," so that for once really low flying over a town can be done in safety.

Monday was a failure, with rain in the morning, and a south wind in the afternoon. This is the one wind direction which the hill cannot accommodate, and though the clouds were very good a launch on the west side just south of the Beacon provided nothing more than a three minute glide to a landing beyond Mathon. At least we proved that a trailer can be driven right along the ridge from the West Malvern road to the Wyche cutting, and established a good launching point for the west slope.

Tuesday was to have been our day for going home, but the secondary depression obligingly moved up to the Isle of Man, and the wind veered to WSW during breakfast. Rigging on the ridge in a 30 m.p.h. wind was cold and strenuous, but the launch at 11.00 went without incident. It was extremely rough in the air. The beat was not so long as on the east side, as the hills near Ledbury blanketed the southern end of the ridge, but the broken cumulus took the "Olympia" up and down at 20 f.p.s. between 2,000 and 2,500 feet above sea level between the Wyche and the North Hill. At 1.00 o'clock the clouds looked good enough to go away, and the critical thermal took me to 4,000 feet above sea level, well behind the hill. Nearly at Bredon and down to 1,500 feet the next one went up to 6,000 feet, well into the cloud. The streets by this time had developed from SW to NE, with lift on the NW side, and all went well for an hour. Then high cloud



appeared and the cumulus were much further apart, so that on three further occasions I was down to 1,500 feet, the last time over Biggleswade, where a very slow ascent to 3,000 feet provided enough height to glide to Cambridge. I landed at 4.10 beside the Club's hangar on Marshall's Aerodrome, a goal flight of 108 miles and a satisfactory end to the expedition.

For anyone who wants a really exciting and versatile soaring ridge I can recommend these Malvern Hills. The access is good and the attitude of the Malvern Conservators was most helpful. The landings at the bottom are small but adequate, particularly on the east side; the only disadvantages are the absence of hill-top landing places and of a south wind slope.

J.W.S.P.

LATEST NEWS FROM FRANCE

It becomes monotonous to relate the performances in Wave-Soaring at the Saint Auban sur Durance National Centre, because their conditions remain the same; and the lack of oxygen, with cold, are always an obstacle for reaching bigher than 18,000 feet.

On the 8th January, Mrs. Sarlat, casting off at 1,315 feet, climbed to 17,598 feet. Turbulence was so great that her barograph ceased to turn. Otherwise, she would have broken by this 16,283 feet gain the preceding record of Miss Boselli.

On the same day, a two-seater gained 16,611 feet.

C.G. LAUNCHES

Letter to Editor

Dear Sir,

In view of Heinz Funk's current series of articles on C.G. launches in the SAILPLANE, the following idea may be of interest.

I would like to suggest that it can be made impossible to exceed the breaking strain of a glider. Suppose the towhook is made moveable in a vertical (to the datum line) direction, and so sprung that it will not move until a definite load, smaller than the breaking strain, is applied. It should be possible to so link it to the controls that this movement would apply down elevator, which would immediately relieve the load. It would have to be freed from the controls, I think, for free flight, although this might not be essential.

This system would greatly reduce the possibility of pilot error. It would have little or no effect on gust cases. Its weight might prove excessive, and any linkage with the controls impractical. However, perhaps it may provide a starting point.

A system of moveable towhooks has been used in a model sailplane for some time, with a rather different purpose (i.e. stopping and starting electrical apparatus) and has always had a 'snap action.'

Yours sincerely,

JOHN C. CLAPLIN.

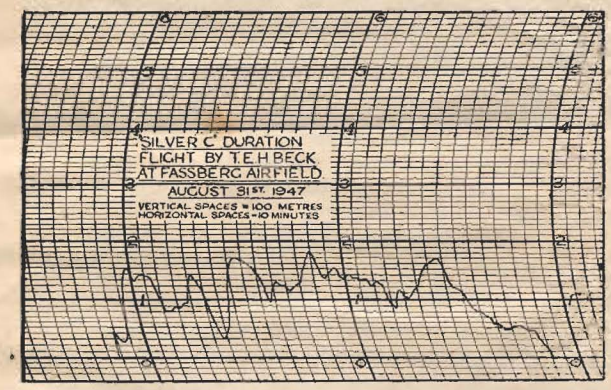
430, Wokingham Road,
Earley,
Berks.
26/2/48.

5 Hours, 20 Seconds

By T. E. H. BECK

ON Sunday, August 31st, as on any other full gliding day, I walked to the 135 Wing G.C. hangar hoping to do my 5-hours' duration. The soaring site at Fassberg possesses no ridge and so any duration flight from there must be made by pure thermal or cloud soaring, and on this day in particular, conditions seemed more than favourable, with only a light breeze blowing and a blue sky which was rapidly becoming mottled with swelling cumulus.

Our instructor, Herr Kronefeld, briefed me to make a 5-hour flight, and after a poor attempt lasting some 10 minutes we, e.g., the red Grunau " Baby " and myself were winched to 400 m., where I released at 11.47. The first results seemed worse than the former attempt. There appeared to be no vestige of lift and the altimeter needle kept jerking back, 50 metres at a time. At 250 m., down by the launching end, we were over a sandy patch when suddenly the variometer (dial type) woke up. The needle hesitated on zero, then flickered between plus and minus—a sure sign of weak lift. We turned and the flickering continued for a few turns, then changed to a firm ½ up : for a painfully long time



the altimeter registered no change, then reluctantly admitted that we were climbing and showed 300 m. The rate of climb improved to a full 1, then 2, 2½ and finally 3 up, till at 1,500 m. the thermal petered out, leaving us to stooge about vainly trying to reach cloudbase.

At 12.20 a savage " down " threw us down like a bomb to 800 m. to study the pattern of the woods around the airfield too closely to be happy. We struggled slowly back to 1,400 m., only to find another more vicious " down." Flying straight at 70 km. didn't cure the trouble, and not until we were at 300 m. over the winch did the nearest cloud arrive to restore the situation by pulling us quickly back to 1,700 m. The time was about 1.30, and only 2 hours had passed.

The next 2 hours dragged uneventfully in comparison, while we see-sawed between 850 and 1,800 metres, cursing bitterly for having omitted to put any cushions in the cockpit : back-ache finally got the upper hand and forced me to unfasten the harness.

At 3.20 we picked up one last healthy thermal and clambered up it to 1,700 m., but during the climb, all the blue disappeared from the sky and with it went every particle of lift.

Flying at what I imagined to be the best sinking speed, we were losing a steady ¾-metre per sec., and at that rate could not last out for the final hour.

Down, steadily down, and at 450 m., over Flying Control, feeling most depressed, I found Allan Pratt who'd j st returned from a triangular cross-country, and who was trying to spin his trip out to 5 hours. He had a shallow area of lift, large enough for two sailplanes circling side-by-side and so we both used it for 15 minutes, each occasionally gaining a little height and then losing a little. But that lucky find gave out too and a few minutes later we turned into the final approach and landed. I sat in the cockpit with a dismal feeling of failure but Kronefeld came up waving a stop watch and saying—" Five hours, 20 seconds."

And sure enough the barograph confirmed it !

N.B. All airspeed indicator, altimeter and variometer readings are quoted in Metric Units.



QUIZ.

1. What methods are in common use for launching gliders ?
2. What do we mean by humidity ?
3. What is a hygrometer ?
4. What is an inclinometer ?
5. What is (*a*) an isotherm ?
   (*b*) an isobar ?
6. How fast is a knot ?
7. What is a lenticular cloud and where is it most often found ?
8. What do we mean by " to level-off " ?
9. When is a machine nose-heavy ?
10. What causes " skidding " ?

Answers on page 16.

"Dismantling" at 16,400 Feet

A translation of Helmut Knopfle's account of the break-up of his Minimoa in 1938.

"AFTER having made three miserable attempts to get away on the 3rd of August, 1938, I took off for the fourth time by airplane tow. When, at the altitude of the Wasserkuppe I noted a weak thermal of 1½ ft./sec. and I released. However, I noticed a cumulus cloud tower overhead which was becoming darker and blacker at its base. With even spirals I climbed higher and higher. At the same time the lift was increasing. Soon it was 6½ ft./sec., then 10 ft./sec., and in no time I was about 2,300 ft. above the Wasserkuppe and close under the cloud. A quick glance to the left and right to check my chute connections and I was in the turbulent mass.

" All of my attention was centred on the bank-and-turn indicator—and then things really began to happen. Like an elevator, the ship climbed at 26 to 30 ft./sec. and while steadily circling, I was thrown out of the top of the cloud tower. There before me I saw a gigantic, lofty cloud mass. With quick decision I noted my position and waded in. In a few seconds I was being pushed up by terrific force. My variometers had gone crazy. One whipped up to its maximum of 16 ft./sec. and the other overlapped twice and finally indicated a climb of from 50 to 60 ft./sec. It took me 70 seconds to go from 10,000 to 13,000 feet. In spite of holding my 'Minimoa 38' in normal spiralling position, it didn't respond as in normal flight.

" Suddenly I felt a terrific jolt, another, and still more. The ship danced madly. With desperate will-power I concentrated on the yellow pointer before me which oscillated from left to right like the pendulum of a clock. Suddenly I heard a whistling as the ship increased speed. I attempted to pull it out. The tone got louder—the ship began to scream. As quick as lightning I reasoned that because of the seeming reversal of controls, the ship must be inverted. Carefully I tried to bring it around.

" There was another terrific jolt and a crash. I was being tossed through the cockpit cowl with tremendous force. My head ached intensely. I saw stars before my eyes and heard the rending and tearing apart of plywood—followed by silence—uncomfortable silence. Soon I collected my thoughts. My first sensation was that the parachute had not opened because I had felt no jolt or jerk. With my hands, I tried to reach through my legs to the seat pack. At the same moment I saw a loose chute strap dangling beside my head. I turned my head and saw the other one. By this time I could tell the chute had opened by the sound the wind made against it. I couldn't see because of the darkness, but I had the uncertain sensation that the chute had struck rising air currents and was ascending. Suddenly it became lighter and I saw over me the white canopy of my parachute. Then I fell into the centre of a cyclone—and I knew this because of lack of condensation. I looked down as through a gigantic tube and saw a little piece of the earth which occasionally became cloud blanketed. After I had lost about 3,000 feet of altitude, I was driven sidewise into the cloud mass. To my astonishment, in a short time I found myself at the top of the cyclone cone again. This was repeated four times before I finally began to descend.

" When I was thrown out of the ship, my head was badly cut and lacerated by the safety belt buckles which had torn loose, moreover, I must have bruised my neck severely, for in a short time I couldn't turn my head. In addition, blood was streaming over my face, leaving a trail of blood above me. Besides, the stomach and chest chute straps had been torn so that I hung solely by the leg straps. If at the moment the chute had opened I had been hanging head down, I would have fallen out of the harness—at an altitude of about 16,000 feet! Chills ran up and down my back at the thought of it.

" At last I came out of the clouds at about 2,500 feet. Below me a large city lay, which I thought must be Fulda. Now I was losing altitude rapidly but was being blown over a forest. I noticed small strips and splinters of my ship floating about me. Once, between 1,000 and 1,300 feet above the ground it became very rough. The chute was thrown around so much that for a time I was floating horizontally. Luckily it soon calmed down and drove me beyond the edge of the forest. In the fields bordering the forest I saw some people. I called, asking them to help me spill the chute as there was a strong ground wind blowing. Then I landed on a pathway 160 feet from the forest and 65 feet from a high-power line. Quickly the peasants were there and brought me first-aid. Ten minutes later, to my surprise, some flying comrades appeared, the ground crew of my friend, Opitz. They said that they had seen pieces of wing falling out of the clouds and a man hanging from a chute, so they immediately hastened to my assistance.

" A couple of hours later, while my head was being sewed and bandaged in a hospital in Fulda, I thought: 'In spite of this, I'll soar again'."

MOVING WAVE

Dear Sir,

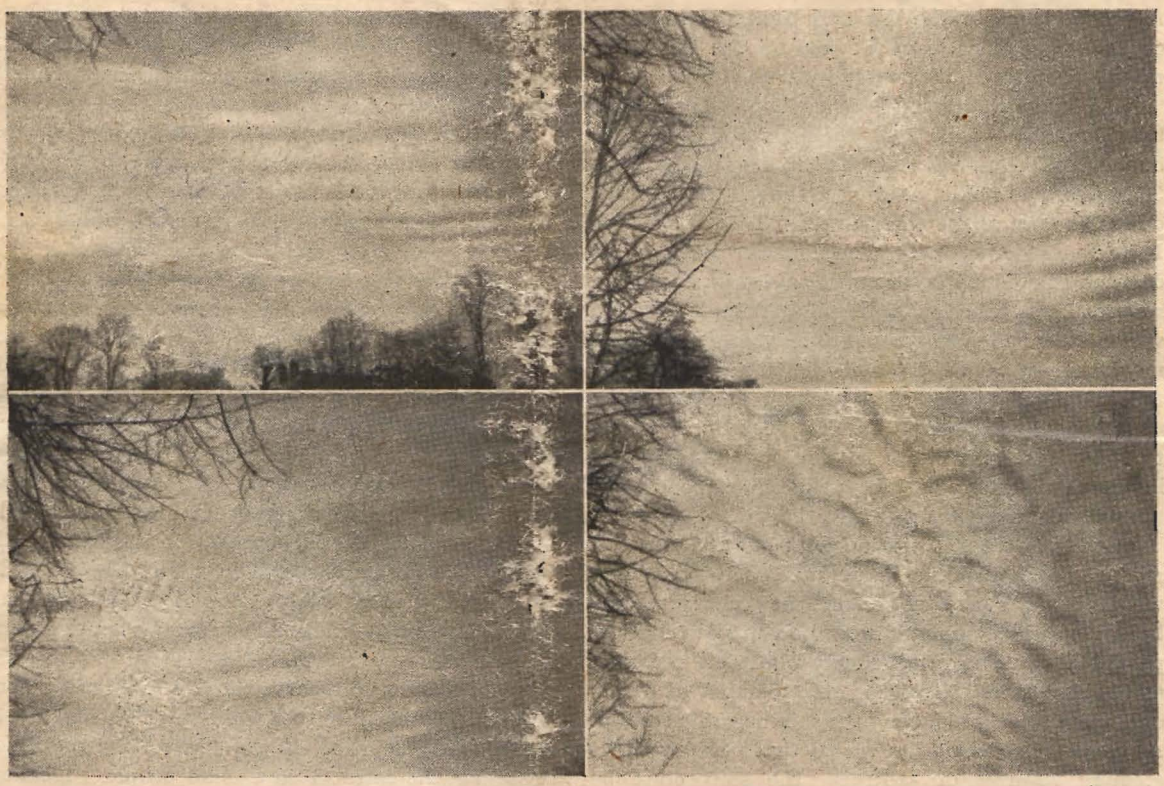
If, as one of your contributors suggests, standing waves are now the latest fashion, perhaps you may be interested in a moving wave I saw here recently and was lucky enough to photograph.

It occurred on Thursday, 12th February, at about 12.15 p.m. At the height of the wave there appeared to be a strong Westerly wind blowing, not immediately at right-angles to the cloud rollers. The wave was decaying fairly fast, ripples appearing in, literally, all directions, as can be seen. Previously the sky had been covered by cirrus and afterwards by altocumulus (photograph enclosed, please correct me on this.) The photographs were taken at roughly five minute intervals, and the whole phenomenon was over inside half-an-hour.

I have no information as to the meteorological conditions prevailing at the time; perhaps you can find out something about them.

Yours truly,
E. DEWING.

Emmanuel College,
Cambridge.
1st March, 1948.



Further to Mr. Dewing's letter, we find on application to the Met. people at the Air Ministry that on this day an Inversion occurred at about 13,000 feet in that district. We give the readings for 8 a.m. and 2 p.m.

		Temp.	Humidity	Wind
8 a.m.	At 11,000 feet	0°	17%	300° at 21 knots
	13,350 ,,	—4°	15%	280° ,, 42 ,,
	18,000 ,,	—6°	7%	280° ,, 81 ,,
	23,000 ,,	—30°	29%	290° ,, 87 ,,
2 p.m.	11,000 ,,	4°	18%	290° ,, 25 ,,
	13,460 ,,	2°	16%	290° ,, 44 ,,
	18,000 ,,	—8°	17%	280° ,, 65 ,,
	23,000 ,,	—27°	46%	290° ,, 99 ,,

The surface wind throughout the day was around 10 knots.

INTERNATIONAL GLIDING CONTESTS

Messrs. Thos. Cook's Itinerary

SUBJECT to prevailing conditions, Hotel, Train and Steamer accommodation being available and Passports with necessary Visas and Permits (including currency) being granted.

Friday, July 16th

London (Victoria) dep. 14.30 (B.S.T.)
Folkestone (Harbour) arr. 16.12
" " dep. 16.50
Calais (Maritime) arr. 17.20 (Fr. T.)
" " dep. 19.14
Dinner in Restaurant Car.

Saturday, July 17th

Bale (SBB) arr. 7.25
Breakfast in Station Buffet
Bale (SBB) dep. 8.48
Chur arr. 12.05
" dep. 12.27
Luncheon in Restraurant Car
Samedan arr. 14.44
Transfer to Hotel

Sunday, July 18th to Saturday, July 31st — **In SAMEDAN**

Sunday, Aug. 1st—*Transfer to Station*
Samedan dep. 15.30
Chur arr. 17.47
" dep. 18.10
Dinner in Restaurant Car
Bale (SBB) arr. 21.47
" " dep. 22.30

Monday, Aug. 2nd—*Breakfast in Restaurant Car*
Calais (Maritime) arr. 11.20
" " dep. 12.30 (Fr. T.)
Luncheon on Steamer
Folkestone (Marine) arr. 14.00 (B.S.T.)
" " dep. 14.40
London (Victoria) arr. 16.20

INCLUSIVE FARE

£38. 17s. 0d. each.

Subject to a minimum of 10 passengers travelling together throughout.

THE FARE PROVIDES

1. Travel Tickets Second Class and Saloon throughout.
2. Reserved seats on trains.
3. Meals en route as specified in the itinerary.
4. Hotel accommodation at ordinary second class establishment(s) consisting of 15 days' full-board accommodation in Samedan.
5. Gratuities to hotel servants to the extent of the accommodation provided, taxes as levied by the hotels and fees to waiters in connection with meals en route.
6. Transfers between hotel and station and vice versa.
7. General services of Cook—Wagons-Lits Interpreters at all principal points en route.

Incidental Expenses

Incidental expenses such as wines, mineral waters, fees to railway servants and porters for carrying baggage from trains, steamers or hotels to transfer conveyances and vice versa are NOT included.

Accommodation in London

Rooms can be reserved at any grade of hotel in London.

Travel in British Isles

Members can be supplied with return tickets from Provincial Stations to London.

Applications to 'Sailplane' Office.

Letter to the Editor

This tribute to Dunstable comes from a pilot who was at the time, a temporary member of the Club, and wishes to remain anonymous.

The scene is set in the London Gliding clubroom one dark February evening, where Lawrence Wright was planning the Sunday flying programme to fit in with a " met " forecast which had granted soaring possibilities until lunch time on the following day.

Two pilots were contemplating their five hours next day—George, a regular club member and myself, comparatively unknown, a temporary member recently accepted. As only one Tutor was available for these duration flights and one Cadet, it was decided that owing to the difficulties experienced in light winds on the ridge, to let me have the best machine whilst George agreed to struggle gamely with the Cadet—which he did, in an extremely commendable fashion.

Next point was the question of launching time as no reliability could be placed on the wind after lunch, whereupon Lawrence Wright called for a volunteer crew to get the machines in the air before 8 a.m. This entailed rising on a cold dark morning by 6.30 a.m. and I feel honoured to say, that all members present (men who had their own work and worries to contend with during week days and to whom Sunday represented an only day of leisure) offered their services immediately.

Tony Riley roused us at 6.15 and the launching crew turned out with an absence of grumbling on that cold windy morning which truly was a revelation to a newcomer, who found himself airborne at 7.45 a.m. as a result of concerted effort and unequalled selflessness.

Sweeping along that Dunstable Ridge in the gray light of morning, I glanced towards the lighted windows of the clubhouse where breakfast was being prepared and I was filled with an overwhelming sense of gratitude and pride. Gratitude to the pilots of this club who had given a visiting stranger all and more than a generous share of co-operation; pride in my belonging to a movement which could produce such people, and I resolved to share these sentiments with all who cared to join me.

Half an hour later, George, muffled up for the ordeal appeared on the ridge waggling his wings in a friendly manner.

21/3/48.

ANNOUNCING . . .

THE SLINGSBY "PREFECT"

The latest and most up-to-date Club Type Intermediate Sailplane

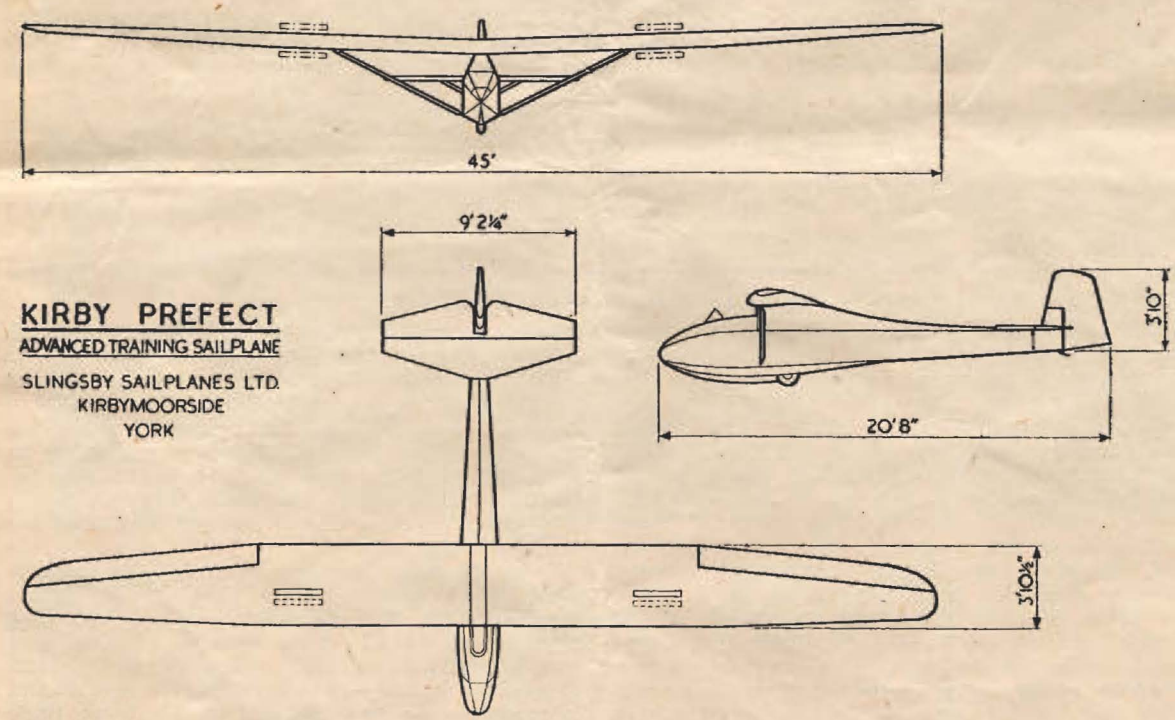
Designed for full compliance with the latest requirements for semi-acrobatic category, using new constructional methods ensuring great strength with low structural weight.

Roomy and comfortable cockpit—handling characteristics equal to the most expensive sailplanes—remarkable stability.

Best gliding angle - 1 in 22. *Lowest sinking speed - 2.75 ft. per sec.*

Price ex-works - £425

Provision for parachute, and complete set of instruments.. Wheel brake optional.

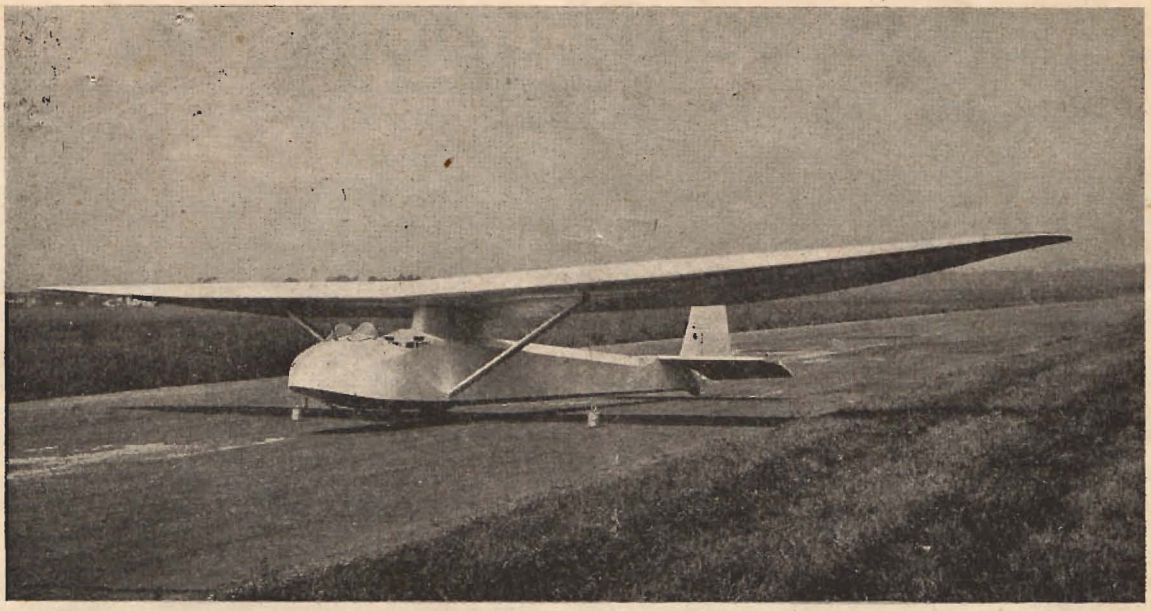


KIRBY PREFECT
ADVANCED TRAINING SAILPLANE
SLINGSBY SAILPLANES LTD.
KIRBYMOORSIDE
YORK

Designers, Manufacturers and Sole Distributors :—

SLINGSBY SAILPLANES LIMITED

KIRBYMOORSIDE, YORK.



The "SLINGSBY T.21 B" Side-by-Side Two Seater Sailplane.

DESIGNED from sixteen years' experience in development, construction and pilotage of all types of sailplanes, the "T.21 B" is the latest general purpose two-seater trainer for all stages of gliding and soaring instruction. A structure low in weight and of great strength, ensuring economical launching and maintenance costs.

Controls are as light and effective as a single-seater sailplane. Cockpit is roomy and comfortable with maximum vision.

Fitted for catapult or winch launch, and aero-tow up to 73 m.p.h.

The "T.21 B" is now used by the three leading gliding clubs of Great Britain.

Span	54 feet	Empty weight (equipped)	592 lbs.
Wing Area	260 sq. feet	Overall length	27 feet

PERFORMANCE WITH FULL LOAD.

Gliding angle at 42 m.p.h. ..	1 in 21.	Minimum sinking	2.7 ft. sec.
,, ,, ,, 52 ,, ..	1 in 18	Stalling speed	28 m.p.h.

Designers, Manufacturers and Sole Distributors:—

SLINGSBY SAILPLANES LIMITED
KIRBYMOORSIDE, YORK.

PIONEERS OF BRITISH GLIDING.

SWISS COMPETITIONS, 1947

G. D. WALL

(G. D. Wall was one of the three S.G.C. members who went to Samedan as British participants in the Swiss Competitions).

SAMEDAN is a small town 20 kilometres from St. Moritz, the journey there from Brig being by centre-toothed railway. The scenery was glorious, but despite the open windows and bracing air, I went to sleep soon after seeing the source of the Rhone.

On arrival, our hosts quickly fixed us up with scrupulously clean accommodation in the local school. We shared a dormitory with the French team in what was normally the kindergarten. This was quite appropriate for myself, but not for the French who were all Silver or Gold "C's." Afterwards they invited us to spend some days at Challes-les-Eaux, one of the five French National Soaring sites, where conditions are similar to a small-scale Samedan. I am very grateful to them for this, as well as for much needed navigational aid afforded on the night of the farewell party.

The Swiss provided two "Spalinger S.18's" between the three of us, excellent gliders with low sink but poor penetration. The only Swedish competitor, Cevers, flew one, and came fifth in the final placing and first of the foreign competitors. The Swiss had "Mosweys" with the exception of Schachenmann who flew the prototype W.L.M. This machine has many excellent points, and its large blown canopy is worthy of note.

The Polish team came with a prototype, the "Sep," a very big machine with full camber flaps, and spoilers under the leading edge. It was rumoured that with these partially extended there was some measure of boundary layer control, giving a sink of 2 m./sec. at 200 k.p.h. At high speed the "Sep" made the sort of noise which small boys make with comb and paper.

The French had "Nord 2000's." These are "Olympias" built in France to the "Meise" drawings with available timber, but without redesign. Only ten were made and snags have been encountered, particularly vibration at speed. The French had little confidence in them, gradually becoming less critical of the greater weight of our own "Olympias."

The Czechs had "Weihes" and a German "Meise." Egypt was represented by Kamil Hassan flying a "Kranich," with the biggest oxygen cylinder I have seen outside a welding shop in the back seat. It did not affect the machine's performance, which seemed marvellous for a two-seater.

Of the pilots, they were Silver "C's," with the exception of two Gold "C's" and five ordinary "C's" (including Hugh Kendal who had not bothered to fill up the Silver "C" forms, an eccentricity much admired by the Swiss).

Soaring at Samedan is as easy as falling off a rock, and the sensation is much the same in a high wind, and one has to be careful. The aerodrome lies in a straight valley some 50 kilometres long, with Maloja at one end and Zernez at the other. Under certain conditions a valley wind, called the Maloja, blows from the south-west on to a face which rises sheer from the valley floor just by the aerodrome. During our stay this wind would reach light breeze force by 11.00 hours. The technique in Maloja wind conditions is to glide to the face from a winch launch and soar up it. Under sunny light wind conditions the lift is thermodynamic, so that in order to get lift off the slope it is necessary to fly close to the face, and at a good speed to allow for local turbulence. On reaching the top at the Muottos Murail, a climb of 500 metres, the next step is to climb in thermal lift in order to glide to the higher slopes, use the dynamic lift off them, find another thermal, and so on.

The theory is beautifully simple—use the slope facing the wind, and then collect a thermal off the top. The chief difficulty, however, is that the local wind on the slopes seems to come from any direction except the expected one. The prevailing wind is south-westerly, and it seemed reasonable to me, poor fish, that the wind on the slopes in the valley, unscreened by taller mountains, would also be south-westerly. One slope in particular looked promising, above the treeline, with its bare slopes full in the sun. It should have given lots of lift, so I tried it several times, but each occasion only lost all my hard-won height, later discovering that the local wind was north-east.

On another occasion I also attempted to find lift in a downdraught, this time on the Piz Mezzaun, a barren, rocky mass that rises 1,300 metres in 1½ kilometres from the valley. It is light grey in colour, and looks like a giant slag heap. When flying close it is possible to see the contorted strata. It is all rather awe inspiring. Once again I tried the south-west side and came down like a ton of bricks, the local wind again being from the north-east.

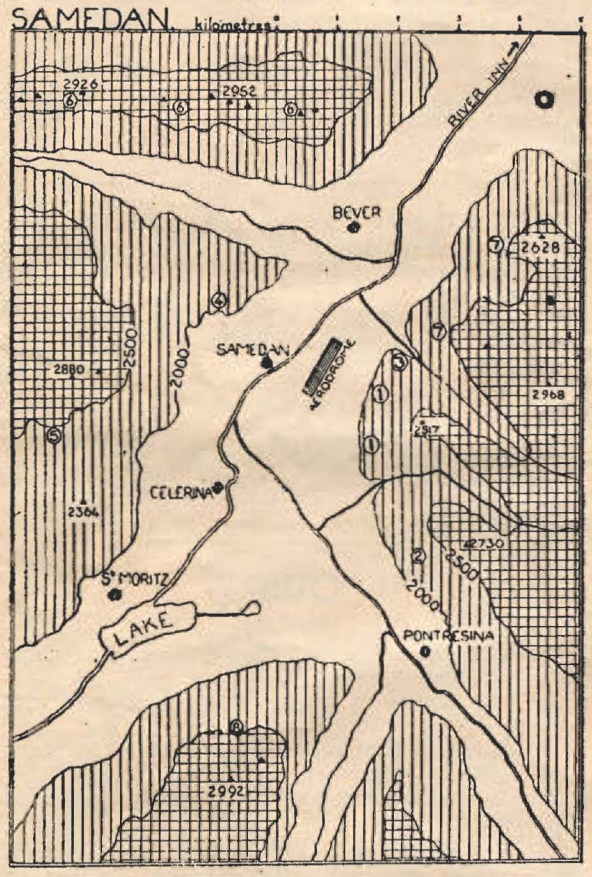
One evening I was 300 metres above the Piz Mezzaun, watching the hawks or eagles flying along the ridge of the peak on the northerly side, following every twist and turn of the precipice. A little later I tried to do the same thing, but only lost height. It may have been easy for them, but rate 4 on the turn and bank, jagged rocks just off the wing-tip, and lots of nothing underneath do not make it easy.

The downdraughts occur on the lee side of mountains, or on the windward side when the mountain is screened by another. This is simple, but the difficulty lies in finding the direction of the wind. Fortunately in high winds, when downdraughts could be dangerous, the wind has a fixed general direction, and if, at Samedan, one got into a downdraught in one of the tranverse valleys, there was usually sufficient fall away of the ground to allow for a dive back into the main valley. Perhaps the

most unpleasant feature of the strong downdraughts is their extreme turbulence.

In light wind conditions, the downdraughts are not very powerful (famous last words) and sometimes thermals are sufficiently strong to give lift in predominantly failing air.

One day, when a front was passing through, I was at cloud base about 15 kilometres from Samedan with dirty weather in between us and a fairly strong wind. It seemed time to go home and have a coffee, as it gets just as cold at 4,000 metres at Samedan as anywhere else. My " S.18," christened CRASTAMORA, had rather lost the first flush of youth, and as I understood that it had been built by a manufacturer of (excellent) straw hats, one way and



AERODROME in flat-bottomed valley, 1,710 metres above sea level.
Height of peaks in metres.—Ground above 2,000 metres:
Ground above 2,500 metres:

another I had some qualms about very high speeds, especially as she shook with the brakes out when over 95 k.p.h. Anyway, I turned for home, unluckily in an active part of the front, and just went on climbing. There was nothing for it but to about face and leg it for the end of the valley in front of the storm. This was done very rapidly, but on reaching Zernez I was still at 3,500 metres, and the end of the valley was sealed by a mountain which was producing considerable slope lift. It took me an hour to get down, the final stage, once I had managed to descend to the level of the peaks, being in a carefully selected downdraught. I actually landed downwind while still in it.

The small boys arrived fairly soon, but not soon enough to steady my hand lighting a much needed cigarette. Language was rather a problem as the boys of Zernez only spoke Romanch, which is something like Latin. Fortunately one spoke German, so with much handflapping I made myself understood. Thanks to the downdraught, I was in the middle of the strip in almost complete calm to the lee of the mountain, so the wind would blow first from one end of the strip and then from the other. By this time it had started to rain in earnest, and everybody was under the wings. With the small boys was a little girl with a very small child in a pram, which every time the wind changed had to be wheeled round to the other wing. He did not like the rain, and howled his head off.

Soon the boys left to wait for Hans, an ex-Luftwaffe pilot, and our very able aide, who was collecting me. Hans spoke perfect English, was very fit, and a bit of a poet.

By the time " Crastamora " was on the trailer everyone was soaked and cold ; so we stopped at an inn for sweetened tea laced with brandy, and compared experiences. It made me feel that if there were more international " do's " like this one, people might understand each other a good deal better.

The road home was terrible—full of potholes and flanked by a ravine. Occasionally we passed possible landing fields, but there were guaranteed to break any glider ; their real snag being large numbers of four-foot boulders.

To return to some conclusions reached. Apart from skill, experience of the district helps considerably ; thermals seem to start from the same spots despite varying weather conditions, and local wind effects are fairly marked. Conditions were similar at Challes-les-Eaux.

I should say that as a general rule it pays to concentrate on thermals and not worry about slope soaring as such. Catching thermals from the slopes involves circling quite close to the face, and this is difficult as there is no normal horizon, and consequently (I found) a tendency to raise the nose turning into the mountain. It seemed necessary to use instruments a good deal to assist accuracy.

Another thing which struck me was the necessity for " pressing on regardless " if one wanted to win points, to gain as much height as possible, even though this might seem unnecessary, and one was shivering with cold. Do not waste time ; marks are given for speed round the circuit, and for climb. The skilled competitors would dive at terminal speed, after reaching the top of any thermal, to the lowest point where they could guarantee to pick up more lift.

The whole meeting seems to have been a great success. We, at any rate, thoroughly enjoyed ourselves. Organisation and co-operation were good, and hospitality could not have been greater. Everyone did their utmost to help, from the bank manager, who got us an exchange permit without hours of

form filling, to a stranger I had never seen before and never saw again, who lent me his raincoat but not his name or address.

Some Extracts from the Briefing given to Foreign Pilots at Samedan.

1. Always have plenty of speed while slope soaring as the mountain sides, particularly below the treeline, are covered with obstructions, and one must always be ready to turn sharply away from the slope.

2. Apart from high-tension cables, of which there are few on the mountain sides near Samedan (although there are plenty in the valleys), the most dangerous obstructions are the cableways used for transporting logs. These lie close to the surface on gentle slopes, but stand well out from the rocks when the face is very steep. Slopes showing signs of tree felling should be suspect.

3. Great care is necessary when circling near a mountain side, and a generous allowance must be made for drift. Except where there is good thermal lift in the valley well away from the hillside it is usually inadvisable to circle in lift at any rate below the treeline.

4. One must continually attempt to estimate the local wind direction in relation to the surrounding slopes and peaks. The deflecting effect of the side valleys on the general wind direction must be borne in mind.

5. When slope soaring, before crossing from one mountain to another which is not adjoining it is worth consulting local people as to the minimum height as which it is safe to attempt the crossing. This applies particularly if one is crossing to a slope which may have downdraughts and serious turbulence lower down, even if the hill lift is good above a certain level. Thus, it is inadvisable to cross to the southern face of the Crasta Mora in a south wind unless one can reach it above the lower limit of the bare rock.

6. Thermals sometimes combine with the hill lift and roll up the mountain side, and sometimes rise straight up in the valley, depending on the wind strength, the steepness of the slope, and the lapse rate.

(Reprinted by permission from the Surrey Gliding Club Year Book)

Soaring Association of Canada

THE Treasury have ruled that gliders are in the same category as aircraft and that registration will have to cost $5.00 instead of the $3.00 which had been originally proposed.

Glider Fabric.

Approval has been received from the Department of Transport for use of madapollam fabric Specification DTD 343 as covering for aerofoil sections of gliders of wing loading less than 4 lbs./square foot with or without plywood backing. Supplies of this material are understood to be short, but it is expected the position will improve in the future.

SLINGSBY SAILPLANES

WE are pleased to be able to include a full list of the latest single-seater Slingsby prices, both completely made up and in kit form.

Description.	*Ex works (England)*	*Crated for export.*
CADET (full kit form) ..	£200	£215. 12s. 0d.
,, (wings made fuselage kit)	£261	£281. 0s. 0d.
,, (completely made-up)	£325	£352. 10s. 0d.
TUTOR (full kit form) ..	£230	£245. 12s. 0d.
,, (wings made, fuselage kit)	£294	£316. 0s. 0d.
,, (complete) ..	£360	£391. 10s. 0d.
GULL 1V (completely made-up)	£625	£651. 15s. 0d.

The above prices do not include general shipping charges. These can be quoted extra for any particular enquiry.

MR. PHILIP WILLS has not broken his own goal flight record of 140 miles, set up last June, as reported in "*The Times*" and elsewhere. Piloting his "Weihe" sailplane he flew from Staverton aerodrome, near Cheltenham, to Fowey, Cornwall, on Sunday, 25th April—a distance of 158 miles, but he had declared his goal at Culdrose, 188 miles away.

Flying the same course as Mr. Wills, Mr. Christopher Nicholson reached Chard, 80 miles from Staverton.

Both Mr. Wills and Mr. Nicholson will be in the British team at the International Gliding Contests in Switzerland.

QUIZ.

ANSWERS

1. Handlaunching by "bungy," power launching by winch, automobile or aeroplane.

2. The degree to which the air is charged with water vapour.

3. A hygrometer is an instrument for measuring the humidity of the air.

4. An inclinometer is an instrument that indicates the angle of bank.

5. An isotherm is a line on the map joining up places with the same temperature; whereas an isobar is a line drawn through places having the same barometric pressure.

6. A knot is a velocity of one nautical mile per hour.

7. A lenticular cloud is roughly in the form of a double convex lens and is most often found in areas of standing wave phenomena.

8. To revert to level flight after having made a dive, climb or glide.

9. A machine is said to be nose heavy if the nose tends to sink when flying hands-off.

10. Sliding sideways out of a turn, or "skidding," is caused by trying to make a turn with insufficient bank.

ULTRA LIGHT AIRCRAFT

DETAILS of a new British ultra-light aircraft—the " Herald "—were announced at the annual meeting of the Ultra Light Aircraft Association at Londonderry House on Saturday, April 10.

Group Captain E. L. Mole, chairman of the Design Committee, said construction of a prototype was well under way by Hants. and Sussex Aviation, Ltd. It will have a 40 h.p. J.A.P. engine and it is hoped that kits of parts will be made available for group construction by U.L.A.A. members.

The " Herald " is a low-wing cabin single-seater of an all-up weight of 800 lb. Span is 29 feet. When folded the wings take up only 9 ft. of space. On 6¼ gallons of fuel the " Herald " will have a still air range of 155 miles and an endurance of 2.07 hours at sea level or 160 miles and 2.41 hours at 5,000 feet. Top speed will be over 90 m.p.h.

News of other ultra-lights now being built or reconditioned was given at the U.L.A.A. annual meeting, and the chairman and secretary, Mr. R. W. Clegg, said : " The period of waiting is almost over and the day when ultra-light aircraft will be free to fly where they will is just round the corner."

Group Capt. Mole said steps are being taken to get design approval by the Air Registration Board of the Chilton monoplane, built before the war under the " Permits to Fly " scheme, so that it could go into production.

There had been considerable activity in regard to post-war designs, the most advanced being the " Tipsy Junior," built in Belgium. Two prototypes had been flown, the first with a Walter Mikron engine, the second with a J.A.P. motor lent by the U.L.A.A. It was likely to be the first post-war ultra-light to get a C. of A. and it would probably give demonstration flights in various parts of Britain this year.

Flight tests had been made with the Slingsby " Motor Tutor," which is a " Tutor " glider with a small engine fitted to the nose. Slingsbys were now awaiting another engine of rather more power from Coventry Victors. This ultra-light should be useful for converting glider pilots to powered flying. Other designs now being actively worked on included Mr. G. D. Bedson's J.A.P.-engined " Resurgam "—for which a materials licence had been obtained to enable the prototype to be built—and one projected by two students at the de Havilland Technical School.

Mr. Rose Dale announced that one " Dart Kitten," one " Dingbat " and two " Luton Minors " are at present being re-built ; that three " Luton Minors " and one " Heath Parasol " are being built " from scratch " ; that the Bournemouth and Christchurch group are planning the construction of the " Heron " pylon-braced monoplane ; and that three sailplanes are being modified to take auxiliary power units.

There was also news about engines for ultra-lights. Group Capt. Mole said the position had considerably improved. The batch of J.A.P. engines the Association had been able to buy, thanks to a £500 loan from the Kemsley Trust Fund, would see them through 1948. Looking ahead, the two main types of engine they would need were one of between 40 and 50 h.p. and another of between 25 and 30 h.p. for motor gliders.

He had been able to interest several engine designers and one well-known motorcycle manufacturer who could not at present be named had promised to build three prototypes of a design—the " Ula "—for the larger engine this year. This man had an eye on the U.S. market. Another engine " coming along " had been designed by the designer of the Cross rotary valve and the Coventry Victor Co. were converting an existing motor as a 25 h.p. unit for motor gliders.

It was also stated that it was hoped to make 35 or 40 J.A.P. engines soon to U.L.A.A. members for £50 or £60 each. The price to non-members would probably be £75. The J.A.P. engines bought by the Association had been in store since 1939. They are being re-conditioned, tested and approved for flight by the A.R.B.

Group Capt. Mole explained what has happened about permits to fly. He said he had hopes that the Ministry of Civil Aviation would agree to issue permits to fly for all ultra-lights built to successful pre-war designs up to the end of 1948 if started before August 6, 1947. At first M.C.A. agreed to re-issue permits—subject to inspection—only to aircraft which had them before the war and had flown successfully.

They had persuaded the Ministry to extend this concession to include all aircraft of pre-war design that had flown successfully prior to August 6, 1947. They had brought in a few more planes and the proposed extension to the end of the year would secure permits for five or six more that had not flown by August 6 last.

The Ministry did not like permits very much and the Association agreed that a modified Certificate of Airworthiness would be better. The A.R.B. had now prepared the draft of a modified C. of A. for ultra-lights which awaited the formal approval M.C.A. The A.R.B. had been most sympathetic and co-operative. While the modified C. of A. was being approved members of U.L.A.A. could go ahead with the construction of ultra-lights to designs based on the new, simplified requirements.

COURTENAY EDWARDS

Want to Fly Cheaply?

Then you should investigate U.L.A.A.

Group-operated home or factory built ultra light aircraft offer the very cheapest form of non-subsidised private flying. This is what U.L.A.A. is sponsoring, so why not find out more about this rapidly expanding national organisation ?

Full details on request from : **HON. SECRETARY,**

ULTRA LIGHT AIRCRAFT ASSOCIATION

15, Westbourne Park Road, London, W.2.

Telephone : BAYSWATER 7391

NEWS FROM THE CLUBS

THE PORTSMOUTH GLIDING CLUB

Saturday, 13th March. The nacelled " Dagling," built by members of the club, was rigged and test flown by Bert Parslow, our C.F.I. The flying capabilities were satisfactory in every way and the machine flew steadily hands off. As no " mods " were necessary training began straight away and a large group of members slid, hopped and circuited the new aircraft until night fall.

Sunday, 14th March. The " Dagling " brigade were hard at it again and great progress was made in training. Peter Davis qualified for his " A " and several members from the power section, who have joined us, had their first experience of flying without a fan.

During the afternoon Parslow and Fripp brought out their " Ventura," now fitted with a moulded enclosed cockpit hood and a belly hook. Using only a comparatively short length of cable, heights of 1,100 feet were reached and the enclosed hood improved the performance at the expense of acute melancholia, brought on by the passing of delightful carefree flying in inefficient open cockpits.

Friday, 26th March. The wind being east and strong it was agreed that training was out of the question and the " Ventura " was taken to Lychpole Hill, near Worthing and Bert Parslow was launched in an attempt for his Silver " C " duration. Thermals were very rough and in the order of 5 metres per second, but owing to the rapid drift downwind 1,700 feet was the maximum height obtained. After 1¼ hours the wind dropped for about ten minutes and unfortunately Bert had to land below in a barley field.

Saturday, 27th March. The day was cloudless, as was yesterday, but the wind was stronger and after rigging the " Ventura " once more on Lychpole Hill, Ken Fripp was launched at 1.50 p.m. Thermals were again very rough but by flying upwind with the variometer registering 6 metres per second, 2,000 feet was obtained several times and once with the aid of two quick circles as the far edge of the thermal was reached, 2,300 feet. A visit was made to the next range of hills upwind, the old Southdown Gliding Club's site at Steep Down, Lancing, where Fripp started gliding fourteen years ago. Finally a landing was made back at the take off point at 7.10 p.m.

Sunday, 28th March. The wind veered round to South and moderated. The " Dagling " was brought out and some good training was put in by a large attendance of members.

Monday, 29th March. The " Dagling " was brought out early but after four rather hectic flights training had to be suspended. The conditions improved after lunch and flying was resumed. We were pleased to welcome Frank Giles and Peter Sullivan, two more members of the power section who had their first slides and hops. It was interesting to note that one undercontrolled, which was to be expected, and one overcontrolled, which wasn't.

SCOTTISH GLIDING UNION

Mist on Sunday, 7th March, cut the number of launches down to 19, a disappointment after the 48 launches of the previous week. March 13 and 14 saw a party of enthusiasts toiling behind a tractor towing sections of our hut up to its wooded site on the shoulder of Bishop Hill. The tractor was piloted by Don Miller, who achieved a magnificent angle of bank on the trips up-hill. It was surprising how many people found it more comfortable to walk on the way down . . . For most of us, it was our first time at the soaring site, and the view and possibilities of the sheer drop down to Loch Leven took our breath away. We tried out the second winch on the 14th, and began gliding late in the afternoon.

Sunday, 21st, was a day of wind and rain, but on Saturday, 27th March, the Keen Types turned out again, this time to cart over ten tons of stone and rubble up the Hill and to lay some seventy-five yards of road.

On Easter Sunday, a strong easterly wind obviated " Dagling " training and dispersed any thermals there might otherwise have been, but the " Tutor " and " Cadet " pilots took the advantage of 1,000-foot launches. Andrew Thorburn found " plus 6 " climb for a little, downwind of an accidental fire among gorse-bushes, but the rest of us did not even smell the smoke. We were delighted to see Donald Campbell's "H.17" in the air again.

MIDLAND GLIDING CLUB

January, February and March

Full scale winter soaring seems to have come to stay. The first quarter of this year has seen an unusually large amount of activity at the Long Mynd. The total flying time was augmented by the visits of members of the Bristol Club whose " Grunau " was stabled at the site, and by a camp held by the Cambridge University Club in March.

Flying time up to the 31st March totalled 222 hours, toward which the Cambridge Club contributed 62 hours during their eight day camp. The best single day during the period was 20th March, with a total of 62 hours 46 minutes, probably a record for this time of year at any club site in Great Britain.

There have been further signs of standing waves, and the spell of east winds over Easter saw the first worthwhile soaring on the east slope. It is not a good slope, but this is an important development, for the Mynd can no longer be regarded as a simple " west wind only " site. Hill soaring in easterly winds, together with the recently delivered Ford V-8 winch and the pre-war Slater type winch, will materially broaden the scope of the site, and should greatly increase the number of days on which flying will be possible in the future.

There follows a brief note on the most interesting flights during the period from the beginning of the year up to 31st March. All heights mentioned are readings referred

to the landing ground on the top of the hill, which is 1,400 feet above sea level.

18*th Jan.* Wind west 35 m.p.h. moderating, polar unstable air with snow squalls. Hill lift consistently good up 1,400 feet, and to 2,000 feet under passing cumulus. Wingfield startled some uninitiated visitors by flying off the fully loaded two-seater unassisted from the edge. One was heard to whisper " I don't believe it." An extraordinarily favourable lapse rate was an important factor on this day.

31*st Jan.* Wind WSW 25 m.p.h. It seems that Wingfield has an ambition to spin each fresh type of aircraft that he encounters. He did so with Campbell's recently completed " H-17," and having never previously experimented with a " Tutor " he rectified the omission by demonstrating with the Club machine.

7*th Feb.* Wind WSW 25 m.p.h. 10/10 stratus at 600 feet, very turbulent air. Cochrane of Bristol Club did 5 hours trip.

8*th Feb.* Wind WSW 25 m.p.h. 10/10 stratus at 500 feet. Rough. Chantrill of Bristol Club did 5 hours trip.

14*th March.* Cambridge Club Camp commenced. The new Ford V-8 winch manufactured by Rice Trailers Limited was delivered and tested, giving excellent results in launching the " T-21 " two-seater. This is a trailer mounted unit incorporating a V-8 engine, automatic pay-on and mechanically operated emergency cable cutting device. The Club still has its pre-war Chrysler (Slater type) winch, and negotiations are proceeding for a third unit.

15*th March.* Wind SSW 35 m.p.h. veering to West 30 m.p.h. Cambridge Club Camp continues. One " Tutor " went to the bottom, but was landed safely on the pilot's first soaring flight. Two " C " Certificates obtained.

16*th March.* Wind 30 m.p.h. due west, backing slightly—cloud streets developed from 11.00 hours G.M.T. Cambridge Camp continues. Two 5 hour trips completed. One " Tutor " blown over on ground and severely damaged, pilot of another demonstrated how to go to the bottom with 30 m.p.h. wind blowing straight up the slope. Witnesses are still arguing about the methods which made this feat possible. Maximum height of the day was by Dick in " Olympia," 3,000 feet, last 500 feet in cloud until lift petered out.

18*th March.* Wind north of NW, but backed later and freshened 5/10 cumulus. Cambridge Camp. Dick in " Olympia " found the top of the Mynd " stiff with thermals " giving up to 10 ft./sec. Three " C's " obtained, Rogers getting " A," " B " and " C " all in one afternoon.

19*th March.* Wind west 30-35 m.p.h. but at first cloud half way down the hill, lifting later. Two-seater, one " Tutor " and " Cambridge " airborne till dusk.

20*th March.* Wind west 25 m.p.h. dropping and backing slightly later. 10/10 strato cumulus at 1,000 feet breaking to 5/10 cu. and lifting to 1,500 feet. Cambridge Camp continues. Five 5-hour flights were completed, Neill of Midland Club reached Silver " C " height on his first flight in the Club " Olympia," Baker reached 3,900 feet clearing the tops of 9/10 strato cu. This lift may have been of wave origin as it did not seem to be connected with any particular clouds, and was uncannily smooth. Dick reached 3,500 feet in cloud. The total day's flying time amounted to 62 hours 46 minutes, eight aircraft remaining airborne most of the day, the last landing at 20.20 hours in almost complete darkness.

21*st March.* Wind WSW 25 m.p.h. 8/10—10/10 strato cu. Good lift with most pilots reaching 2,000 to 2,500 feet. Cambridge Camp continues. Wingfield flew to Bishops Castle (5 miles up wind) and back in a 30 minute flight from a bungy launch. Pitt of the Bristol Club and H. Primrose and Gilchrist of the Midland Club took their " C's " and two five-hour trips were completed. Primrose provides an example of the new training policy of the Midland Club, for he had been shown, and had himself executed stalls, spins, and loops in the two-seater before attempting his " C."

22*nd March.* Wind NW 20 m.p.h. 5/10 strato cu. Last day of Cambridge Club Camp. Cambridge " Tutor " reached 2,200 feet, last aircraft landed at 20.45 hours. Total number of hours flown by Cambridge Club members in eight days camp was 62 hours 30 minutes, averaging some nine hours per pilot.

27*th March.* Wind east 25 m.p.h. hot, clear sky. Crease soared for 15 minutes and Wingfield for 45 minutes over east slope, reaching a height of 1,500 feet. At the end of this trip Wingfield unfortunately damaged his " Olympia " in landing.

30*th March.* Wind west 30 m.p.h. falling later to 20 m.p.h. 5/10 cumulus. Best height of the day was achieved by Neill who reached 3,200 feet.

The above extract from the Club log makes mention of most flights worthy of note during the first quarter of 1948, but routine flying also took place on a number of days not covered by these remarks. It will readily be seen that the Midland Club is fully active. With three winches, two slopes that have been proved soarable, and the possibility of aero-tow launches, it will be agreed that the club is extraordinarily well equipped for the coming summer season.

Zephyrus.

SCOTTISH GLIDING UNION

April weather had a distinctly cheering effect on the S.G.U. Our membership increased considerably, applications came rolling in for the summer holiday camps, the hut was erected on Bishop Hill, and more and more members turned out on Saturdays, to spend the week-end at Balado and enjoy some early-morning gliding on Sundays. Our sincere thanks go to the B.G.A. for the two " S.G. 38's " which we have acquired under their auspices. Our *ab initio* training scheme will soon show the benefit of them.

DERBYSHIRE AND LANCASHIRE GLIDING CLUB

Since last Autumn when we damaged our second " Primary," *ab initio* training has been practically at a standstill. Two " Primary Eon " machines had been ordered for delivery round about Easter and we hope then to collect a large bunch of trainees and get down to some serious training.

At the beginning of the month we had one or two boisterous days. Relying on dive brakes for safety in ground handling, the " G.B. "

and the " Olympias " were taken out in 40 m.p.h. winds and winch launched. A new field for argument was immediately disclosed. Nose hook or belly hook for launches in very strong winds ? At first sight it would seem that the nose hook should be safer whenever there is any doubt. At the same time, the " T.21 " which has no hook corresponding in effect to the nose hook, came off the ground instantly, rose quickly but not at all steeply, and with the winch turning over at minlmum speed in second gear, was quite steady all the way up the launch. " Olympias " launched by the nose hook required more than twice as much cable speed to get them off the ground and were not particularly steady near the ground even then ; that is, according to the winch driver, but then, who ever thinks of asking a winch driver for his opinion ?

The weather has been fine throughout the month with hardly any rain except for two heavy showers over the Easter holiday. We are still waiting for a really first class soaring day.

Totals for March : Launches 304, 95 hours 25 minutes.

Easter Week-end. Wind mainly East and South East. The best that can be said about Easter is that it might have been much worse. From Friday to Tuesday inclusive total hours soaring did not exceed 20 and even on Monday, the best day of the holiday, lift was spasmodic and uncertain.

At the same time, the weather was fair and warm and there was a slightly unusual air of cleanliness and charity amongst the members, due, no doubt, to the mild spring weather and the holiday season. Gliding wives, long ago widowed in all but name, volunteered to hold wing tips and Senior Instructors were surprised in the act of shaving. As if to crystallise this unique atmosphere and preserve it for posterity, the Times Film Company sent a team of photographers who spent the week-end with us and are making a film purporting to reveal one of the most intriguing mysteries of modern times, what on earth people find to do at a Gliding Club when they can't glide.

YORKSHIRE GLIDING CLUB

Whilst there is little to report on flying activity in March, we can at last report progress on the club-house and members have at last discovered that hammers, nails, saws, chisels and what-have-you are quite fascinating toys, and that flesh wounds on a healthy body usually respond to treatment in due course. The aircraft situation has now improved somewhat—there is a " Kite II " for pilots whose names are down for syndicate ownership in due course, and another syndicate has now taken delivery of a " T.20 " two-seater, which will be available subject to fulfilment of certain conditions, for dual instruction and for passenger flying. The Newcastle members (of this club and the Newcastle Club itself) held a camp at Sutton and Welburn over Easter. They " drew " a few decent soaring days and the high spot was Andy Coulson's trip to Scarborough in his " Tern." The details of Coulson's flight and of the Camp generally will no doubt be reported separately, but O'Grady's log of the Camp showed 57 hours for 101 launches at Sutton, with 67 launches elsewhere including 2 aero-towed delivery flights. O'Grady and his team put in some hard work, sometimes under poor weather conditions with Spartan living conditions, and are to be congratulated on their zeal and enthusiasm. There has been very little soaring weather of which we were fitted to take advantage since the beginning of April—a few flights only, not worth reporting in detail. Last week-end, 24th and 25th, showed evidence of the seasonable Northerly air-stream, but being ill-equipped to make use of it, the Polar Air left us, so to speak, cold. (Sorry). What is really needed is one of these research work jobs, and all the fixings ! The R.E's., who have thoughtfully stabled a " Cadet " at the Bank are now sweating on their " C's "—to be vulgar—but a suitable week-end refuses to arrive. This week-end may probably do the trick by the look of weather developments. So far, no Courses have been planned this year, but some announcement may be made at a later date, and anyone who fancies a bash at the Bank this summer might write in and say when.

Back on the Clubhouse subject, now that people are really pushing some urge into this job (which began with Ritchie Pick bringing his own bricks and mortar and rebuilding the chimney)—we would say that there are still vacancies for hands (usual conditions ; no pay, provide your own transport and tools, and pick your own job). We must also acknowledge still more help in cash, in kind and in service, and, like little Oliver, we ask for more. Plumbers and sanitary engineers very welcome at the moment, as we are at something of a deadlock with the local Drains Trust—however, it will all come out right in the end (if our sewage machine is all we boost it up to be) !

Despite set-backs, the future doesn't look too bad this coming season except on the membership side, which is still a bit " thin." Whether the microscopic petrol allowance will assist this end remains to be seen. On the financial side, Gliding and Soaring seems to be become costlier and costlier, and the chance of Government assistance more and more remote. Perhaps the Country may have cause again to be glad that the Gliding types frittered away their Saturday pennies on such nonsense as they do—who knows ?

Tailpiece. Carpentry reminds us of the local farmer who got a bill for " repairing a roof—£3. 10s. 6d. " He was dissatisfied and asked for the account in detail : by return he got this :

	£	s.	d.
20—six-inch nails ..	0	0	6
Knowing where to put 'em	3	10	6
Total	3	10	0

—— and, finally, in these days of wage disputes and shortages of " help," comes that of a good lady who " obliged " with the children when parents were out. One of her temporary charges woke late one evening and demanded a story, so, she began :

" Once upon a time-and-a-half . . . . "

G.A.H.

R.A.F. STATION, WUNSTORF, GLIDING CLUB.

Looking through our flying log since our news in the last issue, we see our grand total of Flying for the month of March is 32 hours 52 minutes and 923 launches. Since about 40 per cent of those launches were for preliminary training in " Primaries," the influence of commencing thermal activity is already evident, our longest flight being 38 minutes by F/O. Forbes in the " Weihe." The first thermal soaring took place on March 24th.

Easter was a busy period with flying every day and a total of 403 launches and 14 hours 18 minutes. Two winches and our retrieving winch were in use, the retrieving winch being still under experiment. The latter is mounted on the back of a Jeep and consists of an old Opel car engine of about 8 h.p. rescued from a scrap heap. This is geared via its normal gear box and clutch to a drum with automatic cable feeding device, rollers and a guillotine. The drum has a break automatically operated by the tension in the cable. The cable is of 5 cwt. breaking strain. This cable is attached to the main cable 6 metres from its end and the winch is offset at least 10 metres from the line of the main cable, thus clearing the tailplane during take-off. During the remainder of the launch, the retrieving cable hangs well clear of the glider. On two occasions it has been necessary to guillotine the retrieving cable, emphasising the necessity for an operator to be at the controls during the whole launch and retrieve. The snags we have encountered with this very economical device are:

(1) The free 6 metres of cable wraps itself round the main cable during the retrieve and wastes much time between launches. We have tried to prevent this by covering the free end of the cable with rubber tubing, but have had little success so far, possibly due to the tubing available being only 2 metres long.

(2) The weight of the retrieving cable results in appreciable loss of height on the launch (approximately 20 per cent).

(3) It is not suitable for primary training flights.

Easter started off well with 123 launches on Good Friday, but Saturday was blackened by severe damage to the port mainplane of the " Mü 13." This accident occurred on landing, the tip of the mainplane striking a notice board reading " Stop ! Aircraft approaching." Causal factors are thought to be :—

(*a*) Underestimation of the wing span of the " Mü " and overestimation of its penetration as compared with the " Baby Grunau." (The pilot had recently converted to the " Mu ").

(*b*) The pilot forgetting to remove his sunglasses before flying.

Perhaps a few notes about this rare machine may be of interest. The rate of sink at 45 kilometres/hour is 0.6 metres per second (2 feet/sec.). Its best angle of glide is 1 : 24. Wing span 42 feet (12.8 metres). Wing area of 15 sq. metres and empty weight of 120 kilogrammes gives a wing loading of 8 kg./sq. m. as compared with about 9.3 kg./sq. m. for the " Grunau." This low wing loading enables the " Mü " to soar in thermals too weak for any other machine but the penetration is exceedingly poor as her last pilot discovered at an embarrassing moment.

Our only other accident during March reminded us of the importance of training in ground handling. On this occasion a " Grunau," during transport on a trolley from the hangar, was blown over on to its back. These accidents, two of our only four in twelve months, are printed in an attempt to reduce the contempt that so easily developes as a result of familiarity in gliding.

And now to the brighter side of our log for March. We see 14 " A " tests, 17 " B " tests and 2 " C " tests completed. Fl./Lt. Fray, a Spitfire pilot, took up gliding on Good Friday, completing his " A " and " B " tests that day during eight trips in the " Primary," and on the Saturday, completed his " C " test in thermal lift on his first " Grunau " circuit. (Someone had put the barograph in the Baby " just in case "). On the same day, F/O. Rigg, a Tempest pilot, obtained his " C " in the Mü with a thermal flight of 16 minutes 50 seconds with 3 m/s. up at times on his variometer. Congratulations to both.

Our number of soaring members has increased rapidly with 10 conversions to the " Grunau " and 2 to the " Olympia."

Preliminary training was in full swing during the month. When the wind was too strong, the " Kranich " took the place of the " Primary " and when there was no wind, ground slides and hops were carried out with a winch at each end of the gliding strip. With this system, the pupil remains strapped in during his ground slide or hop to the far winch and back again, thus concentrating his experience and economising very considerably in retrieving transport and time, one vehicle following the glider and retrieving a cable in each direction.

The Social Side.

The Easter week-end has come and gone, and the fifty or so people who stayed at the Club appeared to have enjoyed themselves. A dance was held on Saturday night which was a great success. We even had some fancy dress, and Messrs. Roxberry, Grice, Fowler, Wright and Brown appeared in stiff collars, quiffs and flowing bow ties. F/O. Roxberry excelled himself in an old shirt, stiff collar and bow tie, swimming trunks, ammunition boots and gaiters, and a German dress helmet with a spike on top. The ensemble was finished off with a tasteful collection of weapons from Mr. Desmond Fowler's armoury. The 'photos taken by Cpl. Charleston came out well, but we regret that we are unable to supply these to our readers. The Lemgo band was in attendance, and we were pleased to see another exhibition of ballroom dancing de luxe by Miss Peggy Robson and Mr. Desmond Fowler. Altogether a very good evening.

It was unfortunate that ration shortages prevented us from feeding everyone as we would have desired; we hope that what we were able to do was acceptable to our visitors. We appeal once more to everyone: when you come here, no matter for how short a period, bring with you a ration chit stating that you have been struck off the ration strength of your unit for the time stated, and let us have it here. We shall then be able to draw your rations for you, and increase the variety of food available here.

One other thing. Summer is

coming on now, and the woods and heather are getting very dry. The fire hazard here is very great, as the heather flares up like tinder when it is ignited. Please be careful where you throw away your cigarette butts and matches, and make sure they are OUT. We had a fire near the Club House the other day which was caught in time and put out, but which might have had serious consequences. Incidentally, the fire brigade arrived just as the last spark was put out ! ! !

OERLINGHAUSEN GLIDING CLUB

We offer our apologies for the late publication of this News Letter, the reason being that the writer has been home on leave, leaving his No. 1 to carry on by himself. As there has been rather a lot to do, the result has been no News Letter, and by this time most of you will be wondering where the h - - - the thing has got to. Anyhow, here is No. 68, a little belated, but (we hope) none the less welcome for that.

It appears that the standard of flying at this Club has deteriorated from its former high level to that of a secondary girls' school during the last month or so. The results of disobedience or ignorance of proper circuit procedure are before our eyes, as several prangs during this period have shown. The practice at other clubs seems to be to allow pilots to approach the landing place at any angle and at any height, losing surplus height by means of S-turns. In the opinion of this Club, this a highly dangerous practice which leads to the inevitable crash sooner or later.

We have lost count of the times on which we have had a " bind " in these columns about proper circuit procedure and approaches here. We emphasize once more that a correct circuit and approach will always finish up with a good landing, and that this procedure should be practiced at all times. The result will be that the pilot concerned will be able to do a good landing wherever he may fly, with consequent preservation of aircraft, materials and the nerves of the instructor.

Whilst in England the writer had the opportunity to visit the Surrey Gliding Club at Redhill,

ROYAL AERO CLUB GLIDING CERTIFICATES

(Issued under delegation, by the B.G.A.)

GLIDING CERTIFICATES: "A" .. 139 (Nos. 7934-8072 inclusive).
"B" .. 55
"C" .. 39

SILVER "C": 7 (Nos. 127-133 inclusive).

"B" CERTIFICATES.

No.	*Name.*	*A.T.C. School or Gliding Club.*	*Date taken.*
1271	Eric Neville Baker	Derby & Lancs. G.C.	24 6.39
2175	Roy Kenneth Waddington	42 G.S.	13. 7.47
3329	Francis Owen Zanker	49 G.S.	26. 3.48
4459	George Bernard Ibison	105 G.S.	17. 5.47
5206	Norman John Lambourne	143 G.S.	21. 3.48
5735	Herbert Miller-Crook	182 G.S.	14. 3.48
6023	Frank Howard Farr	43 G.S.	14. 3.48
6437	Bryce Hubert Smith	105 G.S.	14. 3.48
6443	Reginald Saunders	142 G.S.	29. 3.48
6488	Roy Eric Badcock	142 G.S.	29. 3.48
6796	Brian Hughes	192 G.S.	14. 3.48
6869	Peter Thomas Bolton	182 G.S.	14. 3.48
6890	Melvin John Boys Swann	105 G.S.	14. 3.48
7288	Clifford Walter Dowdall	Surrey G.C.	26. 3.48
7310	John Maxwell Gilchrist	Midland G.C.	12.10.47
7362	Derek Victor Allen	125 Gliding School	21. 3.48
7434	Allan Stuart Loveland	161 G.S.	16.11.47
7704	Peter John Russell	161 G.S.	21. 3.48
7733	Philip Edward Rose	Handley Page G.C.	11. 4.48
7862	Geoffrey Ratcliffe	Handley Page G.C.	11. 4.48
7887	Arthur Charles Eveleigh Smale	Bristol G.C.	14. 3.48
7934	John Hulme	105 G.S.	20. 7.47
7938	John Maurice Golding	4th Armoured Brigade G.C.	29. 2.48
7943	John Maurice Maple	24 G.S.	25.10.47
7945	Angus McDonald	135 Wing G.C.	5. 9.47
7949	Cyril Bulmer	Oerlinghausen G.C.	12.10.47
7951	John Keirl	31 G.S.	14. 3.48
7953	Albert Edward Rowley	London G.C.	11. 3.47
7955	Edward Arthur Williams	Southdown G.C.	14. 3.48
7968	David Alwyn Rickman	23 G.S.	14. 3.48
7972	John Exel Rogers	Midland G.C.	18. 3.48
7977	Arthur Campbell Mitchell	A.H.Q., B.A.F.O. G.C.	30.11.47
7978	Peter John Cooper	College of Aeronautics G.C.	14. 3.48
7981	John Gerard Parham	R.M.A.S. Flying Club	26. 3.48
7989	George Harold Tapley Perrett	192 G.S.	29. 2.48
7994	Allan Frederick Voak	R.N. Gliding Unit	24. 7.47
7997	Eric George Pilley	R.M.A.S. Flying Club	26. 2.48
8000	Gordon Whittaker Stevenson	Derby & Lancs.	26. 3.48
8009	Henry Eric Wells	Air Division G.C.	9.12.45
8011	Alexander Armitage MacDonald	A.H.Q., B.A.F.O. G.C.	4.10.47
8012	Ronald Robinson Thompson	141 G.S.	14.13.48
8013	Peter Alan Lindsell	151 R.U. (A) G.C.	12. 0.48
8019	John Holme Shelford Bidwell	Air H.Q., B.A.F.O. G.C.	28. 3.48
8022	John Anthony Clarke	Southdown G.C.	28. 3.48
8023	Cecil Rhodes Davis	R.A. Aero Club	3. 4.48
8031	Cyril Frank Uwins	Bristol G.C.	12. 4.47
8034	Francis Quinn	Air H.Q., B.A.F.O. G.C.	27. 7.47
8042	Barbara Evelyn Wigglesworth	London G.C.	11. 4.48
8047	George Peter Blake	R.N. G. & S.A.	7. 4.47
8049	William Arthur Wilson	A.H.Q., B.A.F.O. G.C.	28. 2.48
8052	Gordon John Bell	Cambridge G.C.	27. 7.47
8058	William Davidson	A.H.Q., B.A.F.O. G.C.	20. 7.47
8065	Donald Francis Herbert Collins	R.A. Aero Club	3. 4.48
8071	Ralph Spenser Hooper	College of Aeronautics G.C.	23. 3.48
8072	Reginald Herbert Havelock Pelling	Luneburg G.C.	8.10.47

"C" CERTIFICATES.

No.	*Name.*	*A.T.C. School or Gliding Club*	*Date taken*
1271	Eric Neville Baker	Derby & Lancs. G.C.	3. 4.48
2015	Kenneth Howard Ashton	Southdown G.C.	20. 3.48
2303	Walter Karl Schultes	Bristol G.C.	21. 3.48
3775	Peter Geoffrey Binder	B.A.F.O. G.C.	29. 3.48
4019	Stuart Fursman	126 G.S.	3. 4.48
4098	Peter Ambrose Hearns	College of Aeronautics G.C.	22. 3.48
4843	Herbert Kenneth Cartwright	London G.C.	18. 1.48
4928	Peter Perman	126 G.S.	4. 4.48
5354	Michael Ivor Gee	Cambridge G.C.	18. 3.48
6730	Henry David Young Primrose	Midland G.C.	20. 3.48
6903	George Rowland Edwin Constantin Gregory	Imperial College G.C.	5. 4.48
6975	Dennis Victor Spence	London G.C.	19. 3.48
7083	John Patrick Silvester	London G.C.	21. 3.48
7162	William George Seymour Logie	London G.C.	1. 4.48
7173	Gilbert George Devereux Burton	102 G.S.	20. 3.48
7174	John Watson Lello	Derby & Lancs. G.C.	4. 4.48
7292	Roy Derek Roper	Derby & Lancs. G.C.	3. 4.48
7310	John Maxwell Gilchrist	Midland G.C.	21. 3.48
7411	John Douglas Watson	Cambridge G.C.	15. 3.48
7413	Ian Gordon Dow	Air H.Q. G.C.	4. 4.48
7421	Paul Rowland Sanderson	Air H.Q. G.C.	12. 4.48
7427	John Frederick Collier	Air H.Q. G.C.	21. 3.48
7490	Harold Frederick William Tarnow	London G.C.	20. 3.48

which is said to be one of the best-equipped clubs in the United Kingdom.

All repair and maintenance work is carried out by the members, several of whom are highly qualified in technical matters. If a crash occurs, the pilot concerned is responsible for the first ten pounds of the cost of repair, if the crash was caused by his negligence. This is an idea which may well be put into use here . . .

In comparison with ourselves here, the club equipment is meagre in the extreme. Members do a vast amount of work and consider themselves lucky if they can manage one or two flights in a week-end. It takes a visit to an English Club to realise just how lucky we are in the way of equipment and accommodation. In M.T. alone we have a great advantage over them, as we have jeeps for use on the field, and they have to use a sort of cut-down armoured car. Our winch situation bears no comparison, as these were specially designed for the job.

THE NEW SLINGSBY TWO-SEATER

The Derby and Lancs Gliding Club have recently taken delivery of the latest Slingsby two-seater—Type 21B—and very impressed with its qualities.

This machine, a strutted high wing monoplane of wooden construction, was specially designed to meet the requirements for a simple type of dual instruction sailplane of medium performance and low price. It possesses many features which make it most suitable for gliding clubs and other gliding training organisations.

All controls are duplicated, and readily accessible to instructor and pupil. Access to the cockpit can be achieved from either side without disturbing the other occupant. Safety harness is provided for both pilots, whose view forwards, downwards and upwards is exceptional. Lift spoilers are provided to increase sinking speed for approach and landing. A simple form of tail trim can be provided if required.

Rigging has been reduced to a minimum—an important consideration in view of the limited facilities usually available to gliding clubs.

GLIDING CERTIFICATES—*Continued.*

No.	*Name.*	*A.T.C. School or Gliding Club.*	*Date taken.*
7560	Edward George Moores	104 G.S.	11. 4.48
7744	Geoffrey Derry Perks	Walm G.C.	21. 3.48
7845	William John Agnew Wills	Cambridge G.C.	16. 3.48
7945	Angus McDonald	135 G.S.	20. 9.47
7949	Cyril Bulmer	Oerlinghausen G.C.	8. 2.48
7953	Albert Edward Rowley	London G.C.	25. 5.47
7972	John Exel Rogers	Midland G.C.	16. 3.48
7994	Allan Frederick Voak	R.N. G.U.	24. 8.47
8011	Alexander Armitage Macdonald	Air H.Q. G.C.	2. 3.48
8022	John Anthony Clarke	Southdown G.C.	29. 3.48
8031	Cyril Frank Uwins	Bristol G.C.	27. 3.48
8034	Francis Quinn	Air H.Q. G.C.	1. 2.48
8047	George Peter Blake	R.N. G. & S.A.	28. 3.48
8052	Gordon John Ball	Cambridge G.C.	22. 3.48
8058	William Davidson	Air H.Q. B.A.F.O.	4. 3.48
8072	Reginald Herbert Havelock Peiling	Luneburg G.C.	19. 3.48

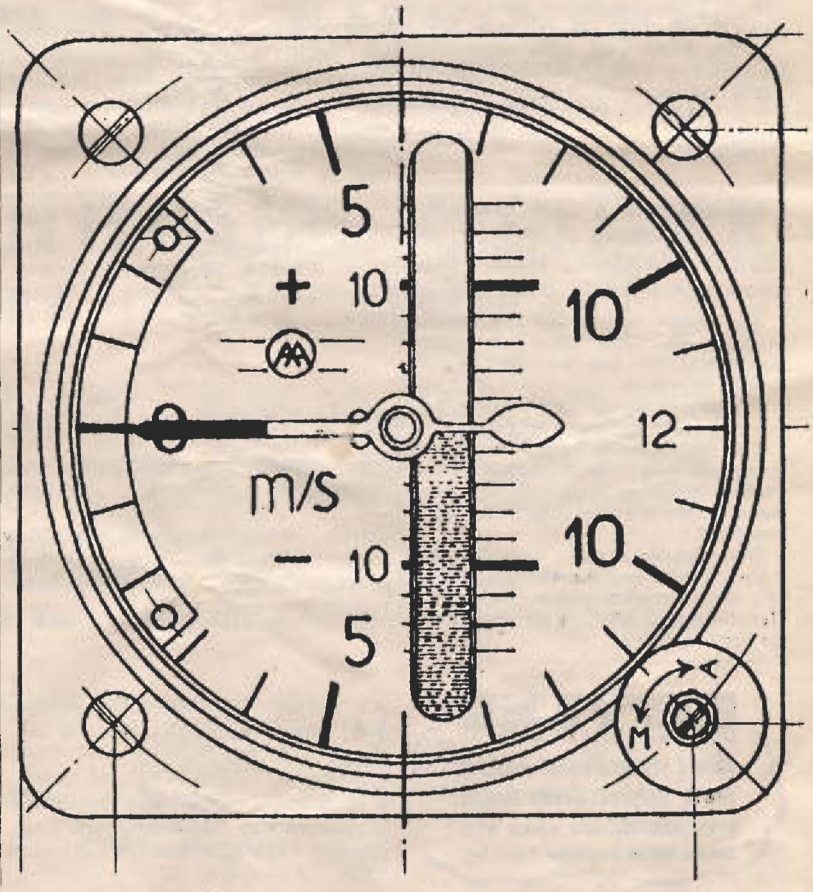
SILVER BADGES.

127	M. M. Waghorn	(789)
128	G. J. C. Paul	(4683)
129	F. J. Hanks	(5745)
130	J. Marderwald	(6334)
131	E. W. Basham	(6880)
132	J. A. M. Cocherie	(6859)
133	C. J. W. Herold	(5444)

SOARING IN FRANCE

Aera Air-speed Indicator

In the April issue, mention was made in "Soaring in France" of the new ultra-sensitive variometer-inclinometer, but owing to lack of space we were unable to include the descriptive drawing below.



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CLUB ANNOUNCEMENTS

MIDLAND GLIDING CLUB LTD.

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Private owners bringing their own machines will be charged £6. 9s. 0d. plus a charge of 2s. 6d. per launch. This fee includes hangarage for their machine, but this must be stored as directed by the Camp Superintendant and may have to be de-rigged.

Accommodation is limited to 15 members and vacancies will be allotted in order of receipt. Each application must be accompanied by a booking fee of £2. 2s. 0d. which is non-returnable unless the application cannot be accepted.

Camp Secretary, R. N. Thwaite, 39, Silhill Hall Road, Solihull, Warwickshire.

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